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REVISING JAMAICA'S PROGRAMMING CODE

A Report submitted to the Broadcasting Commission of Jamaica

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CONTENTS

Glossary

Acknowledgements

Page 1 **Executive Summary**

Key Findings from Research page 2

Page 4 **Revising Jamaica's Programming Code**

Introduction page 4

Stakeholder Engagement page 6

Structure of the Reprt page 7

The Context of the Research page 8

Page 9 **The Child**

The Need for Play page 10

The meaning of "thirteen years old" page 11

Advertising page 13

Age and gender differences in media consumption page 15

Parental mediation approaches page 16

Privacy page 17

Childhood and digital media engagement page 20

Summary page 22

Page 23 **Economic and Social Context**

Summary page 29

Page 30 **The Attention Economy**

Persuasive Design page 32

Persuasive Design Features page 33

Impacts of Persuasive Design on Children page 34

Summary page 35

Page 36 **Policy and Regulation - Some Comparisons**

Summary page 44

Page 45 **Next Steps**

Recommendations page 48

Policy Considerations page 48

Legislation page 50

Capacity Building Initiatives page 51

Technological Solutions page 52

Objectives and Approach page 53

DMIL as Cultural Innovation page 55

Implementation Plan page 56

Page 58 **Final Comments**

Page 59 **References**

Page 66 **Appendix**

GLOSSARY

Term	Abbreviation	Definition
Children as a Market	CaaM	A global market segment that targets children as prescribers or as consumers.
Content		Any form of information - written, photographic, video, sound, pictures - transmissible in digital format (e.g., “Lighter”, Fortnite, Pokémon).
Content provider		An individual or organization that creates, develops, and disseminates content via the internet for commercial or non-commercial purposes to a user or market (e.g., Social Media Influencers, TVJ, Al Jazeera, China Central Television).
Parental mediation		The strategies used by parents to monitor and manage their children’s engagement with media.
Persuasive design		Features embedded in technology products and services which condition users to engage with reduced intentionality, in order to change attitudes or behaviours.
Service provider		An internet, telecoms, or broadband service which permits users to create, upload or share content that can be accessed by other users (e.g., Digicel, Verizon, TMobile, YouTube).
Search service		An internet service that is, or includes, a search engine facility (e.g., Google, Bing, DuckDuckGo).
Sharenting		Blogging, posting, and tweeting about various aspects of a son’s or daughter’s life, often from babyhood.
United Nations Convention on the Rights of the Child	UNCRC	The 54 article international treaty setting out children’s civil, political, social, economic, and cultural entitlements.
Zoomer		A term used to refer to someone born in the late 1990s in the demographic following millennials. Also known as GenZer.

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EXECUTIVE SUMMARY

In January 2020, the Broadcasting Commission of Jamaica implemented a consultancy to review the Children's Code for Programming - which has for almost two decades been a primary instrument of regulation in the broadcast sector. The review process is to position the regulatory environment in better alignment with the digital transformation of media. The Code revision exercise is nestled in a larger agenda of extending the mission of the Commission itself as it prepares for the shifts of the Fourth Industrial Revolution, as indicated in this excerpt: "To ensure a successful national transition to a digital economy, using the empowering and liberating potential of technological innovation to encourage new forms of business, social, cultural and media development while protecting the people of Jamaica from potential abuses of communication and influence" (Broadcasting Commission of Jamaica, n.d.).

The consultancy's central question was: how should digital media be regulated? The answer is multifaceted, crosscut by the varied interests of technology companies (such as Google, Facebook, and Amazon), legacy media (primarily national entities like RJRGleaner Group), educators, parents and guardians, children, public health experts and a range of other stakeholders. The infrastructure, services, and digital media products are intrinsic to their role in an information society.

The report is structured around the key themes of childhood, social and economic context, the importance of persuasive design to the digital ecosystem, and comparative regulatory systems. Emerging from the document review clustered around these four areas and informed by the survey data, interviews, and focus groups are recommendations for a revised regulatory instrument. The recommendations flow from the data and are listed at the end of each section in a summary statement. A penultimate section elaborates on critical recommendations that require policy, legislative and capacity-building arrangements. The summaries and recommendations are the basis for the new Content Code - the critical outcome of the consultancy - which is presented alongside this report.

KEY FINDINGS FROM THE RESEARCH ARE:

1. In Jamaica, as elsewhere, media consumption is trending away from legacy media structures and products, particularly among millennials and Zoomers, and towards online platforms of all kinds.

2. The Commission's initiatives to revise the regulatory framework for digital media positions Jamaica as one of the leading nations doing so, comparing us favourably with the United Kingdom, Australia, and the European Union – all of which have policies and/or legislative instruments for online media.

3. In light of the significant reach, the scale of profits, and socio-political impact of the technology giants who control media and communication globally, some countries are adopting more robust policies and imposing more stringent requirements on these entities as minimum conditions for service delivery. .

4. The timing of the Commission's initiatives to revise the regulatory environment and adopt a digital media and information literacy framework is fortuitous, given similar developments occurring in other leading democracies. Partnerships and synergies in policy and regulatory developments are possible because of efforts taking place in other jurisdictions.

5. The Commission's partnerships with technology entities like Google (as YouTube Flagger) may provide a template for similar associations going forward, especially if companies request country-specific provisions

6. The possibilities for harnessing technology in education, health and civic spheres are enormous, but Jamaicans' awareness and access to training and tools are fragmentary and often associated with socioeconomic status.

7. Jamaicans are experiencing the results of intense digital engagement, and some report forms of addiction intensified by the COVID-19 pandemic.

8. Consensus is solid that regulating digital media is challenging, but governance and oversight are crucial to protect citizen interests.

9. Exposure to digital media is discouraged for infants, toddlers, and young children – parental guidance and involvement are required for children engaging with media.

10. Public awareness campaigns in digital literacy are needed across the entire demographic for young people, parents and guardians, and the elderly to prepare citizens to harness the opportunities of the digital landscape while managing the risks.

11. Successful regulatory initiatives and online campaigns that the Commission has embarked upon should be continued; many are memorable, for example, “Pinchy Dead” and “A nuh everything fi share” public service announcements, and they now constitute an emblem in the cultural psyche that can be capitalized upon in future efforts.

REVISING JAMAICA'S PROGRAMMING CODE

Introduction

Global society is in a tryst with a digital destiny. Advances that are promised to use the trillions of gigabytes of data available annually to drive problem-solving in the spheres of healthcare, commerce, education, and governance, are now here. Cyborgian possibilities that intersect physiology with computing applications offer new remedies for ailments and enhanced physicality for the already fit. The transition to the Internet of Things (IoT) will deepen the connectivity loops between sectors, services, goods, and people ushering in new aspects of on-demand living. Digital content, increasingly accessible on mobile devices of all kinds, will constitute one component in an expanding and merged digital ecosystem, which, if not global, will certainly be globalizing.

Regardless of how comprehensively the Fourth Industrial Revolution will unfold, these shifts are expected to change how most people relate to themselves, each other, and the environment. Enormous possibilities are on offer, but digital divide-related and technology deterministic-related concerns exist. How will this revolution impact developing societies for whom legacies of political, economic, or social inequality are liable to become more entrenched? Furthermore, how can specific countries intentionally adapt to the emerging digital ecosystem in ways that meet the unique needs of their citizens?

Jamaica is expected to play a role in this transition, either as a recipient of technological and regulatory developments conceived of primarily by others or preferably as a participant at the table where important discussions, plans and strategies for an equitable digital order are taking place.

This report captures the findings and recommendations from a two-year research process and accompanies the revised Code. It posits a platform-agnostic approach towards regulation of the digital sector that is authoritative, collaborative, and nimble. An explanation of these three aspects follows:

The revised Code specifies directives and guidelines for providers of content and providers of content services (both referred to below as 'providers'), including but not restricted to free-to-air and subscription-based programming, on-demand content, regulated online user-to-user services and online search services, as well as gaming, video and streaming platforms and devices. The platform-agnostic breadth of the new regulation corresponds with similar provisions to enact robust laws for the online space in the European Union, the UK and Australia.

For several years, the Broadcasting Commission has developed a program of stakeholder engagement by inviting representatives in the sector to discuss their issues and work towards solutions collaboratively, and in that way, the sector has contributed to policy formation. This stance, which has ensured that the Commission maintains a working relationship with a range of players, including broadcast companies, subscriber programming providers, educators and students, has borne fruit and is expected to continue going forward. The perspectives of ordinary citizens have informed the revised Code. Furthermore, it entrenches its provisions in public engagement mechanisms, responsible action, and grassroots support.

The regulator will also need to be flexible and responsive to the sector's needs; some legacy era content providers such as the free-to-air broadcasters and independent programme providers may require additional protection due to the intense competition of the technology giants and given their role in national development and cultural formation.

At the centre of this revision process is the idea of the need to protect vulnerable groups – principally, our children. The original instrument included children in the title, referencing a societal commitment to providing a media environment supportive of their developmental needs and the equal mandate to enclose them from avoidable media-related harms. Although it is becoming more difficult to shield children from digital media risks and harms, the revised Code addresses their unique needs creatively and widens the remit of duty of care to include parents and caregivers as well as public health providers. The omission of the name "children" in the current version of the instrument is not an abandonment of the idea of child protection but an indication of the wider scope of the new regulatory tool.

The cover design of this report has several interlocking circles of different colours, with hues vaguely reminiscent of the black, green and gold of our flag. The design is a visual reminder of the intersecting issues, challenges and opportunities represented by the digital media landscape that now requires regulating in a relevant and prescient way. This report has only captured a slice of the overall picture, like the motif on the cover. It is hoped that the accompanying literature provides some detail to the revised Code, but this is just a start to what must be a continuing conversation among policymakers, regulators and the wider public.

Stakeholder Engagement

An initiative of this kind requires comprehensive support from diverse members of society. The ITU recommends including a range of stakeholders to fully ground the development of a national online policy, including children, government ministries and health workers (ITU, 2020).

A series of interviews and focus group discussions were held to understand and include the experiences, perspectives, and concerns of the wider public. Members of the media fraternity and child services sector were invited to contribute perspectives and recommendations to the revision process, as well as educators and members of the faith community. Their contribution took the form of online discussions (in light of COVID-19 conditions) during which issues related to time spent with media, persuasive technologies embedded in devices, apps and platforms, inappropriate content and data privacy were discussed. Among those who contributed to the discussions were a media manager, early childhood specialists, a child protection services director, lecturers at the tertiary level, information systems specialists, user design experts and adolescents. Officers in the Commission were also interviewed.

Additionally, a survey with open-ended questions probing the changes needed to the existing Code was disseminated among stakeholders, and their responses were collated for the report. (For an elaboration of the primary research conducted for this consultancy, see the Preliminary Code Review Report.)

Other activities being undertaken by the Commission, such as the AI for the Caribbean Initiative and DMIL Framework Stakeholder discussions, are also building national awareness and consensus around the relevant issues of digital transformation.

Structure of the Report

Disciplinary perspectives that have informed the research for this review include developmental psychology, technology, and computer science (especially design and user experience), digital childhood rights literature, and policy and regulation. These perspectives have been integrated into four sections in the report - the child, social and economic context, the attention economy and comparative regulatory systems. Insights and perspectives from a complete document review and primary research carried out for the consultancy (a survey, interviews and focus group discussions) are embedded in each of the four sections. At the end of each section is a summary. A fifth section highlights recommendations that are considered vital to the successful implementation of the Code. The report ends with some final remarks on the importance of a philosophy of childhood to the discussion of regulatory reform of the media sector.

A brief description of each section follows:

Table 1:

Sections of the Report		
1	The Child	This section highlights the fact that children have basic developmental needs irrespective of social, economic, or cultural background and considers some implications for the use and exposure to digital media in light of growth benchmarks.
2	Social and Economic Context	The advantages, opportunities and threats permitted by digital affordances are contextually nuanced. Digital divides - which are a reality in every country - are discussed, from the standpoint of the human development perspective.
3	The Attention Economy	The emergent product of the digital ecosystem - the attention of users for as long as possible - is considered. Some of the features of persuasive technology are also presented.
4	Comparative Regulatory Systems	A selection of countries is reviewed for their regulatory and legislative frameworks for their treatment of online safety, AI and data privacy.
5	Recommendations and Implementation Plan	Policy, legislative and capacity-building recommendations are outlined and a plan that incorporates the Code and other Commission initiatives is presented.

None of the sections or examples offered within them is exhaustive; they are necessarily selective, and some topics and recommendations will be excluded from this report. These sections attempt to present a range of relevant considerations that are being incorporated into similar regulatory frameworks in other countries.

The Context of the Research

The consultancy commenced in January 2020, two and a half months before the arrival of the coronavirus-19 on the island. Pandemic conditions had a retarding effect on some research-related activities in the early months of COVID-19 when infection numbers and then fatalities rose. As national life adapted to the new normal, research resumed online platforms.

The pandemic has had a negative effect on the Jamaican economy, particularly in such sectors as tourism, transportation, and entertainment, as evidenced by a 5.7% contraction in the January to March quarter of 2021 compared to the same period in 2020 (Smith, 2021). A study conducted by UNICEF in association with CAPRI from June to July 2020 reported increasing vulnerabilities for Jamaican children due to the pandemic, with rural, lower-income and female-headed households hardest hit (UNICEF, 2021).

What has been recognized is that pervasive and recurrent lockdowns associated with the COVID-19 pandemic have been an accelerator of digital transformation, particularly in the occupational, educational, and social spheres. In particular, the onscreen hours per day have doubled on average for Jamaican children in the sample - from 3.1 before COVID-19 to 6.8 after the pandemic arrived (UNICEF, 2021). On a positive note, the study indicates that half of the respondents say that their supervision of children while online during COVID-19 has been 'very often' (ibid.). What should be borne in mind are the emerging effects from more intense digital engagement since the onset of the pandemic, the benefits and disadvantages of which may only be fully known later on.

This report presents the primary and secondary research findings, summaries of the critical outcomes, and recommendations. A new Code, drafted from the research recommendations, is presented in a separate submission entitled "The Content Code".

THE CHILD

Joe, 17 years old

And I remember when I was in 6th Grade, I saw something that scared me for a long time, you know because of how the internet is, how easily it is to access it. So yes, I think due to us growing and getting numb to a lot of things we should not get numb to, as well a lot of things that should be displeasing are actually amusing, interesting to people that it really should not be amusing and interesting. And Ms Henderson, I don't want to go too far here you know...

This report uses UNICEF's designation of a child as any human being below the age of eighteen (unicef.org). Extrapolating from the Statistical Institute of Jamaica's 2011 census data[1], this represents approximately one million children in Jamaica, roughly a third of the resident population.

Each of those Jamaican children goes through specific cognitive, emotional, physical, and social development stages, often benchmarked by age attainments. In the recollection of seventeen-year-old online group discussion participant Joe[2], exposure to a particularly disturbing piece of content on YouTube when he was around 12 years old took several additional years to process. Theories like Erikson's social psychology and new findings in neuroscience and paediatrics all conclude how consequential the early years of a child shape life outcomes. The nexus between the digital environment and the new deepened forms of engagement encountered by young users has led to the idea of "digital childhoods"- how development trajectories of children are now being digitally influenced and affected (Kidron, Beeban and Rudkin, 2017).

Pleasant experiences and moderate levels of stress build resilience, traumatic encounters threaten development. This report begins with the idea that childhood deserves policy attention as a developmental phase.

Along with age as an important indicator of maturation, sociocultural factors are vital in determining how maturation may proceed. In discussions around child-digital media engagement, children's needs should be evaluated developmentally and contextually along with age-related assessments (Livingstone, Stoilova and Nandagiri, 2018). In a similar vein, the UN Convention on the Rights of the Child (UNCRC) emphasizes the child's individuality, thus underscoring the need to evaluate child needs contextually. Following are a selection of considerations to be borne in mind as regards children as a market (CaaM) for media products and services:

1 The Statistical Institute of Jamaica's census of 2011 indicates the population of children under 15 was 702,835 and the population of young people 15 to 29 at 751,489. Distributing the census data equally across 15 to 29 year olds yields 53,677 persons per year group, or 214,711 between the ages of 15 and 18 for a rough total of 917,546 children below 18 years in 2011.

2 Joe is not his real name. His identity is being protected.

The Need for Play

Children need time to enjoy imaginative and self-propelled play, fun that is enjoyed for its own sake (World Health Organization [WHO], 2019). Play is not just childish whimsy. It is an essential aspect of social, emotional, physical, and moral maturation and is necessary for all children regardless of their background. It also takes varied forms - it can be solitary or social, with or without tools, and with or without rules. Tortello and Minott (2015) go as far as to argue that play should be entrenched in educational policy in Jamaica because of its importance to holistic development.

The World Health Organization (2019) advises that at least an hour of daily moderate to energetic play is needed for children three years and older. This physical activity target may easily be overlooked (or even discouraged) because of the facility of screen-based devices like smartphones and hand-held video consoles, which are not recommended for infants and toddlers, and should only be used with a parent or caregiver in the case of older children.

These perspectives bring new currency to some older forms of recreation and play familiar in several Caribbean countries, such as games like dandy shandy, playing with homemade toys made from juice boxes and old tyres, exploring outdoors, and listening to the elders tell stories. As it turns out, many of these home-spun pleasures are precisely the kind of early experience that children need in order to develop the cognitive, emotional, and social competence to engage effectively in digital opportunities during subsequent stages of childhood. These forms of play should not be disparaged because of their apparent unsophistication.

Dylan Yamada-Rice, senior research manager at game developer Dubit (UK) and children's digital play expert

What we do know is that the way in which children play hasn't changed that much over centuries. So, for young children I suppose the biggest change are the number of platforms for play and the consumption of narratives for children. Let's not forget everything you know about the history of kids' play. And let's keep that at the forefront [of our minds]. Let's not keep thinking . . . this is new

The meaning of “thirteen years old”

On what basis are children 13 and older considered mature enough to set up accounts on Snapchat, Instagram, TikTok, Twitter and Facebook? Is every 13-year-old equipped to deal with the prospects of cyberbullying, body image comparison and online stalkers that are often a reality of the online experience?

The 13-year-old bar of entry was set by the US Children’s Online Privacy Protection Act (COPPA) (1998) which made it illegal to collect personal data for minors younger than 13 years old unless they had parental consent. However, with this law, adolescents between 13 and 17 years of age (who in many jurisdictions are legally barred from voting or buying property, alcohol, or cigarettes) are routinely permitted to consent to terms and agreements regarding their social media engagements without sufficient knowledge of what privacy implications are involved. The 13-year marker established by COPPA was widely argued that it was designed to facilitate the data gathering activities of content providers and online marketers more than it was an attempt to ensure online safety for minors. Not every child is ready for an online engagement at that stage, and children can circumvent the restrictions simply by lying about their age (Costello et al., 2016; Kearns, 2021).

Costello et al. (2016) make two essential arguments regarding teenagers and their use of social media: one, contract law, the basis on which adolescents access social media platforms and share personal information, assumes that users are cognizant of the implications of the terms and conditions they have signed up for in the agreement, and two, adolescent brain development (especially in terms of weighing the pros and cons of specific activities and visualizing possible outcomes) is not as mature as is found in the adult brain. Cognitive skills and psychosocial maturity are still in formation during the adolescent period.

This is why a teenager may think nothing of sexting or setting up a face-to-face meeting with a stranger found online. Steeves and Regan (2014) point out that how adolescents navigate the boundaries between what is ‘private’ and what is ‘public’ is based on a combination of social practice, individual competence, and preference, but those factors are contingent and contextual.

Don Dobson, Senior Director of Communications and Public Education, Broadcasting Commission of Jamaica

We were talking to some grade 7 students at an all-girls' school about [the dangers of] sexting . . . [and] there was a small group who felt that it depends, and one of the arguments that one of them put forward was 'Well sir, adults are always telling us not to engage in sex because you may get pregnant or you may get an STI. If I participate in sexting, I cannot get pregnant, I can't get an STI!' In her mind, sexting was no big deal, she is in her house miles away from somebody. She takes a picture, she sends it to them, they send back a picture . . . No harm, no foul, and then I had to say 'Yeah, no harm no foul until the picture ends up in the wrong hands . . .

Because of the complexity of the online space in terms of opportunities and threats, the 13-year benchmark may be a simplistic and therefore inadequate criterion for adolescent social media engagement independent of parental permission. Teenagers, desirous of the communication, entertainment, and socializing benefits available on the internet, may not be able to weigh all the consequences for all their decisions made online. The EU's General Data Protection Regulation (GDPR) Act (2018) specifies 16 as the minimum age for children to create personal accounts on social media without parental approval within the Union; other countries may require more rigorous age restrictions based on the needs of the youth in those settings.

Advertising

According to Statista, the global advertising spend targeting children as a market (CaaM) was US$4.4bn in 2020, and of that amount, US$1.4 was digital (Guttman, 2020). Other sources put the figure of worldwide advertising to children much higher. CaaM advertising includes food and beverages, clothing, video games, toys and electronic media (Reynolds, n.d.) and is embedded in many digital spaces children traverse, including websites, social media, apps, and video games. Marketers try to develop children as consumers from early childhood, appeal to gender and cultural differences in marketing, and target youthful tastes or preferences (Braimah et al., 2018; Common Sense Media, n.d.). It is not an accident that Pink Fong's one hour loop of Baby Shark has 107.7 million views on YouTube, that Fortnite amassed a gamer community of 350 million in 2020, or that TikTok popularity is driven significantly by GenZers and Zoomers (Jankowski, 2020; Muliadi, 2020). Content formats are designed to appeal to specific child and youth markets. Moreover, online child stars are becoming the poster children of consumerist lifestyles. Seven-year-old "Nastya" (a Russian) and ten-year-old Ryan (an American) demonstrate the profitability of the online child market - both are multimillionaires from advertisements, sponsorships and merchandising accrued through their YouTube channels.

There are some problems associated with the burgeoning CaaM sector, even for products that fall within what children may want or experience from time to time. For one, preschool-aged children cannot detect the advertising intent of commercials and tend to interpret ads as factual (American Association of Pediatrics, 2016). Additionally, the food and beverage marketing environment predispose young people to several risks; children that are exposed to intense advertising are likely to develop an affinity for less healthy foods generally, an increased preference for specific categories of foods, higher levels of childhood obesity and preference for specific brand types and lifestyles (Harris, 2016). The adverse effects of traditional media advertising targeting minors are worsened in the online domain, where data from children's web engagements are then used to tailor more attractive ad menus based on user profiles and data traces.

The American Association of Pediatrics (2016) cites all advertising to young children under five as unethical.

Survey responses from the research conducted among Jamaican media managers and child service officers for this report indicated support for the regulation of food and beverage commercials that are expected to be seen by minors on free-to-air broadcast stations (see Preliminary Code Review Report). The revised Code contains requirements that all content providers filter or block commercials that include foods high in fats, sugar, and salt and ads for alcohol and gambling, if children may see those ads.

The EU has implemented the European Industry Self-Regulatory Framework, which has established seven principles that guide online behavioural advertising and data collection. The framework is a partnership between industry stakeholders that does not seek to regulate ads or ad delivery content but to increase transparency and choice for web users. The US also has a cross-industry self-regulatory framework for online behavioural advertising. Jamaica does not yet have an advertising authority or online advertising consortium; it may be a matter for deliberation in the future and is addressed in the recommendations section at the end of the report.

However, even with revisions to the Code to address online advertising or institutional collaboration to protect unsuspecting web users from unwanted advertising ploys, parents and caregivers will need to recognize that lifestyles and morés are portrayed in other forms of content besides advertisements and that having conversations with their children will equip them to process the messages they encounter however they may be presented.

Photo Credit:
Kampus Production, Portugal

https://images.pexels.com/photos/7983184/pexels-photo-7983184.jpeg?auto=compress&cs=tinysrgb&dpr=2&h=750&w=1260

Age and gender differences in media consumption

Preferences in media content and digital media engagement vary by age and gender. Researchers have discovered that boys and girls have distinct media preferences, which are discernible from as early as three (Valkenburg, 2004; van Evra, 2004). These gendered differences have been attributed to socialization and behavioural compatibility, but other explanations may apply because, across cultures, differences in media preferences also occur using gender (Hall, 2020; Hamlen, 2010; Ali et al., 2021).

A Common Sense Media study shows that American boys aged 8 to 18 years old enjoy online videos, mobile games, video games and computers; girls of the same age bracket are more likely to report enjoying music, social media and reading (Rideout and Robb, 2019). This gendered diversity in choice is replicated locally. In a study conducted by Golding (2018), Jamaican female adolescents enjoy educational apps like Duolingo, Schoology and Edmodo and surf the Internet for information on hair, dancing, and DIY. On the other hand, Jamaican male teens like music sites like MP3, Tubidy and Soundcloud and prefer games like Dream League and Clash of Clans.

Differences in interest, taste and format preferences based on age, gender and temperament should be considered in providing digital media products and services for children. In general terms, boys and girls tend to opt for different content, and content choices also change as children mature. Parents, policymakers, and educators will have little success attempting to mainstream all children into selecting the same kinds of content - the goal should be to encourage young people to make wise and healthy digital media content choices within the available and age-appropriate genres.

Parental mediation approaches

A study in 2013 revealed that Jamaican parents employ a range of approaches to monitor and manage their children's use of media, including carefully selecting subscriber television packages, blocking adult channels, intentionally delaying the purchase of smartphones, and ensuring that technology use takes place in central locations in the household (Henderson, 2013). More recently, it has been shown that there is also a disparity in the parental monitoring of boys vis à vis girls in their use of digital media, as Golding's (2018) study of Jamaican youth's technology habits showed. Boys are often given more freedoms in what they can do online than their female siblings, which is, in fact, an offline reality as well. Also, many parental mediation strategies will have become harder to maintain with the increasing access to mobile intelligent devices and WiFi, especially in recent times with the onset of the COVID-19 pandemic, which has intensified and diversified conditions of technology use.

Additionally, parental mediation has to go beyond finding 'kid-friendly' websites, apps or games and leaving children to enjoy them unsupervised. As long as children engage in content delivered on an online platform, a parent or guardian should be close to monitor those interactions, co-view or co-use the material, and talk with the child about the content as may be needed. Pranksters can insert sexualized and other objectionable content into child-certified material, initially disguising it to appear safe. Predators can infiltrate online spaces designed for children to groom them sexually over time. Vigilance is key.

Norman Young[3], senior software engineer, Christian and father of a young child.

Recently – and it was the most shocking thing for me – my son who is four years old was on the tablet and Mom and Dad were right beside him. And as he was playing a game on his tablet something came up and he was like 'Mommy, Daddy what is this?' You know, because he wants to play his game and there is this ad that popped up in the middle of this game. And when I took the tablet from him and I looked at what it was, it was a stick man holding up a woman with a knife at her throat! I always try to censor what it is that he can do on the tablet. So definitely parental supervision is critical, and of course, how it is that we raise our children. Because if it is that he wasn't raised a way to come and talk to me and Mommy and thing, he would have just probably clicked into it to find out more and explore more .

Often the children in a household may be the first to learn how to manipulate a new gadget or explore a platform (Krcmar and Strizhakova, 2007). Parents and guardians can learn digital competencies once exposed and trained in formal or informal settings (Helsper and Eynon, 2010). There is a role for state agencies here; digital literacy programmes made available to adults through their life cycle are intrinsic to their ongoing marketability and equip them to support safe engagement with media by their children.

[3] Norman Young is not his real name. His identity is being protected.

Notwithstanding the challenges, parents and guardians are the first persons of responsibility that children interact with and have a duty of care to monitor and sometimes restrict exposure to media in the early years and provide moral guidance in digital media use as children mature into the adolescent's phase. Above all, parents and guardians will themselves have to 'walk the talk' digitally, as there is nothing as hollow as a father, mother or guardian who goes against their advice but imposes those strictures on their children.

Privacy

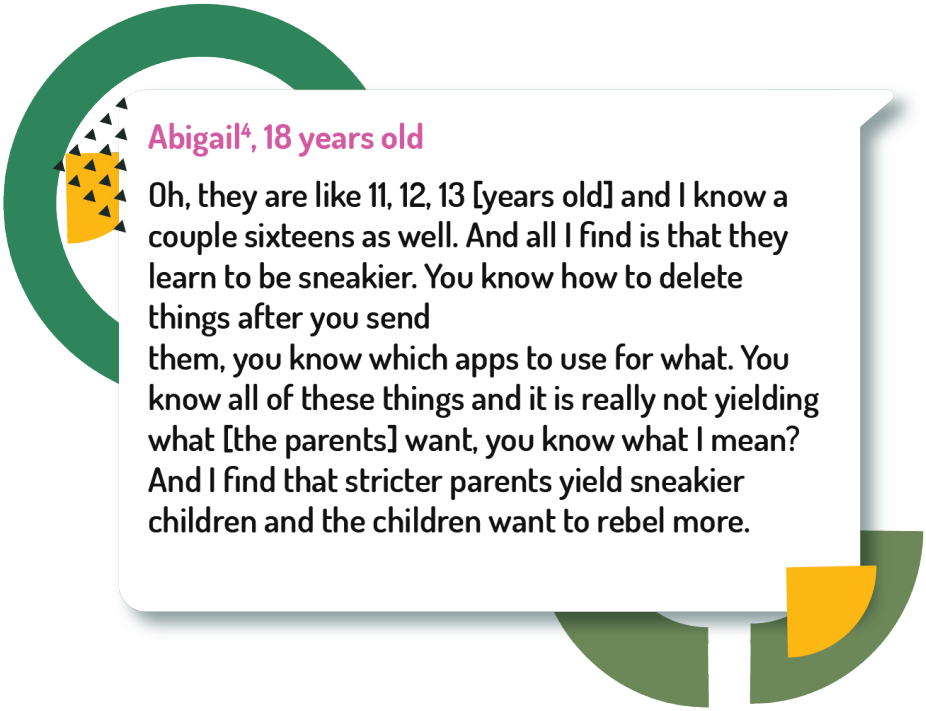
A person's privacy is understood as a necessary human right, integrated with notions of self-determination, and connected to the functioning of a democratic society (Livingstone, Stoilova and Nandagiri, 2018). Children are also accorded privacy for all countries that have ratified the UNCRC Treaty, based on Article 16 (UNICEF, n.d.). Establishing the boundaries of what constitutes 'privacy' for parents attempting to protect their children from online risks or harm can be complicated. As one Jamaican parent said about his determination to manage his child's smartphone use vigilantly: "Certain level of privacy is not afforded until you pay the rent and turn your key" (Henderson, 2013).

Media-related privacy is associated with broader child development aspects like autonomy, identity, intimacy, critical thinking, and prosocial behaviour (Livingstone, Stoilova and Nandagiri, 2018). Children also have a 'data self' - personhood connected to their offline and online information (ibid). Children should be granted agency to choose content and platforms that provide child-appropriate entertainment, educational experiences and interaction with family members and friends - without oppressive surveillance from parents or caregivers. The UK's Age Appropriate Design Code goes as far as to require parents to inform their child if the parental controls have been activated on the child's device (Information Commissioner's Office, 2020).

However, children are not automatically technically 'savvy' as suggested by Prensky's (2001) well-known notion of 'digital natives. Although there are some ways in which younger users of digital devices, platforms or services seem to learn quickly and unproblematically, their adaptation to the digital environment is influenced by the same factors that older users contend with - breadth of use, experience, gender, and educational values (Helsper and Eynon, 2010). Their need

for protection must balance a child's right to online privacy; today, a child's data self is also a means of control (Livingstone, Stoilova and Nandagiri, 2018; Zuboff, 2019). Dataveillance, information collection and generation increasingly possible via online games can gather deeply sensitive information from children, including aspects related to their appearance, growth, health status, friendships, moods and scholastic attainments (Lupton and Williamson, 2017). Children should be protected from those kinds of intrusions until they have developed the digital literacies to monitor the data capture boundaries of their online experience actively.

It should be noted that sometimes privacy breaches can be familial and technological. Sometimes Jamaican children experience undue invasion from their parents or caregivers as they attempt to use tools of communication or socialization. Overly restrictive parental oversight of digital media use often leads to reactionary behaviour from children (especially teenagers), who then find surreptitious ways to go and engage online.



[4] Abigail is not her real name. Her identity is being protected

The invasion of child privacy may also intersect with more serious offences like child neglect and abuse. In 2017, a mother from St Thomas, Doreen Dyer, was caught on camera violently beating her 13-year-old daughter with a machete. The video, taken by an older sibling, was circulated widely on social media, with consequences for the minor whose identity and the situation became a source of national commentary. In September 2020, a video of a Jamaican toddler - “Minty” - smoking and drinking alcohol to the cheers of his caregivers - was shared aggressively on Twitter and other platforms. These incidents sparked state intervention from the authorities to address apparent parenting deficits. However, the long-term costs to children involved in these humiliating exposés - including reputational damage and identity formation issues - is often overlooked. Both the 13-year-old daughter and “Minty” have to contend with data selves of shame, besides other socio-economic challenges that they might have.

Sharenting is another potential privacy breach of children. Though seemingly innocuous, incessant posts, blogs or tweets about one’s child (even achievements) can intrude on his or her ability to form an identity based on innate predispositions and talents instead of pressuring conformity to the curated online image. Parents and caregivers have a duty of care to ensure the digital footprint created for their child corresponds with goals of autonomy, identity and intimacy that will be needed in later life (Livingstone, Stoilova and Nandagiri, 2018); not every cute moment needs to be posted.

Childhood and digital media engagement

Childhood is a crucial phase during which physical activity, nutrition, sleep, and relationship are formed. Although screen time is positively associated with some aspects of development such as psychosocial functioning, attention, motivation, literacy, and numeracy (Przybylski et al., 2019; Lin and Atkin, 2007; Fisch, 2009), it can also be associated with developmental risks if digital media is initiated too early or overused. Some of the effects of digital media use for infants, toddlers and preschool-aged children are not yet known (American Academy of Pediatrics, 2016). What is evident is that sedentary behaviours linked to long hours sitting in a classroom, playing screen-based videogames, and watching television result in poor outcomes for children - overweight, obesity and mental health issues. Overuse of media also intrudes on parent-child interaction and is a push factor for poorer family functioning (Felt and Robb, 2016; American Association of Pediatrics, 2016).

The World Health Organization (2019) guidelines, deemed appropriate for children under five years regardless of their gender, culture or socio-economic context, does not advise any screen time (television, videos, or computer games) for children under one-year-old, and for children between one- and two-years engagement should be limited to one hour. The American Association of Pediatrics (2016) concurs by stating there is no substitute for hands-on interaction with a caregiver to develop cognitive, language, motor, and socio-emotional skills.

Newton Douglas, Director for Policy Planning and Evaluation, CPFSA.

...I would agree with the point . . that the parents or adults [should be] active in the process when the children are engaging with the different digital platforms and more, as a matter of fact, not just supervision but being involved, you know. Because that's one of the key things in terms of parenting. It is not just to put them in front of a device and leave them. Also participate with them in the process.

Physical activity and quality sleep are essential to children's proper development. Because of the trend towards sedentary habits among the children - primarily driven by increasing dependence on digital devices and gadgets - several countries, including Australia, Canada, the US, and New Zealand, have initiated programs to limit screen time for children (World Health Organization, 2019). The use of digital media for children four and younger is best engaged with a caregiver nearby who can help them make sense of the content they are seeing and connect those messages with the natural world (World Health Organization, 2019; American Association of Pediatrics, 2016).

Sedentary Screen Time Guidelines by Age (WHO*)			
Infants 0 to 1 year	**Children 1 year old**	**Children 2 years and older**	**Children 3 to 4 years old**
0 minutes	0 minutes	No more than 60 minutes, with caregiver	No more than 60 minutes, with caregiver
*World Health Organization (2019). Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age. Geneva, Switzerland. https://apps.who.int/iris/bitstream/handle/10665/325147/WHO-NMH-PND-2019.4-eng.pdf			

Digital engagement should not occur before the WHO recommended age of one. Even after that benchmark, it should not displace face-to-face, offline, individual, or social forms of recreation with parents, guardians, or peers because these human and non-screen-based interactions and explorations are intrinsic to healthy development.

For children five years and older, digital engagement should be encouraged and supported under supervision. Due to the COVID-19 pandemic, Jamaican children of school age have learned to use platforms like Zoom, Google Classroom and Whatsapp. Many are familiar with mobile video games like Dream League, Clash of Clans and Candy Crush, but new screenless digital toys like Kiri and Avakai (https://www.kiritoys.com/; http://vaikai.de/) are being developed to teach skills in more interactive ways. Online game platforms like Minecraft and Roblox allow users to conceptualize and create "worlds within worlds", providing gamers with introductory coding skills while playing. New generation handheld video game consoles like Nintendo Switch, Microsoft's Xbox One and Sony's PlayStation 4 are available for gamers able to afford the price point and do have a role in providing entertainment content for children. Streaming platforms such as Twitch and the chat app Discord are also popular among young people, and increasingly, Jamaican youth are finding or creating communities of interest in them.

Nevertheless, children's engagement of these digital affordances, even by adolescents, requires some measure of oversight by parents and caregivers, suited to the age and maturity of the child in each case. Any platform connected to the internet provides access to all the affordances of the World Wide Web, many of which are unsuitable for children.

SUMMARY

Content that can reasonably be expected to be accessed by a child must be designed with their best interest in mind. Their best interest considers their developmental stage, such as chronological age as well as cognitive, mental, and emotional maturity, and the supportive environment that parents and/or caregivers must provide for ideal outcomes.

Parents and guardians may need to seek training to nurture their children in ways that harness the benefits of digital media but limit the risks and harms. Parents who have infants and toddlers should be encouraged to resist pressures to expose them to screen media before the age of two. Instead, concentrated face-to-face interactions with their children and dedicated unstructured playtimes are recommended.

For parents and guardians of children five and older, digital content should be chosen wisely. Eliminate fast-paced programming or apps with too many visual cues or violent themes. Co-viewing and co-using digital content, including 'child-rated content', is advised. Parents and guardians can encourage conversations about the material being engaged in, offer guidance if anything inappropriate pops up, and strengthen parental blocks on the app or platform.

When children reach the adolescent phase, guidelines should focus on kinds of activity and intentional use, not just on time spent. Parents can exemplify healthy media habits by modelling media use breaks and alternatives to screen-based entertainment within the home.

Technology companies must develop an ethical regime that embeds transparency, responsibility and accountability guarantees in content, games and apps designed for children. Content providers and content service providers must ensure that material that may promote unhealthy behaviours or lifestyles be eliminated from programming, games and apps designed for children.

Public health officials and educators should be equipped to provide interventions and training to technology users, including children and adults, and identify cases where digital misuse or overuse may be occurring or where signs of internet addiction are in evidence. Health officials and educational institutions need a reporting structure with relevant government agencies for digital cases that indicate a public health matter.

ECONOMIC AND SOCIAL CONTEXT

In the early months of 2021, Jamaican-based news and current affairs content provider Nationwide 90fm conducted an undercover investigation about online dating practices among Jamaican women. Ten women in their 20s and possibly older were invited to go on a lunch date or shopping trip with 34-year-old David Ruttherford, CEO of a security firm, an eligible male. 'David Ruttherford' was a fake. The documentary, shared on YouTube under the title "e-Stranger: the Dangers of Online Dating" (Reid and Clarke, 2021), was revealing. Nine of the ten women were willing to meet the fictitious David, and when plans to meet him in his vehicle were changed due to a supposed work challenge, they were willing to be chauffeured with another stranger to meet with David at some other location than what had been agreed.

This documentary illustrates the global popularity of dating apps like Tinder, Tagged and Baddoo, and the emerging dating cultures that have arisen as a result. Digital media offer new ways of communicating, socializing, pursuing, and managing relationships. As regards the young women involved in this particular investigation, the documentary is a reminder of the desperate straits some Jamaicans find themselves in, contributing to reckless use of digital media platforms (in this case) in order to meet a male stranger who could, hopefully, become a "sugar daddy" or at the very least, help with purchasing some groceries as a one-off gift. Three of the interviewees were mothers; two were willing to move in with David, never meeting him.

The subtext of this narrative is, of course, the COVID pandemic, which has made large sections of the Jamaican populace more vulnerable economically but has also accentuated the need some young people have for companionship and friendship after months of lockdown. The pandemic has had a negative effect on the Jamaican economy, particularly such sectors as tourism, transportation and entertainment, as evidenced by a 5.7% contraction in the January to March quarter of 2021 compared to the same period in 2020 (Smith, 2021). Closely connected to the economic implications of COVID-19, a study conducted by UNICEF in association with the Caribbean Policy Research Institute (CAPRI) from June to July 2020 reported increasing vulnerabilities for Jamaican children as a result of the pandemic, with rural, lower-income and female-headed households hardest hit (UNICEF, 2021).

Poverty (including various forms of informational poverty) and the digital divide are siblings. According to Dunn, "The challenge of bridging the digital divide emerges as a far more nuanced and complex process involving greater emphasis on social context, multiple literacies and, yes, effective technology access" (2010, p. 327). It was instructive to note that of the ten women interviewed for the documentary, several appeared based on diction and overall self-presentation to be middle-class Jamaicans. It is a reminder that the multifaceted literacies required by digital transformation are not just a function of educational access or class.

The Commission's new mission to facilitate the nation's transition to a digital economy requiring the leveraging of technology for business and media development and to enhance society and culture (BCJ, n.d.) comes against the backdrop of persistent socioeconomic challenges, which must also be addressed.

Jamaica's transformation into a society prepared for the Fourth Industrial Revolution will require heightened levels of human development since the nation's citizens are both the means and end of this mission[5].

Page 23 Photo Credit:
www.givingcompass.org
https://cdn.givingcompass.org/wp-content/uploads/2018/01/01165901/poor-black-americans.jpg

[5] Aggrey Brown (n.d.), Caribbean communication scholar. This was a core idea in his perspective of national and regional development

According to the UNDP (2016), the human development approach is about widening the range of choices people have at their disposal. The paradox is that economic progress and human development are closely intertwined, and in some ways, human development is a precursor to economic stability and growth. The UNDP report argues that social programs, services for children, the elderly and people with disabilities, access to financial and other resources, and employment opportunities are vital to undergird economic progress in Jamaica and the Latin American region generally. Importantly, aspects of a vulnerability that affect people at the varied levels of the individual, the household and communities must be focused on, and the opportunities available to advance socially and economically (ibid).

Jamaica is designated as an upper-middle economy, with an adult literacy rate of 88% in 2014 and higher levels of equality than most countries in Latin America and the Caribbean (The World Bank, n.d.; UNDP, 2016). However, like many Small Island Developing States (SIDS), Jamaica is prone to natural disasters from hurricanes and flooding, and poverty ranks at 17%, which is relatively high. There are also persistent social challenges of crime, under- and unemployment, and high levels of at-risk youth (The World Bank, n.d.). An essential experience for many children in Jamaica is exposed to abuse and violence. UNICEF data posit that 85% of children aged 1 to 14 years have experienced physical punishment or psychological aggression from their caregivers (UNICEF Data, n.d.). This is not unique to Jamaica. In their survey of parenting beliefs, practices, and childhood outcomes in the Caribbean, Lie-A-Ling et al. (2018) note that the legacy of slavery, post-colonial violence, indentured servitude, and racism have influenced family structures and, by extension, less optimal parenting approaches. Physical punishment - sometimes abusive - is a common aspect of Caribbean parenting, although studies indicate practices are changing (Lie-A-Ling et al., 2018).

Jamaica also has a “missing children crisis”. According to the Jamaica Information Service, 1,512 Jamaican children were reported missing in 2018 (JIS, n.d.). As unacceptable as that figure is, the website notes that it is the lowest number of missing children reported since the Ananda Alert system was initiated in 2009. There is a 90% return or recovery rate of missing children on the island (Hunter, 2021), but there are still questions about the status of those minors who are not recovered, as to whether they are ‘visiting friends’, runaways, or victims of trafficking. Fewer adults are reported missing yearly than children. However, the overall situation is critical enough to place Jamaica in an unfavourable ranking with foreign partners and exposes its citizens to the penetration of sex and labour traffickers, as well as terrorist cell activity (US State Department, n.d.; Grant, 2020).

Some of Jamaica's socio-cultural norms are at cross purposes with the affordances and opportunities of the digital revolution and, in fact, open citizens up to new vulnerabilities. Vestiges of a generational gap between caregivers and children, further entrenched by culturally accepted levels of parental harshness or neglect, set young people up for more significant challenges in navigating the digital environment of the near future. Unattached youth, economically deprived adults, and people disconnected from the community are easy targets for online criminals who prey on those with few options. For the best outcomes in preparing children for citizenship in the Fourth Industrial Revolution, guidance from responsible and caring parents and guardians will be indispensable, and adults also need help.

In the online group discussions held with public members, several participants raised the need for public education campaigns and training for persons to equip them adequately for the digital transformation. The need appeared greatest for parents and caregivers in mediating the risks and dangers associated with children's access to smartphones and other devices. However, participants also emphasized that many adults need training to exploit the many vocational, entrepreneurial, social, and civic opportunities made available by the digital ecosystem.

Nelly Boland[6] , university educator

I know you are talking about children but I still think we have to pay attention to how [digital media use] affects adults. Because the adults are really the gateway for the children. And even I found that over the past few months the thin line now between work and recreation and distraction is all on a screen. Work is – you do that . . . And when you're tired of the work, OK, it's let me see what's on YouTube. And one day it struck me that everything is happening on a device now. And so you know [we should be concerned about] the mental health of adults

Robert Simons[7], university educator.

But it really points, it really comes back to sensitization and a public education campaign. So if it is a situation where there is a concern about the internet and the technology being used in frivolous ways? Then we just have to sensitize to varieties or things that they can utilize the internet and technology in a more beneficial or meaning that can enhance productivity. So it is just a matter of sensitizing the people

Newton Douglas, Director for Policy Planning and Evaluation, CPFSA.

I think one of the key things, again, you can't rule out is empowerment, providing that information that will empower people to make the right decision. And again, it comes back to parenting . . . a youngster should not be online on those different platforms especially exposing themselves to whether it be moral or physical danger without a parent not being involved . . . [let's] empower our parents and the children

Margaret Frankson [8], university educator

And second if you were looking for a recommendation in a public education campaign and I know it tends to be you know something that is done for a cure for everything. But the truth is many people don't know that you can work and Upwork [online], as in legit earn online. Persons are concerned about how do they collect their funds when they are working in a remote environment but this is actually the future of work. So we need to educate persons as it relates to that. It is also the future of learning as well

[6] Nelly Boland is not her real name
[7] Robert Simons is not his real name.
[8] Margaret Frankson is not her real name.

The global economy demands a newly skilled or reskilled generation that can adapt to the rapidly changing technology. The Fourth Industrial Revolution has opened up new jobs in AI, green economy, digital marketing, e-commerce, and data (Dutz, Almeida & Packard, 2018). In Jamaica, entrepreneurship in these emerging sectors has been sluggish and perhaps undercapitalized, but local start-ups like BlueDot provide services in artificial intelligence, analytics, and consumer neuroscience for Jamaican and regional clients. Making the most of the pandemic, food delivery companies like 7Krave have broadened their restaurateur partnerships, developed mobile online ordering platforms, and extended their clientele. The 7Krave app now has 50,000 downloads. Some Jamaicans have begun to find their niche in content creation and are amassing respectable followings on social media: Miss Kitty, Quite Perry and Tanaania each has one million, 650,000 and 263,000 Instagram followers, respectively. Rushcam has 76,000 subscribers on YouTube. For successful influencers, content creation is a good source of income for the creative team, allowing for co-branding partnerships, sponsorships, advertising revenue and potentially, a global following.

Although the digital transformation is already unleashing economic opportunities for some Jamaicans, the ability to harness them more robustly will depend on the readiness of members of the society to embrace the new technologically-driven options. This dimension is an intensely human factor that centres on how families, households and communities are resourced, supported, and protected in the new economy. As UNDP (2016) makes clear, inclusive economic growth will require interventions at the granular level of the household. This suggests the need for a social change initiative in which digital and information literacies, and the connected affordances promised by the next industrial revolution, are placed on the national agenda.

Some questions are worth asking:

- What kinds of digital media and information literacies do parents, caregivers and heads of households need to exploit the digital environment's educational, social and entrepreneurial offerings? What about the elderly and persons with disabilities?

- What social challenges already exist that could be worsened by increasing digital access (child abuse, human trafficking, online criminal grooming) and what state interventions are needed to anticipate and address those possibilities?

- What role should public agencies and government play in providing training and sensitization to digital media opportunities and threats, and which aspects should be provided by commercial interests?

SUMMARY

In summary, digital media systems and affordances that are not intelligently appropriated in alignment with societal needs and priorities will soon be used against those needs and priorities. Policy and legislative arrangements should account for and facilitate the unique economic, social, and cultural possibilities that can be harnessed within a society while anticipating and managing potential threats. This process should include vulnerable groups to ensure equitable distribution of digital resources and their benefits.

THE ATTENTION ECONOMY

The digital ecosystem is an interconnected, non-linear network of businesses, platform technologies, consumers, products, and services globally in agile and often disruptive ways. Platform technologies undergirding the system are scalable and self-organizing, allowing seamless interactions between businesses, people, and governments (Barykin et al., 2020; Weiller and Woerner, 2015). The digitization underlying this radicalizing shift has had a disruptive effect on several industries globally, such as hotels, land transport, banking, and retail, while at the same time opening up promising opportunities for others, such as the short-term lodging marketplace and vacations service of Airbnb, the transport networking company Uber, cryptocurrencies like Bitcoin and the e-commerce and technology service dominance of giant Amazon.

The sheer breadth of the digital ecosystem can obscure the substantive product that is at the base of contemporary global commerce. The digital economy is, importantly, an 'attention economy.

The profitability of 'The Big Five' - Apple, Amazon, Alphabet (parent company of Google), Facebook and Microsoft - and the two Chinese technology leaders Alibaba and Tencent hinges on how human behaviour has been studied algorithmically is now being exploited for commercial purposes. Depth of knowledge about customers' goals and lifestyles - not products or even discrete brands - is now the strategic objective of the leading technology companies (Weiller and Woerner, 2015; Dietz et al., 2020). The user's attention becomes the gateway through which troves of personal data - which can range from whether the person is pregnant, which kinds of restaurants they visit, the car they drive and their political choices - is harvested (Zuboff, 2018). This aggregated data (or 'residual' data) allows social and market trends to be deciphered, predicted, and manipulated at high levels of precision.

It is good to note that solutions derived from partners within the digital ecosystem transcend commercial imperatives - health services delivery, educational applications and retarding climate change are included (Gokcen, 2020). Nevertheless, public and primarily private organizations are using residual data has been a rising cause for concern (Pazzanese, 2020; Zuboff, 2018). The Facebook data breach scandal, in which the consulting firm Cambridge-Analytica used an app to harvest data from millions of Facebook users and then convert the information into profiles for targeted political advertising in the leadup to both the 2016 American election and the Brexit campaign, demonstrated the risks of unregulated data capture by technology companies (Cadwalladr and Graham-Harrison, 2018). Nevertheless, data capture can also be used quite effectively by the state: China's credit System monitors its citizens online and ranks them concerning compliance to a range of Communist ideals, with the possible sanctions for nonconformity (Ma and Canales, 2021).

In the West, time spent online is done with the tacit approval of the user. How that approval is made tacit is discussed in this section.

Photo Credit: Ola Dapo
https://images.pexels.com/photos/3345882/pexels-photo-3345882.jpeg?auto=compress&cs=tinysrgb&dpr=3&h=750&w=1260

Persuasive Design

Informed by the integration of behavioural psychology and computer technology, digital devices and platforms are deliberately designed to maximize the time people stay online. Known as captology or persuasive design, these are compulsive use strategies embedded in technology products and services that condition users to engage with reduced intentionality to change attitudes or behaviours (Fogg, 2003). These embedded features are primarily a strategy of commercial product and service providers and have come under insufficient regulatory oversight, although that may be changing.

> **(Kidron, Evans and Afia, Disrupted Childhood – the cost of persuasive design, p. 5).**
>
> **As long as the digital environment deploys persuasive strategies for primarily commercial purposes, it will fail to live up to its promise of progress, creativity and knowledge**

Persuasive design principles are integrated into most devices, apps, websites and social media platforms, making it almost impossible to interact online without them. Amazon's website provides an example of several strategies at play to retain the casual interest of the visitor and convert it to purchase - for example, through recommender systems ("You bought this, you may be interested in this"), by providing a simplified "one-click" purchase process, and by enhancing the sense of control over options as a customer ("24-hour shipping?"). Game apps offer triggers for continued play or progress through levels, social media platforms nudge sustained engagement through streaks, feeds and like buttons, and smartphones permit browsers on home screens for easy surfing, notifications from apps and incessant pings.

This section highlights some of the features of persuasive design being employed, concerns regarding the effects of persuasive design on minors, and approaches towards managing them from a user perspective.

Persuasive Design Features

Here are some examples of persuasive design strategies embedded in digital technologies - devices and platforms - that are now in routine use (adapted from *Disrupted Childhoods*):

- **The "Like" button** (Instagram, Twitter, Facebook) - the anticipation of approval from another user - the "feel-good" pleasure of what the next few seconds or minutes may bring - evokes the happy hormone dopamine. However, a resolution ("Like" button pressed by a follower or friend) re-begins the cycle because another "like" is needed to create a new hormone rush. It is addictive because of the combination of anticipation and uncertainty (also known as variable rewards).

- **Quantified relationships** (as calculated by followers, likes, retweets) - The human need for belonging, worth and popularity is converted to a metric ranked on the basis of the intensity and quantity of online engagements.

- **Continued engagement** (autoplay or autosuggestion, music bubbles, slowed process) - These features ensure that the user stays engaged and loses track of the time being spent on the platform. When information feeds continue to pour in, or a new possible action is presented right before the present content is ended, it works to keep the user enclosed in the digital space in as thoughtless a manner as possible.

- **Summonses** (buzzes, pings, vibrations, and the colour red) - noises, movement, or light is processed as a call for attention for humans. New notifications appear urgent and tend to elicit a quick response regardless of the relative importance of the summons. Machine learning can also detect when a user is likely to be online and tailor the summons to strengthen a previous action.

- **Social obligation** (implicit requirement to respond, notifications when friends are online) - Although expectations within offline social relationships are expected, in the online arena where a person may have a vast network of trivial contacts, the assumption that interactions are needed can be solid and all-absorbing. The sense of obligation to interact is designed into digital platforms.

Timothy [9], 14 years old

Sometimes I just feel the need, like the adrenaline rush of when I go on social media. So, it is like every time I open an app I see the notifications that, 'Oh, someone messaged me!' For example, Twitter because I spend a lot of time on Twitter. It is like, 'Oh, someone liked my tweet!' 'Someone followed me!' It's like, trying to get more, like, put out more tweets or message more people or do things to get more followers really . . .

[9] Timothy is not his real name. His identity is being protected

Impacts of Persuasive Design on Children

Children now conduct many of their daily activities on the internet - it is where they learn, play, and socialize. Increasingly, though, children and young people admit difficulty controlling their use of devices and a feeling of anxiety when not on them (Kidron, Evans and Afia, 2018). Kidron and her colleagues say children are now experiencing higher levels of anxiety, aggression, relationship challenges and sleep disturbances due to intensifying digital media engagement (ibid.).

Common Sense Media, a US-based safe media advocacy organization, reports that in 2016 50% of American teenagers felt that they were addicted to their devices,72% of them felt the compulsion to immediately respond to texts, social-networking messages, and similar notifications, and 78% reported that they check their devices each hour (Felt and Robb, 2016). Efforts to manage the incessant on-screen habits of children is often a source of conflict, and parents themselves report a measure of tech addiction as well (ibid.). The opportunity cost of unfettered access to digital technologies includes lowered autonomy and memory deficits and lowered scholastic performance among low-achieving, socioeconomically challenged students (Kidron, Evans and Afia, 2018; Beland and Murphy, 2015).

The 'parallel alternative' world offered by digital platforms is qualitatively different to previous media shifts, with alarming consequences for children with unsupervised access (Kidron, Evans and Afia, 2018). In Golding's (2018) survey of Jamaican adolescents exploring technology addiction, over a third of the respondents (35%) acknowledged sleeping with their smartphones during the night. Another third of the sample said that they slept with their phones sometimes. Thirty-two per cent (32%) of the respondents claimed they spent 10 hours or more online, but only a fifth of the surveyed teenagers worried about the amount of time spent on their devices. This apparent apathy about their technological dependency was considered remarkable by the researcher. As mentioned earlier in the report, adults begin to reflect on their device dependencies and the harms, primarily mental, that they may be exposing themselves.

Facebook recently changed the Facebook and Instagram platforms to allow users to hide the 'like' feature in response to public pressure. This move has been commended since the 'like' button has been associated with social comparison issues, especially among young users (Chiu, 2021). Nevertheless, there is still a question of whether those who need the option the most will use it. A generation of digital media users has now been acculturated to the pleasures associated with persuasive design.

SUMMARY

As conditions of service provision in Jamaica, the industry should carry out child impact assessment studies for minors who can be expected to use their services or products. The potential effects of children's engagement with digital platforms or devices must be assessed, and possible consequences should be reported to the relevant agency.

Industry must protect the interest of vulnerable users of their devices and platforms. Some of those changes include giving warnings when someone has been on the platform for an extended time. Devices, games, and sites should have 'nudge off features' or exit windows to facilitate users winding down and logging out of devices and platforms.

Technology companies must be required to provide explicit explanations about data capture and follow a data minimization regime that only harvests as much data as is needed from the user. In the user's interest, settings on devices and platforms should be privacy-by-default.

Regulators must specify service delivery conditions for content providers and content service providers operating in Jamaica.

POLICY AND REGULATION

- Some Comparisons

David Soutar, Digital Design, and User Experience Specialist, Animation lecturer.

Because the thing is, you don't want to stifle [technological development]. You know ideally, really what you're talking about is, ten years, fifteen years from now, a child goes to school wearing VR, AR glasses, sits down at his desk and an entire computer is projected in front of him. The walls around his space come alive, the chalkboard that the teacher is writing on is not just a flat chalkboard, it's a screen that she is manipulating. It becomes a far richer learning environment . . .

As part of the research gathering for the revision of the Code, media managers and child services stakeholders were surveyed to give their feedback on the regulation of online media, immersive content and the advertising of foods and alcohol, among other issues. Responses varied, but some queried whether the Commission had the remit to regulate those spaces. To the question "Do you believe that the Children's Code should include provisions on the safe use of offline media by children?" one respondent said:

"Ideally yes, but would such legislation be enforceable? Macro-level content blocking is not acceptable here".

Similar concerns were raised about the spectre of regulating video games and advertising foods high in fat, sugar, and salt. (For details on the survey outcome, see the Preliminary Code Review Report).

The previous regulatory scope of the Commission spanned the electronic broadcast media sector, as well as subscriber television and independent programming providers. Along with the Children's Code for Programming, the sector has been regulated by The Broadcasting and Radio Re-Diffusion Act (1949, amended in 2008) and The Television and Sound Broadcasting Regulations (1996, amended in 2010). Directives and guidelines have been issued sporadically to address specific matters relevant to licensees in the media system. New laws will be needed given the Commission's policy shift towards a platform-agnostic content regulation. Making that transition must include the citizens' perspectives, interests, and expectations (Hasebrink, 2011; ITU, 2020). As referenced by the respondent's comment above, updating the regulatory context requires building trust to assure the public that there will not be a regulatory overreach in the new dispensation.

In Western democracies, the broadcast sector has usually been considered part of the Fourth Estate, playing a vital watchdog role over governance activities, a forum for public discourse and debate, and an essential contributor to the cultural repositories of the country (McQuail, 2005). With those responsibilities, entities within each media, system must comply with the regulations connected to their role. In the Commonwealth Caribbean, the Reithian tradition of public service media has been strong, but other influences such as government-controlled media and privately-owned media have also been common (Surlin and Soderlund, 1990). In each case, and though sometimes contested internally, these media systems have reflected particular socio-political realities which legitimized their existence.

The internet, by contrast, has emerged and mainly flourished supranationally in an ethos of freedom of information and expression and has been hard to regulate. The early emancipatory promise of the internet, belying its current intensely commercial nature, has provoked new policy and regulatory considerations in several countries. In light of the significant reach, the the scale of profits, and socio-political impact of the technology giants who control media and communication globally, some countries are adopting more robust policies and imposing more stringent requirements on these entities as minimum conditions for service delivery.

However, as noted by digital design specialist David Soutar in the quote above, governments also need to encourage technological and business innovation. Jamaica need not retreat from this conversation, nor the policy and regulatory shifts required. The technological developments that have necessitated this regulatory review are also being grappled with in other jurisdictions. This section of the report highlights some of the regulatory initiatives that have been taken in other countries - with particular focus on the online space - and their attempt to balance regulatory and citizenry needs with industry development.

The countries mentioned in this brief overview were recommended during deliberations with the client. All are democracies but have varied political and institutional arrangements and different approaches towards regulating the electronic media sector and the online environment.

United Kingdom

Overall broadcast regulations are issued by the UK's Office of Communications (Ofcom). The main legislative instrument, the Broadcasting Act (1990, amended in 1996), speaks to the cross-ownership of media companies, including radio, television, and newspapers (https://www.ofcom.org.uk/home).

Various regulators monitor specific forms of online activity; for example, the Competition and Markets Authority ensures that consumers accessing services or products online are permitted freedom of choice, and the Advertising Standards Authority oversees the UK's online behavioural marketing sector to protect the interests of consumers who are exposed to ads on the internet. The Information Commissioner's Office regulates data protection and freedom of information and in September 2020 released the Age-Appropriate Design Code, which gives explicit requirements for the design of platforms expected to be used by children. The Code is a subsection of the UK's Data Protection Act (2018).

Ofcom can take action against UK-established video sharing platforms that do not adopt measures to protect users from harmful content. In the digital space, criminal law applies to online activity in the same way as offline activity. As the UK Government has noted, legislation passed before the digital age "has shown itself to be flexible and capable of catching and punishing offenders whether their crimes are committed by digital means or otherwise" (Woodhouse, 2021, p. 6). Therefore, the internet is not a pretty unregulated 'Wild West' as some have claimed. However, there is no overall regulator. For harmful content but not illegal (for example, content that may be deemed to promote self-harm or cyberbullying, or maybe indecent or misleading), social media platforms self-regulate through community standards and terms of use that users agree to when joining. Notwithstanding, the role of social media companies in enabling access to harmful content has led to calls for statutory regulation.

In May 2021, a draft Online Safety Bill was published. It addresses Ofcom's regulation of certain internet service providers of user-to-user services and search services. There are definitions and duties of care laid out in the draft with particular attention to what constitutes harmful content to children and what is illegal content.

United States

The Federal Communications Commission (FCC) has a broad regulatory remit for the broadcast sector via the Communications Act of 1934 and the amended version of the statute known as the Telecommunications Act (1996) (https://www.fcc.gov/). Free-to-air broadcasts, satellite and cable are all regulated differently. In 2017, the FCC eliminated several ownership rules, including prohibited cross-ownership of broadcast and radio stations within a local market and another that had prohibited cross-ownership of television and radio stations in the same geographic area.

In 2015, the FCC implemented net neutrality policies, allowing untrammelled internet traffic between users and their intended destinations on the Web. So far, content such as video or audio delivered over the internet is not yet regulated, and the process has been stalled in part because the FCC has indicated little interest in becoming an overarching regulator for the online space. However, amendments to existing Acts or draft bills have been proposed and laid in Congress.

Singapore

There is one regulator for developing, promoting, and regulating the info-communications and media sectors. The Infocomm Media Development Authority (IMDA) has broad regulatory powers over the converged telecommunication and media landscape, and according to the website, aims to "deepen regulatory capabilities" as the digital transformation progresses (.https://www.imda.gov.sg/). For any media content, the general regulation is that providers "ensure that the publications/ audio materials distributed do not feature content which could be considered objectionable on moral, racial or religious grounds, or deemed detrimental to Singapore's national interests" (ibid.).

Singapore has robust digital legislation through such instruments as the Internet Code of Practice, the Internet Regulatory Framework, and the Protection of Online Falsehoods and Manipulation Bill (POFMA). Guidelines exist for the publication and dissemination of local and essential material, with some specified exemptions.

Singapore has taken a proactive approach to artificial intelligence. The Model AI Governance (2nd edition), published in January 2020, provides details and readily implementable guidelines and principles concerning how private sector organizations can address key ethical and governance issues when deploying AI solutions.

South Korea

The Korea Communications Commission (KCC) is the government agency that regulates television, radio, and the internet in the country (https://eng.kcc.go.kr/user.do?page=E01010100&dc=E01010100). A committee within KCC focuses primarily on the regulation of the internet (the Korean Communication Standards Committee or KCSC). There is also a self-governing organization to which the leading Korean internet platforms belong, and this consortium liaises with the government agencies. The Korea Internet & Security Agency (KISA) has been charged with addressing digital convergence, cyber threats and the development of expertise to prepare the citizens for the Fourth Industrial Revolution. (https://www.kisa.or.kr/eng/aboutkisa/presidentGreetings.jsp).

Some topics are banned from broadcast examples, including sexuality (including educational information about the subject), homosexuality, information about North Korea, violence, anti-government materials, and political discourse. Concerning the latter, the National Security Act addresses any "anti-state" group material shared as against the views of the government. Freedom of speech is granted, but only within a narrow ambit; internet service providers are required to block access to various forms of communication that are considered subversive, immoral or violent.

India

The Press Council of India (PCI) is the statutory body responsible for maintaining press freedom. The News Broadcasting Standards Authority (NBSA) - oversees and makes rulings following complaints about broadcasts (https://www.ibfindia.com/news-broadcasting-standards-authority-nbsa). NBSA's standards are more guidelines than directives; there is a fair degree of diversity in content across the vast broadcast landscape. Program and advertisement codes for regulating content broadcast on television are issued under the Cable Television Networks (Regulation) Act of 1995.

The digital regulation landscape is changing fast, with new rules established in February 2021. The Information Technology ("Intermediary Guidelines and Digital Media Ethics Code") Rules (2021) initiated changes that apply to messaging apps and social media sites. The guidelines also provide a mechanism for social media users in particular (Facebook, Twitter, and Netflix) to seek redress for complaints.

Australia

The Australian Communications and Media Authority (ACMA), established in 2005, is the converged regulator for the internet, broadcasting, telecommunications and radiocommunications sectors.

Australia has embarked upon a vigorous approach towards online regulation. An independent statutory body, the Office of the eSafety Commissioner (the Office), was created by the Enhancing Online Safety for Children's Safety Act (2015) (https://www.esafety.gov.au/). The Office, which was set up to align online safety efforts across government, industry and the not-for-profit community, also operates a reporting scheme to deal with serious cyberbullying against children. Users who encounter illegal content can report through an online portal. Social media companies are facilitated to apply for Tier 1 designation if their operations meet specific online safety requirements. According to their website, the Office also provides community education and training for citizens.

SUMMARY

The contours and scope of regulation of the emerging digital environment vary country by country, shaped by social, political, and economic considerations and unique histories of media development. Singapore and South Korea define information freedoms more narrowly than do Western democracies. Their example and the case of India indicate that countries can institute clear Code of practice requirements for technology companies operating within their borders. However, market size in those jurisdictions makes for easier negotiation with companies such as Facebook, Twitter and Google than might be possible for Jamaica.

The UK's Data Protection Act (2018) is an update of earlier legislation, made necessary because of the broad-ranging scope of Europe's General Data Protection Regulation (GDPR) which was promulgated in May 2018. Harmonizing UK's data privacy laws with the EU's GDPR - considered the most comprehensive legislative framework for data privacy currently - was necessary to facilitate British businesses with a digital footprint in Europe. The point is that the digital ecosystem requires countries to stay abreast of developments in leading economic zones to ensure ongoing access to those lucrative markets.

The US appears not to be able to build consensus around the regulation of the digital domain; bills have been brought before Congress but not passed.

However, Australia may provide a template relevant to Jamaica's experience in developing a digital framework that meets the needs of a broad cross-section of the society. They have a potent regulator whose mandate provides online safety resources and training for educators, parents, children, and the elderly, and training sessions provided for community members are free of charge. Cross-sectoral support for critical digital environment decisions among government entities, industry and non-profit organizations is a crucial policy approach.

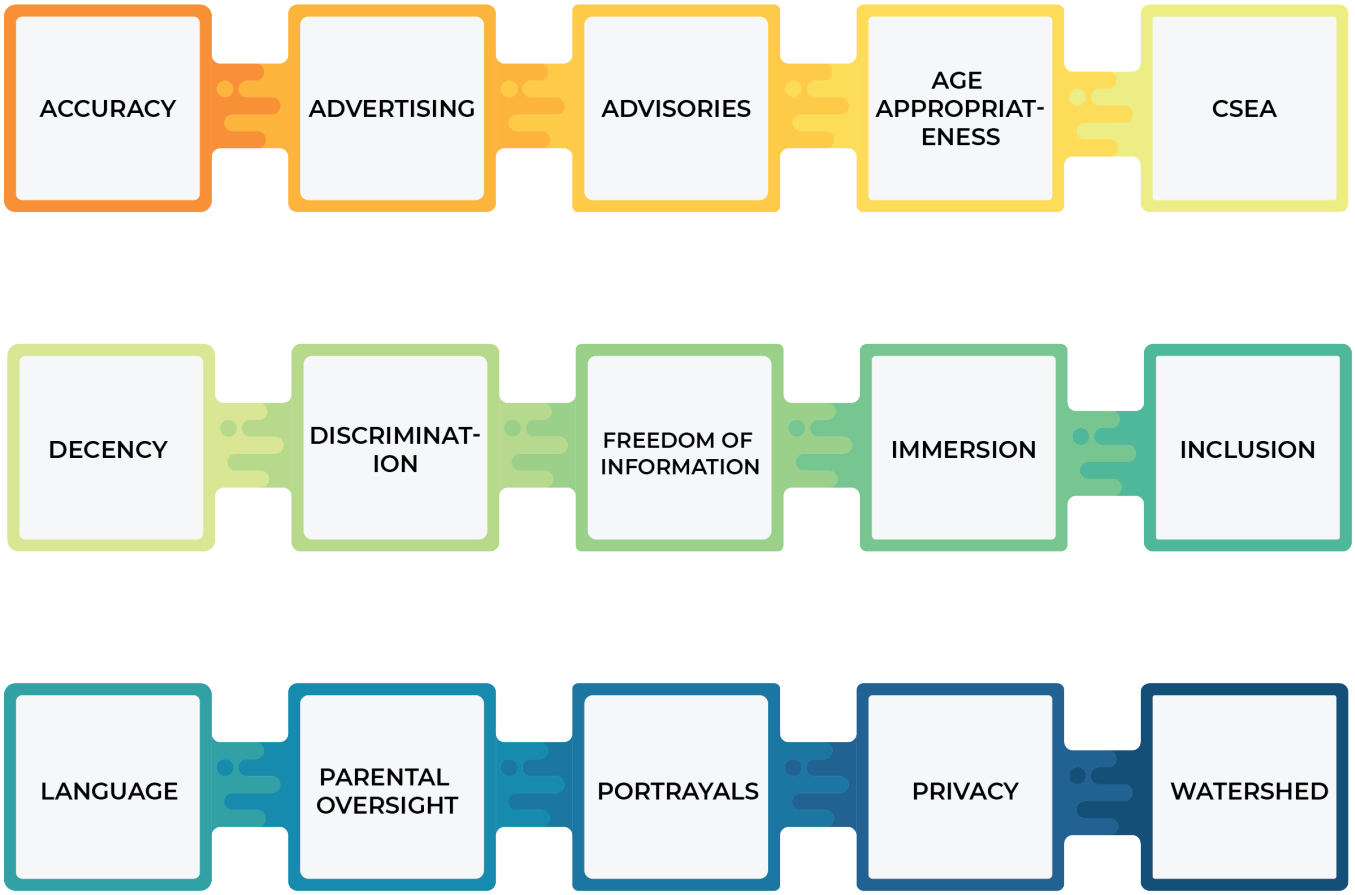
The response of the technology giants of Google, Amazon and Facebook has been slow but promising. Global society cannot take comfort in the initiatives of the technology giants, however, because the adjustments made to their business models still work to maintain their dominance in the digital economy. Stronger laws are now needed.

NEXT STEPS

Recommendations and Implementation Plan

The revised Code has cross-platform applicability; it is a user-friendly adaptable instrument that can be adopted in a platform-agnostic manner by any corporate interests, organizations or individuals involved in the creation, development and/or dissemination of content via the internet for commercial or non-commercial purposes. Therefore, the Code applies across the board for entities or individuals manipulating digital content for transmission. Commercial entities that provide digital products or services to users in Jamaica are subjected to requirements of justifiable rigour as a condition of their for-profit operations within the local market by the new Code. However, other stakeholders not explicitly mentioned in the earlier version, such as parents, guardians and public health officers, are included in the current Code wherever their scope of responsibility applies.

Diagram 1: Code Components



The new Code is designed to function with both suasory and mandatory aspects - depending on the context. As the consultancy for the revision of the Code winds down, the task of galvanizing cross-sectoral support to embrace a new digital framework with its accompanying industry and societal norms begins. This final section outlines the key deliverables that have been completed and presented in the Code and earlier sections of this Report, in accordance with the document "Children's Code for Programming Proposal for Revision" (January 2020). Some deliverables were included during update meetings with Commission officers (for example, technology solutions, in discussion with Sasha Harrison, December 10, 2021). Deliverables may be found in either the Code document, in this Report or across both documents. This section then presents some policy, legislative and capacity-building recommendations that, if undertaken, are expected to provide an enabling environment for the adoption of the Code by various stakeholders. Finally, it offers an implementation plan into which the revised Code and its processes fit.

Table 3: Completed Deliverables of the Consultancy and Document Location

Scope	Detail	Document
Broad Objectives	To reconceptualize and design a Code applicable to the emerging audio-visual digital ecosystem, a framework that is relevant to the stakeholders who will use it – youth, parents and guardians, media, educators and technology interests, regulators among others	Code
	To identify and/or propose legislative amendments to support the redesigned instrument, as necessary	Report
	To outline additional institutional arrangements and/or initiatives indicated by review, reports or emergent trends, as necessary	Report
	To link proposed amendments to the Code with existing priorities and programmes of the Commission as a structured plan	Report
Specific Objectives	Redesign of Code for Cross-Platform Applicability A. Developing flexibility in the applicability of the Code for use across platforms and devices B. Reviewing existing regulations (where available) of next-generation technologies such as augmented reality and artificial intelligence C. Conceptualizing and designing a multi-platform regulatory instrument	Code and Report
	Amendments A. Reviewing ratings and scheduling provisions B. Clarifying criteria within categories	Code
	Inclusions A. Adding guidelines or regulations for IPPs B. Addressing advertising content with reference to 1. Advertising to children, or during times when children are (reasonably) part of the audience, eg. early prime time, during sporting and national events 2. HFSS foods 3. Celebrity and mascot endorsements 4. Updating the existing definition of alcohol and description of acceptable advertising of alcoholic products 5. Addressing risky behaviour inducements in content 6. Establishing suitability of sanctions and reviewing where necessary	Code
	Structure/Format A. Creating a user-friendly, readable document B. Developing a matrix or visual tool version (Infographic)	Code

Recommendations

At the end of earlier portions of this report - The Child, Economic and Social Context, The Attention Economy and Policy and Regulation - recommendations have been proposed that summarize the findings from the primary and secondary research conducted. This section elaborates on some recommendations that are considered consequential to fostering an enabling environment for the requirements of the Fourth Industrial Revolution and Jamaica's role in it. The recommendations here relate to matters of policy, legislation and capacity-building. In this section, 'capacity-building' is conceptualized as having institutional and technological aspects – a stakeholder association is proposed for one sector, and an integrated system is outlined – both included as recommendations to facilitate the intentional, safe use of the Internet by Jamaicans.

The alignment of these priorities - policy, legislative, as well as institutional and technological readiness - supports the overall goal of acquiring digital information and media literacies (DMIL) needed by the citizenry. They also centre the three-pronged plank of protection, provision and participation of children in the digital age as a national priority. It should be noted that there is a crucial 'intangible' that is also needed to drive the DMIL process forward: a commensurate culture that nurtures and embeds relevant practices and ideologies in the national psyche. Some remarks around that requirement and how it may be attained are also included.

Policy Considerations

The Role and Authority of the Commission:

In light of the breadth and scope of the Commission's current activities and the expected widened regulatory remit to account for a platform-agnostic environment, the role and authority of the agency will need review. The Commission has been executing its functions in the broadcast and subscriber television sectors based on two (amended) pieces of legislation – the Broadcasting and Radio Re-Diffusion Act (2008) and the Television and Sound Broadcasting Regulations (2010) – as well as the Children's Code for Programming (2002). The Commission has been able to function satisfactorily by grounding its operations within a broad interpretation of the relevant laws, by cultivating an ethos of collaboration and dialogue with its partners and stakeholders, and with due regard to the dangers of regulatory overreach.

Going forward, it will be necessary to review the prospective roles and responsibilities of a regulatory body carrying out its mandate in a transformed landscape of digital terrestrial content services, immersive media experiences and AI, and then plan for the structural, operational and legislative changes that might

be required within the Commission itself. These deliberations may have implications for other entities such as the Spectrum Authority and the Bureau of Standards and reporting structures between various agencies – including the Commission - and the government.

Equipping Parents and Guardians for a Digital Future:

Parents' and guardians' competencies in monitoring their children's engagement with digital media vary based on several factors, including education, job-related digital literacies and the gender of children (Henderson, 2013; Helsper and Eynon, 2010; Golding, 2018). In research done as part of the consultancy for the revision of the Code, participants – including adolescents - repeatedly stressed the need for parents and guardians to be adequately equipped to navigate their young ones safely through the digital environment. Furthermore, the revised Code validates parents and guardians as necessary partners in protecting children from digital harms and providing positive early experiences with technology.

A structured approach towards assisting the nation's parents and guardians for a digital future, championed by the government, is now a policy imperative. The first contact with the digital environment is in the home, where family, however, constituted, 'resides'. Families and communities of care need support to carry out their responsibilities effectively. Various organizations are already doing work, but a more cohesive approach will be needed. It is recommended that discussion at the multi-agency level with the Broadcasting Commission, the Ministry of Education (including the Child Protection and Family Services Agency and the National Parenting Support Commission), the Early Childhood Commission and UNICEF be had to initiate the deliberations and inform policy. This would be followed by the designation – or, if necessary, formation - and capacity building of a specific agency responsible for the programmatic development of preparing parents and guardians for a digital future.

Ideally, the public education programme and training for parents and guardians should be conceptualized as a process within the Digital Media and Literacy framework being undertaken at the behest of the Broadcasting Commission and therefore mainstreamed as an intrinsic aspect of digital literacy equipping for the nation's parents.

The Importance of Play:

Although it may seem counter-intuitive to recommend child's play as a policy position in the context of the assumed 'naturalness' of play as well as the affordances of technology for learning and recreation, the very ubiquity and ease with which digital tools 'enclose' children's lives and suppress non-digital forms of enjoyment makes this necessary.

The importance of play in children's lives has been recognized at the policy and practice level in Jamaica through initiatives of the Ministry of Health, agencies such as the Early Childhood Commission (ECC) and faith-based organizations. Playgrounds have been built in inner-city communities to provide safe places for children to enjoy outdoor recreation, the Bureau of Standards has developed a set of playground standards, and play is incorporated as part of teaching and learning in programs such as Read Across Jamaica. Although the digital play does offer some benefits, for example, interactive activities via Nintendo's Wii products, the importance of non-digital play of varied forms cannot be overstated in childhood development.

A draft National Policy of Play has been developed for Cabinet consideration (Tortello and Minott, 2015). The policy paper, which has awaited deliberation at the Ministry of Education and Youth for some time, needs to be updated to reflect shifts in childhood development practices since it was first drafted, to include considerations related to safe forms of digital play and to account for additional digital media use transitions instigated by the COVID-19 pandemic. It is recommended that the draft policy be revised, taken through the stakeholder feedback process, and then formally submitted to Cabinet for approval and implementation.

Legislation

Minimum Age for Autonomous Social Media Account Setup:

The 13-year-old bar of entry for setting up social media accounts instituted by the US Children's Online Privacy Protection Act (COPPA) (1998) fails to meet the accepted age range for other important civic or consumer activities (such as voting or buying alcohol) in most jurisdictions including Jamaica. It does not account for children's neurological, cognitive or digital literacy attainment at that phase (Costello, McNiel and Binder, 2016).

It is recommended that a jurisdiction-specific minimum age of 16 be stipulated to set up social media accounts without parental oversight in Jamaica. In other words, Jamaican children 15 years and younger may be permitted to set up social media accounts with the permission and guidance of a parent or guardian. Establishing a digital age of consent for young online users is not unproblematic since the attainment of digital literacies varies widely and not just based on age (Livingstone, 2018). However, the EU's General Data Protection Regulation (GDPR) Act (2018) has set 16 as the minimum age for children to open personal accounts on social media without parental approval within the Union, allowing members states to change the bar as needed. Concerning Jamaica, the 16-year bar will align with the new Code rating of PG16 for content and platforms (see The Content Code), which accounts for a youngster's increased capacity to handle mature content without harm at the mid-point of adolescence.

This law would constitute the only piece of local legislation directly requiring parental oversight for children's media use in the revised regulatory framework. With social media networks being a central feature in Jamaican youth's informational, educational, and recreational lives today, it is recommended as appropriate and necessary. While in practice, the law may serve more of a persuasive nudge in the society than an obligation, it will provide an age-related benchmark for parental mediation, signalling that parents have the support of the state in their duty of care to children in matters of social media engagement explicitly, and digital engagement more generally.

Privacy by Design:

The Content Code now requires that privacy settings be 'high-by-default' for all users but especially for services or products reasonably expected to be accessed by a child. Additionally, the Code specifies that connected toys and devices should be configured as privacy-by-design tools, with embedded features flagged on the toy or device and with a visible 'turn-off' button. Data capture minimization regimes should be the norm for digital devices and platforms in use within the jurisdiction, with incremental rigour when the user is or can be expected to be a minor.

As such, privacy-by-design requirements for technology companies providing goods or services locally must be made explicit in policy and established by law in Jamaica, as has now been done via the EU's General Data Protection Regulation (GDPR, 2018). Although data protection and privacy law may be intersecting and overlapping spheres in some jurisdictions (see Kokott and Subotta, 2013), they are not synonymous. Jamaica's Data Protection Act (2020) which focuses on tools and procedures for managing personal data, should be considered a subset of a more comprehensive and robust legal framework that will eventually regulate implicit or embedded data capture now possible through AI and other systems.

Capacity Building Initiatives

Self-Regulatory Advertising Authority:

The norm for the structure of the advertising industry in other countries is a self-regulating stakeholders' association comprising of online behavioural advertising entities and traditional advertisers. Examples include the European Industry Self-Regulatory Framework (EDAA), the UK's Advertising Standards Authority (ASA) and the Australian Association of National Advertisers (AANA).

It is recommended that national interests which advertise in any medium in Jamaica be required to assemble a stakeholders' association to develop, agree upon and comply with a set of principles and standards regulating advertising in Jamaica. Those principles should correspond with the revised Code's provisions regarding

advertising. They should outline prohibitions regarding misleading representations, provide industry requirements regarding the advertising of tobacco, gambling, alcohol and marketing to children, and liaise with such government agencies as might be necessary, including the Broadcasting Commission of Jamaica, the Consumer Affairs Commission and the Bureau of Standards for matters relating to advertising within Jamaica.

Technological Solutions

The revised Code is designed in harmony with the rise of an advanced digital media ecosystem, with emerging international best practices in policy and regulation, and with the goal of dynamic technology engagement by Jamaican citizens. Essential to the structures of this emergent information society are technological tools to support the regulatory, consumer-driven and citizenship shifts that are anticipated. A five-pronged technological intervention has been designed to meet this need.

The five components of the technological intervention proposed to support the revised Code are the (1) Local Rating Database, (2) Internet Browser Add-on/ Extension, (3) Usage-Tracking Database, (4) Public-Facing Website and (5) an Information and Communication Campaign. These components work together to present media consumption as a set of intentional behaviours and practices, a goal aligned with the ethos of the revised Code. The mechanism also allows for the evolution of the Code in a participatory process as citizens provide feedback to the Commission.

Objectives and Approach

This intervention is not intended to be a censor of content but a behaviour management mechanism and, as such, is structured to have an opt-in approach.

There are three objectives for the technological intervention:

Objective One: to enable Jamaican audiences to become more aware of and actively choose the content they consume on the Internet

Objective Two: to provide Jamaican adults with the requisite information to be better informed, more deeply engaged with, and ultimately better manage the content consumed via the Internet by themselves and those in their care

Objective Three: to enable data-driven decision-making and modification to the Code by the Commission to make it more functional and culturally appropriate

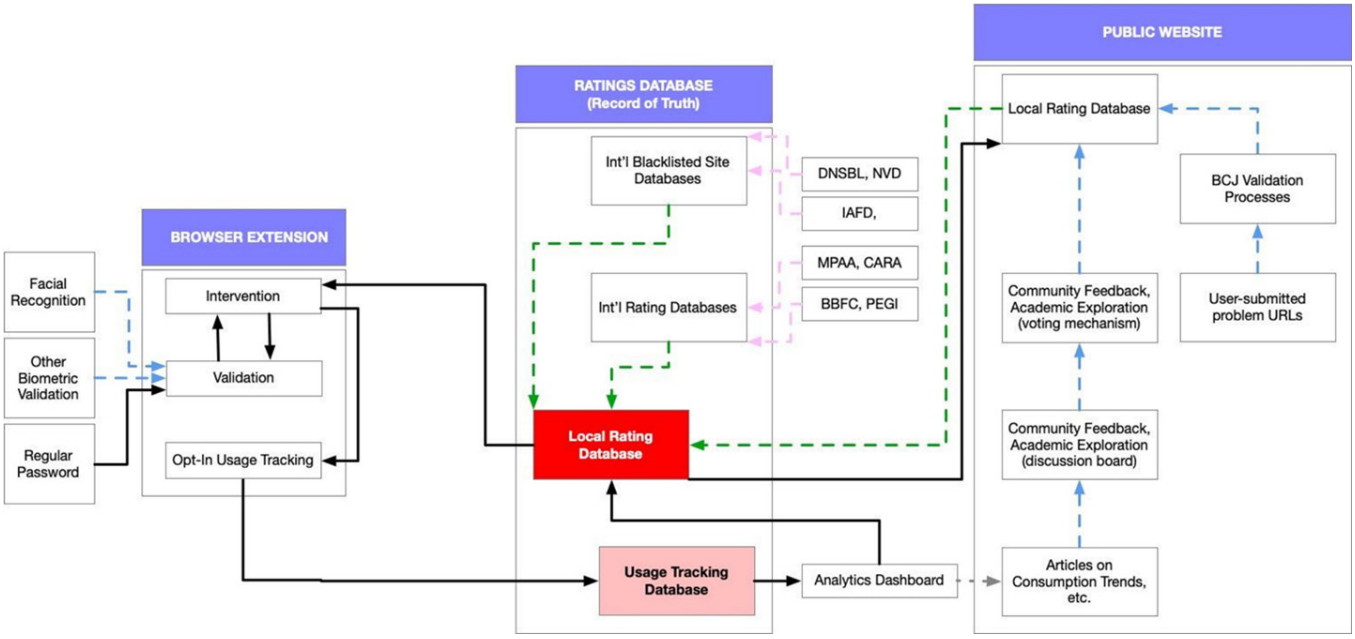
The first objective is met via the Internet Browser Add-on when the user is prompted to recognize potentially objectionable content. The user – where validated – would then have to choose to "opt-in" to consume the content. This intervention would allow for granular controls akin to contemporary parental control mechanisms, allowing an adult to intervene in the consumption behaviour of a loved one in their care and halt the consumption of harmful, offensive or sensitive content. A browser add-on is a cost-effective way of managing this first objective.

The Public-Facing Website meets the second objective, which will enable the continuous adoption, review, and evolution of the Code. It is designed to facilitate a sense of community ownership to have a place for stakeholder engagement and communication. The Information and Education campaign, which is also key to the achievement of objective two should be targeted at promoting the website and the empowerment of citizens as they dialogue about digital engagement matters.

The third objective enables the Commission to make data-driven decisions with empirical data. The tool is the Usage Tracking Database. This will record data including but not limited to (1) number of triggers; (2) details of domains and URLs triggered – date and time, number of triggers, etc.; (3) details of domains and URLs ignored – date and time, number of triggers, etc.; and (4) the number of validation-based overrides.

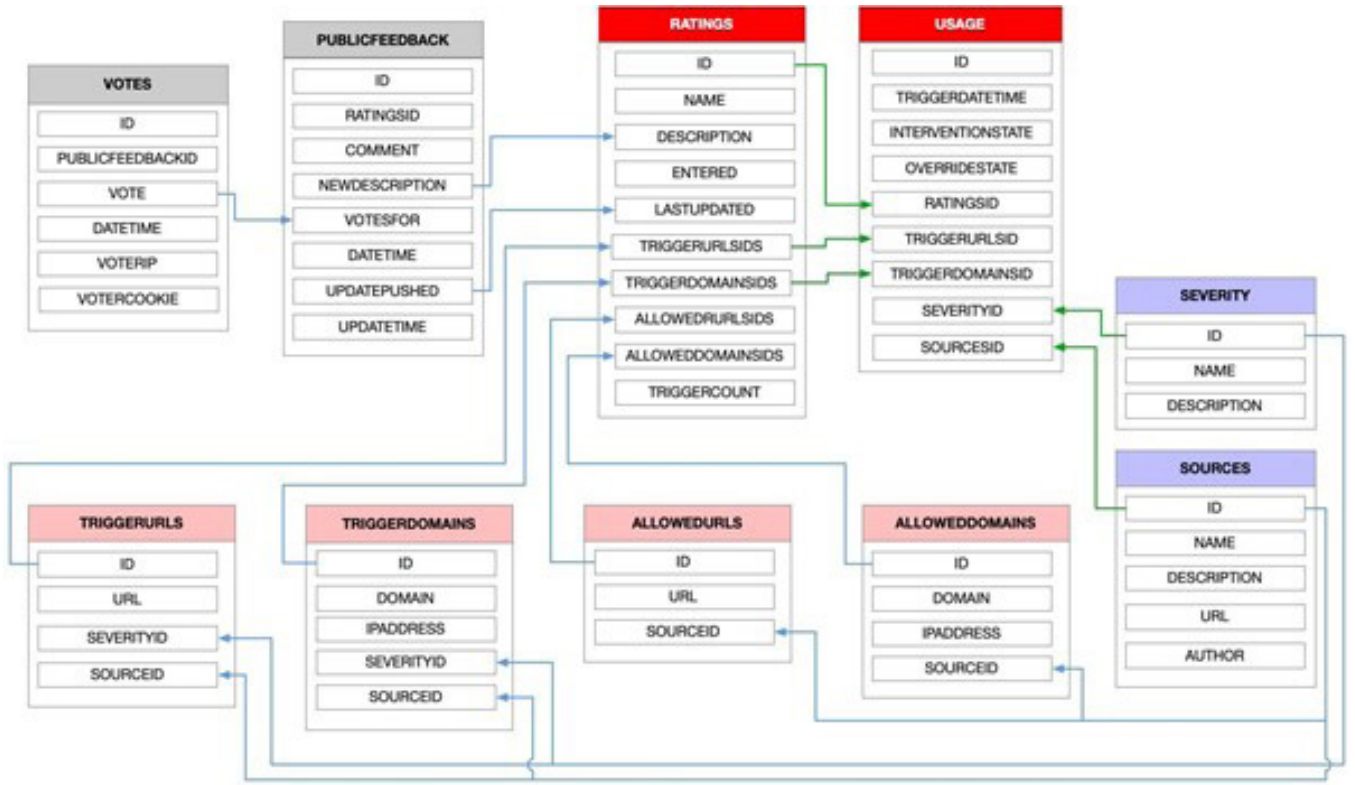
The diagrams below capture the overall process and the technical architecture of the intervention. (Details on Diagram 1 and proposed skillsets for implementation are in the Appendix).

Diagram 2: Components of the Solution and How They Interact



Note: Solid arrows indicate "must-have" relationships between components and their sub-components. Dotted lines indicate "nice-to-have" relationships.

Diagram 3: Possible Database Structure of the Solution



DMIL as Cultural Innovation

The recommendations identified in this section, if implemented, will support the shift of the nation's people and processes towards the exigencies of deepened and pervasive technological applications in all spheres of life. But as has been recognized in this report, in sector deliberations and public discussions, regulatory overreach, or its perception, can evoke a negative reaction from the people who are meant to be helped by the changes (Green, 2017; Small, 2017). With the best intentions available, a new code, updated policies and legislation, and a supportive technological environment cannot, by themselves, deliver the transformed digital and media landscape that is needed. People need to see the regulatory and institutional changes working in their best interest.

Digital media and information literacies (DMIL) can be conceptualized as an innovation – an idea and a set of associated practices - which members of the society can adopt in a planned way over time (Rogers, 2005). As a cultural innovation, the supporting perspectives and behaviours needed in an advanced technological environment are more likely to be voluntarily adopted - Jamaican citizens can begin to take increasing responsibility for and leverage the benefits of harnessing the opportunities unleashed by the digital revolution. When making informed digital media choices is perceived as appropriate and even beneficial, discrete activities within the regulatory framework - such as parental monitoring of children's media use, sectoral collaboration around acceptable online behavioural advertising practices, and voluntary use of technological interventions for safe online experiences – are more likely to be embraced as useful tools than seen as restrictive impositions by an overreaching state.

As such, the implementation of the Code and its accompanying recommendations is seen as being nested in a wider process of the development and embrace of the DMIL framework as a national agenda and other Commission-driven initiatives, as outlined below.

Implementation Plan

The Broadcasting Commission has undertaken several initiatives of which the revision of the Code is but one aspect of the regulatory transformation of the digital media landscape. The website Get Safe Online in Jamaica provides information on protecting individuals, families, and businesses conducting activities online. The Commission has also partnered with UNESCO in a series called “Caribbean Forum on Artificial Intelligence”, raising awareness regarding the opportunities and threats associated with AI for the region. A Virtual Digital Literacy Academy is being developed to scaffold users with skills and competencies required in a technology society. The DMIL framework initiative for which data on digital media and information literacy skills and competencies of Jamaican citizens is being gathered – provides important baseline data for regulatory decision-making.

The implementation plan for the revised Code and its accompanying recommendations is therefore conceptualized as an aspect of a broader process of digital transformation nested within other initiatives currently being spearheaded by the Commission, as set out below:

Table 4

Implementation Plan[10]			
Phase	Action	Details	Responsible Party
One	Submission of revised Code and Report to the BCJ	N/A	Consultant
Two	Review of the Code and Recommendations -BCJ Processes (Internal) and Stakeholder Engagement (External):	A. New Code and Recommendations are presented to Stakeholders for feedback B. Policy and Strategy Committee report key recommendations from revision and stakeholder feedback to Board of Commissioners C. Board deliberates on recommended policy, legislative, institutional and technological requirements and signs off on 'actionable items'	Policy and Strategy Committee Stakeholders: media, telecom, child services, youth, parent groups, education etc.
Three	Align all 'actionable items' from Code and Recommendations with Commission's Strategic Plans from:	A. Revised Code and Recommendations B. DMIL Framework C. Virtual Digital Literacy Academy D. Digital Switchover for Free-to-Air Entities E. Caribbean AI Initiative (next phase)	Commission Executive and Board of Commissioners
Four	Presentation of Paper to OPM	Integrated Paper inclusive of Code and Recommendations presented to the Office of the Prime Minister for review, endorsement and approval of policy and legislative changes	Commission Executive
Five	Policy and Legislative Changes	Development of Policy Documents and Drafting (or Amendment) of Laws	Commission and Relevant Ministries
	Development and Implementation of a DMIL Culture (longitudinal, multisectoral) Campaign	Details to be worked out.	Details to be worked out.

[10]Timelines are deliberately omitted; the Commission is best placed to set achievable targets for proposed plan.

FINAL COMMENTS

This report concludes by returning to an earlier topic - the notion of childhood. Buckingham (2000) argues that the ideas of childhood are often contested. Parents, educators, health workers, advocates and government officials all entertain slightly different versions of what childhood means, and how children should be protected and nurtured within a diverse society. Children themselves have conflicted concepts about their experiences and expectations. Additionally, the digital environment tends to suppress the traditional distinctions between adults and children regarding access and sometimes digital media use. Patterns of privatized media consumption among all demographic groups are expected to increase, and 'digital childhoods' could soon translate to 'digital personhoods', leading to a further erasure of child protection in the digital domain. If the revised Code is to be "future-proofed" – to be configured for a digital ecosystem in which children are increasingly essential players – close attention to how the core value of the sanctity of childhood is protected will be needed.

One approach towards centring "childhood" would be to ensure that the legislative and policy framework for issues related to Jamaican children is robustly aligned, of which digital protection, provision, and participation would form one part of a more comprehensive framework.

However, the positioning of children and their developmental needs in a digital environment should be approached in a balanced way. There are other groups such as the elderly, the very poor, and persons with disabilities whose needs should also be considered as digital transformation unfolds. What the moment appears to be beckoning for is a national drive to equip the citizenry to embrace innovation as a cultural imperative. Countries that can intentionally, productively, and adaptively navigate the disruptive and promising technological advances of the Fourth Industrial Revolution will present to their people a better range of options than those that do not.

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APPENDIX

Technological Intervention Description

Diagram 2 shows how the digital Code (Component 1) could comprise information (datasets of media, their sources and their ratings) taken from multiple sources to include the DNS blacklist, the Motion Picture Association (MPA) ratings and even the International Adult Film Database (IAFD).

Further, how the record of truth would be used to provide a duplicate database in use by the public website (Component 4) and how interactions and conversations hosted within the website could affect or lead to the modification of the Code. Through up/down-voting, the BCJ would have an empirical and nationally representative (dependent on the depth and breadth of participation in the dialogue) data source regarding the acceptance of the Code.

The record of truth Code would also feed the proposed browser addon/extension, allowing the technology to interpret server requests and trigger as necessary. Intervention would be based on user validation and could be overridden using the same, and validation is suggested to be in the form of the proven contemporary techniques (facial recognitions, biometrics, e.g. fingerprints, and regular passwords).

All tracks must be based on user opt-in, and it is envisioned that BCJ analysts will use that data to adapt the Code further to ensure widespread acceptance and cultural fit.

Of note, validation methods are “locally stored” on the user’s computer and never transmitted via the Internet. Therefore, these data never come into the custodianship of the BCJ.

Recommended Skillsets

In order to develop and maintain the proposed systems the BCJ will require individuals with the following skillsets at an at least advanced level:

Component 1: Local Rating Database
- Database design, synchronization and management
- API development, access and management
- Multi-format data import and export
- Relational database coding languages and supporting languages (SQL, PHP, Ruby on Rails, etc.)

Components 2 and 3: Browser Add-on/Extension and Usage Tracking Database
- Relational database coding languages and supporting languages (SQL, PHP, Ruby on Rails, etc.)
- Pre-processing, metadata, and DOM management coding languages and techniques (JSON, AJAX, PHP, Javascript; Ruby on Rails)

Component 4: Interactive Website
- Front-end web development (HTML, CSS, Javascript)
- Community development and management
- Content creation

Component 5: Communication Campaign
- Content creation
- Communication planning
- Behaviour change strategy
- Programmatic monitoring and evaluation