PAPER

Mobile-Based Applications: The Legal Challenges on Data Privacy

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ABSTRACT

The mobile-based apps used is getting popular and continued to increased. Mobile user often downloaded the apps from various sources that provided from numerous of categorization of the application included health apps. Some of apps is optional to choose, but nevertheless, there are several apps is compulsory or must-action by citizens as instructed by the government or their agency. As for that, some issues of legal challenges on data privacy kin to data security have occurred. The issues on legal challenges is more intricate for non-legal educated users with non-awareness citizens while there are government involvements. Hence, in this paper, the issues and the legal challenges on the data privacy for mobile-based application are reviewed to give awareness for both side, the users (citizens) and apps provider (government or developer). Together with that, the idea of action, such as recommendation and option to react with the issues and challenges are also presented. Several Acts (legislation) are also proposed according to the legal issues and challenges that occurred, as showed the Personal Data Protection Act (PDPA) 2010 is became as the famous act used to confront with the existing privacy legislation in mobile-based application. The suggestions and recommendations might assist citizens to keep stand with their rights on data privacy issues in mobile apps, and to the other-side, it might provide some idea be more precise when create and develop the mobile apps.

KEYWORDS

Legaslitaiont, issues & challenges, MySejahtera, mobile health, Personal Data Protection Act

1 INTRODUCTION

Mobile-based application or mobile apps essentially uses wireless communication on smartphones, mobile phones, personal digital assistants (PDAs), and tablets. The application will empower most of field of industry, from logistics and transportation, manufacturing-based industry and up to health services and application. The use of this mobile apps or mobile-health was expended to entire world consequently with the functionality of the apps, especially in the era of the COVID-19

pandemic since 2020 (Sikandar et al., 2022) [30], (Qureshi et al., 2020) [29]. In emphasis, mobile-health apps Economics 2017/2018, there are 325 thousand mobile-health apps available in both operating systems either Android or iOS systems since 2017 [1](Sikandar, Vaicondam, Parveen, et al., 2021) [32]. In Malaysia, MySejahtera is an example of mobile-health that implemented by Malaysian government, in order to assist the government to manage the outbreaks and to enable the Ministry of Health to slow down the spread of the Corona virus [2][3].

However, as the technology being raised, the data privacy and security concerns are also going growth as the application requires various users' personal details to be inserted before the apps can be used (Sikandar, Vaicondam, Khan, et al., 2021) [31]. As testified, [2] proof the concern shown by citizens as MySejahtera is give the bad impression as the data in the application is not privacy, hence not secure as reported in Berita Harian and MalaysiaPost, as supported by [3]. The issues also raised to questions about the capability of government either they are able to collect all the personal information of the citizens in times of pandemic, and the extension of the data could be protected or not. The invasion of the right to the data privacy, yet the data security by the government from legal need to be investigated and concerned [4][5]. As for that, this paper is attempted to make a feasibility reviewed on the issues of data privacy and security as raised up in the usage of MySejahtera and practically compulsory used by all citizens in Malaysia. Plus, the aspects and challenges in legal and laws also been observed to relates the issues as well.

This paper will begin with explanation of mobile-based application classification to shows the position of mobile-health apps as one of the main categorization, specifically. Then inter-connection between the first topic will present the important of MySejahtera as one of the Health apps according to the utmost downloaded app as reported by MobileAction in Malaysia. The data of downloaded is affected due to must-action by Malaysia citizens (representing all people stayed in Malaysia either Malaysian or non-Malaysian) as COVID-19 pandemic. Then, the issues raise and re-act as legal and challenges matters to this current surrounding (due to m-health apps like MySjahtera) have being reviewed. Together with that the challenges in legal issues are also deliberated to give some idea of actions such suggestions and options to counter the problem. The data privacy issues, the data security and legal challenges attached to the MySejahtera app are presented and discussed. This paper also highlighted the issues on the rights of government while they are collecting all the personal data and information of citizens in the pandemic era. There are two main parts, whether they are able to collect or not and what are the extent data should be protected. Due to Personal Data Protection Act 2010, the existing privacy legislation namely the does not govern the government in case of data leaking [6]. In such a situation, the government will not be accountable for such negligence [7]. Lastly is conclusion, summarization of this paper and the suggestion is presented at this section. Role of government in formulating policies and decision making related to privacy right in MySejahtera apps should revised, and the preventive measures to ensure the data is well managed by the government also presented.

2 MOBILE-BASED APPLICATION

As reported by Google Play Store, there are thirty-two applications of the classifications by them in their Android system, while, the Apple App Store categorized the application into 24 groups [8]. However, due to overlapping in several mobile applications seem devastating, this research narrow down all the list in Android or Apple software (iOS) into ten main classifications, which are (1) Informative & Educational apps, (2) Lifestyle apps, (3) Health apps, (4) Productivity apps, (5) Entertainment apps, (6) Game apps, (7) Social media apps, (8) News apps, (9) Communication apps, and (10) Music apps.

Informative and educational apps purpose is to give information and education with no boundary just at fingertips. Even though the determination of this category is fairly straightforward, there is a lot of diversity when it comes to educational apps, like news and language apps. Several types of this application serve up as a direct news, while the other information needed to abridge into a fun and unique format for learners of all ages, interests, and levels. Lifestyle apps covers a lot of pounded, factually. Most of this kind of apps assist people for easy-do, like find location, where and how, then what to eat, where to get and many more. As conclusion, people easy to think and decide their accessibility, like dating, food, travel and etc. As globally, the Tripadvisor is one of the popular apps for travel and Uber apps can be used for transportation while travelling. In Malaysia, Grab apps is very popular for foods, transports and shops. The other application that similar to lifestyle apps is health apps. The health apps are getting popular from day to day as people aware on the important of health-care, like steps count, heartbeat, BMI count, etc. MySejahtera is the most downloaded apps in Malaysia as reported in August 2022 [9].

Productivity apps can be also recognised as business apps in order to assist, organize and complete complex task for the businesses, form ordering up to delivery. Most productivity apps serve a single purpose and are built with a very intuitive interface and design to increase efficiency and improve user experience, especially while using mobile devices [10][11]. Google Drive app is the most popular mobile application by providing cloud-based storage facilities diagonally multiple devices. However, due to summon discount offered, the JPJeQ led the productivity category in Malaysia as retrieved on September 2022. Entertainment apps for this categorization representing anything that fill users time, wherever they are. Most probably, they can be streaming via mobile application such as Netflix or YouTube. This category consists of video, text or graphic content. It might be similar to music and audio apps as both might entertain mobile users. Social media apps give users the opportunity to connect with people inside or outside their social circles, universal and broad user-based. Registered user shared their interest in live video, post images, chatting and more. Minecraft is the most downloaded apps for both operating systems, Google Play Store and Apple App Store in Malaysia as reported by MobileAction. Whereas, in United State the uppermost apps downloaded is BeReal, your friends for real. BeReal is the Social Media apps categorization [12]. In Malaysia, the example of each categorization for both popular operating systems for mobile application either paid or free is presented in Table 1[9][12].

Table 1. Top Apps in Malaysia by categorization

Category	Google Play Store		Apple Play Store	
	FREE	PAID	FREE	PAID
Informative & Education	CheckMath/Wattpad	Driving Theory/e-Sword	Google/Remind	e-Sword LT/Practice Look
Lifestyle (shop/travel/food)	Pinterest/Shoppe/Agoda/Grab	Duplex IPTV/Food with love	Pinterest/Amazon/AirAsia/Shoppe	LiveATC/Smart closet/QR Reader
m-Health	MySejahtera/Tekanan Darah	The Wonder Weeks	MySejahtera	The Wonder Weeks
Productivity & Business	JPJeQ/Zoom	NoteShelf	JPJeQ/Microsoft Teams/Gmail	JPJeQ/CamScanner
Entertainment	Loklok/Disney/Netflix	1 Peso/Duplex Play	Tik Tok/Netflix/GSC	Pocket God
Games	Nextbot chasing	Minecraft	X-HERO	Minecraft
Social Media	Twitter/Instagram	Reddit	BeReal/WhatsApp Messenger	Threema
News	Twitter Lite	Reddit	Twitter	Broadcastify Pro
Communication	WhatsApp Messenger	Threema	WhatsApp Messenger	Threema
Music	Spotify	Poweramp	Spotify	iReal Pro/iGuzheng

The leakage of the data is possibly occurring in any mobile application's categorization. In this paper, the m-Health apps category is focused to create distance of each classification and provide more understanding of this research. Specifically, the concentration given to MySejahtera apps to be more explicit while doing the suggestion. The similar mobile application with MySejahtera apps may implement this theory if necessary. To notice, other famous m-health apps are Feelsy, Lucky Step, Impulse, Yoga-Go and PeduliLindungi.

3 LEGAL ISSUES AND CHALLENGES

Mobile-based apps or digital tracking apps in health services have been widely used as one of the control measures in mitigating the COVID-19 pandemic all over the countries. Despite the various benefits, the use of this kind of apps has raised several issues, particularly in the area of data privacy [13] even more over in the data security [1]. Hence, the legal challenges in the data privacy are also raise accordingly.

Privacy is important to everyone. The concepts, the philosophy, sociology and more about the data privacy were discussed but it still ambiguous. Privacy is a qualified, fundamental human right recognized by international instruments such as the Universal Declaration of Human Rights (Article 12 of the UDHR), the International Covenant on Civil and Political Rights (Article 17 of the ICCPR), the Universal Islamic Declaration of Human Rights (Article 9 of the UIDHR), and other regional human rights instruments.

Data privacy the handling personal data in accordance with data protection laws, regulations, and general privacy best practices is a subset of data management. Data privacy should be enable individuals to control their personal data and information. While data security is a practice in a way people want to protect their digital information from unauthorized access, malware, and corruption throughout the entire process or cycle.

Regardless of the government's best approach to act in response to the pandemic by using mobile tracking either in navigating location or tracing COVID-19 cases via MySejahtera apps, data security experts have expressed concern about the intrusion of government surveillance, which affects citizens' privacy rights [7]. The existence of such a trace application has significant privacy implications because it requires numerous users' personal details to be contained in their privacy details. Thus, there two biggest challenges in this such of mobile-based implementation and enforcement and the cyber freedom during COVID-19 era; (1) challenges in protecting privacy of people and the data freedom of such technologies during pandemic, and (2) after the pandemic, how to restore and gather citizen's privacy and their freedom if any unpredictable intrusion is occurring. Currently, no specific legislation on data privacy and such protection that safeguards the privacy of citizens [14]. There are PDPA that only modulates the handling of personal information in commercial transactions, allowing personal data to be collected, processed, and used by data users when negotiating with the personal data of its employees, suppliers, and customers. The curiosity occurred when its involved government and the enforcement. Issues arise due to several questions such as:

1. Will the government will be held responsible for any data leaked in mobile-based apps due to negligence?
2. Will the government as the provider be liable in the event of abuse of the user personal data while using the apps?
3. Is there any legislation or laws can deal issued on the data privacy that occurred in mobile-based application under the law of tort which is a common law applicable in Malaysia?
4. Whether there is an alternative legal action that can be taken by the user against the provider?
5. What are the legal challenges on the health mobile applications?
6. Are there any challenges taking by legal in order to protects the data privacy and such of data security according to mobile apps?

Even the law in Malaysia is silent on this, therefore there is a high possibility of the government begin liable for negligence when there is evidence of the data breach [15]. [6] mentioned that PDPA does not govern the Federal and State governments, so no action will be taken against the Malaysia government. Despite that, the Department of Personal Data Protection (JPDP) guarantees the charged will goes to officer in charge if any issues data leakage or exploitation data occurred under the Official Secret Act 1972 [Act 88] under section 8(1)(iv) and the Public Officers (Conduct and Discipline) Regulations 1993 [16]. Consequently, [6] purposed to protect the data privacy by applying Syariah Principle of Maslahah Ammah (public interest) during the COVID-19 or any suitable situation as highlighted in the fundamental of human right to privacy. According to Al-Mawardi's opinion as recorded in Al-Ghazali, meddling of data privacy by developing digital tracking mobile-based system MySejahtera is permissible because the COVID-19 pandemic falls under the Al-Daruriyat category, as supported by [17]. The government's approach parallels one of the principal strategies of Islamic jurisprudence. The suggestion answers of the questions above are proposed as below.

1. No, due to the disclaimer.
2. No, due to the disclaimer.
3. This issue arises due to the fact that there is a clear disclaimer in the user guidelines that estopped the user from taking a legal action against the government who is the Provider.
4. Yes, under the law of Tort which is a common law applicable in Malaysia, there is an exception, under the law of negligence.
5. They are obviously existing legal challenges taking into account, the government is exempted from being suited by the mobile-apps user under the guidelines.
6. Of course. Therefore, there is a need of the study to determine whether the challenges can be countered by several suggestions as solution.

The summarization of the legal issues and challenges on data privacy for mobile-based applications are presented in Table 2.

Table 2. The law case, issues and challenges in Malaysia

Author	Law Case/Issues/Challenges	Classification of Apps
Siti et al. (2020) [6], NurZarina (2020) [18]	Data utilization to ensure no data misuse	m-Health
Siti et al. [6]	Data deletion after end of pandemic	m-Health
Aina (2020) [7], Sayyed & Muhammad (2021) [19], Siti et al. [6], Aji et al. [13]	Create public awareness	m-Health
Nursyamila (2021) [1]	More research for more capability/functionality.	All apps
Offner et al. [20]	Data Security	All apps
Boo (2022) [15]	government-says-not-liable-for-damages-over-mysejahtera-data-use/ Protects the individual rights to privacy from abuse of the use of individual information by organizations.	m-Health
Edge Weekly (2022) [21]	mishandling of the MySejahtera Transparency in public procurement and data privacy due to national-level app to monitor the spread of Covid-19 led to lack of transparency regarding the ownership of the MySejahtera app	m-Health
Nuramalina and Hanizah (2022) [22]	personal information was allegedly leaked from the database of the National Registration Department	All apps
Zoo (2022) [23]	Data privacy while sharing interest and personalization in social media and while shopping, food and travel.	Social Media, Lifestyle
Belkhamza et al. (2019) [24]	privacy concern on attitude while buying smartphone according to protection matters	Lifestyle
The Star (2021) [25]	inadequate privacy disclosures for many of them prevented users from making informed choices about their data	m-Health
Opalyn Mok (2020) [26]	social media apps are more intrusive when compared with MySejahtera, amid renewed concerns about privacy and personal data being harvested by the app.	Social Media
Sonny (2015) [27]	speak about key privacy issues for mobile apps developers	All apps
Sonny (2008) [28]	common misconception among the public that the Internet is a legal vacuum.	Social Media, Communication

Table 3. Recommendation according to the issues and challenges

Author	Legal Issues & Challenges	Suggestion and Recommendation	Optional Act
Siti et al. (2020) [6], NurZarina (2020) [18]	Data utilization to ensure no data misuse	To claim under negligence	Common Law of Negligence
Siti et al. [6]	Data deletion after end of pandemic	To have it in the contract otherwise	Contract Act 1950
Aina (2020) [7], Sayyed & Muhammad (2021) [19], Siti et al. [6], Aji et al. [13]	Create public awareness	Guidelines and Manual	Guidelines and Manual
Nursyamila (2021) [1]	More research for more capability/functionality.	Research Grant	Research Grant
Offner et al. [20]	Data Security	n/a	n/a
Boo (2022) [15]	Government-says-not-liable-for-damages-over-mysejahtera-data-use/	User – claim under Negligence	Personal Data Protection Act 2010
Edge Weekly (2022) [21]	Mishandling of the MySejahtera	User – claim under Negligence	Personal Data Protection Act 2010 Medical Act 1971
Nuramalina and Hanizah (2022) [22]	Personal information was allegedly leaked from the database of NRD	User – claim under Negligence	Personal Data Protection Act 2010, Section 3(1) of the PDPA
Zoo (2022) [23]	Data privacy while sharing interest and personalization in social media	User – claim under Negligence	Personal Data Protection Act 2013
Belkhamza et al. (2019) [24]	Privacy concern on attitude	User – claim under Negligence	Common Law
The Star (2021) [25]	Inadequate privacy disclosures	User – claim under Negligence	Common Law
Opalyn Mok (2020) [26]	Social media apps are more intrusive	User – claim under Negligence	Common Law
Sonny (2015) [27]	key privacy issues for mobile apps developers	User – claim under Negligence	Personal Data Protection Act 2010
Sonny (2008) [28]	common misconception among the public that the Internet is a legal vacuum.	User – claim under Negligence	Computer Crimes Act 1997 (CCA), Digital Signature Act 1997 (DSA) Telemedicine Act 1997, Communications and Multimedia Act 1998 (CMA), Personal Data Protection Act (PDPA), etc.

4 DISCUSSION AND RECOMMENDATION

Several recommendations in order to ensure there are no data leakage and may use as option for user to keep understand their right as mobile apps user as shown in Table 3. In addition, the government may also use the suggestion to consider a few preventive measures when dealing with sensitive citizen information;

1. The government must declare that the data collected is used and only for public health purposes. The information gathered must only be used for contact tracing and related purposes.

2. This can only be recorded and stored if the crisis continues. A timeline for destroying any data after the pandemic has ended must be established. For example, the data will be deleted six months after the crisis has ended. Alternatively, the policy to allow the app's user to delete all data manually once the crisis is over.
3. Raise public awareness about the app's benefits without worrying about privacy invasion.
4. For improvement, more research is required to investigate the usability, safety, and practicability of mobile-based apps in order to optimize healthcare.

The Personal Data Protection Act 2010 governed Malaysia personal data in commercial transactions. In general, the Act protects the individual rights to privacy from abuse of the use of individual information by organizations [brown]. In relation to mobile health apps, according to the article [12] unfortunately, the Act exempts the federal and states government from being liable for such abuse. Therefore, any losses or damages as a result of the usage of information obtained from the application will not amount a breach. Suggestion:

1. Abuse of data must be borne by the mobile apps owners. They must liable for any abuse of data privacy without consent of the individual/user.
2. The user should be able to claim under the law of Tort of negligence.
3. If the owner/provider is exempted by the disclaimer, the abuse party should be able to seek legal claim under law of negligence.
4. Normalise legal claim against the government for any breach of data protection.

5 CONCLUSION

As a conclusion from the reviewed, clearly depicted that the mobile-health or digital tracking apps that citizens use in the COVID-19 era are beautifully beneficial as in Malaysia we use MySejahtera for that purpose. The issued is that secure and safety to our data and information privacy. And, is there any matters that we may use to relates all those issues to laws and legal activity. The capability of government in ensuring the data and information are still questioning as the data is actually are not genuinely from Malaysia as reported in the Berita Harian and Malaysia Post. Also reported that if there are any data leakage, is not the negligence by the government. As stated in the Personal Data Protection Act (PDPA) was inadequate in ensuring accountability on the data breaches or equivalent, excluded federal or state govern entities from complying the laws legal.

Therefore, government need to simplify the laws and legal that should be taken and protected to ensure the data captured by MySejahtera is reliable and citizens will put all the trust towards the apps. The awareness of MySejahtera beneficial and functionality must be clarifying to all the user in order to make understanding and also the concern of their data privacy and security. The contribution of government in the legal act such PDPA must be transparent to create the trustworthy between government and citizens.

Thus, the user rights to privacy is protected despite the loophole in the legislation. The user should be able to proceed with an alternative legal action against the government as the provider of the apps via a claim under negligence. At the same time, as the end user of the application, the law of negligence extends their rights towards the manufacturer (Donoghue vs Stevenson) or the creator of the said

application. On the other hands, the government as the purchaser of the application, should also protects itself against any potential legal suit from the users by having indemnity clause which should enable it to claim under the law against the creator of the application.

6 ACKNOWLEDGMENT

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