

Android mobile monitoring application with google firebase real-time database

Saurabh Kambale¹, Ankit Kukade², Ankur Ramteke³, Dikshant Deogade⁴, Jayant Rohankar⁵

Department of Information Technology, Tulsiramji Gaikwad-patil college of Engineering and Technology Nagpur

Abstract— *Using electronic devices is not limited to adult or to specific time or place. Children use difficult types of mobile device with no constraints. Guardian concern about the effect of the technical explosion on their children development. Controlling, monitoring and managing approaches are in need to help in overcoming some of the worries.*

This gives insight in approaches to monitor and control children electronic devices that allow guardian to manage and monitoring data, applications, or services available in kids mobile devices. The main challenges to balance privacy and flexibility with the ease of use. The project also includes the implementation of an android app called parent monitor app.

Keywords— *Hardware:-Mobile Phone and Laptop; Software:-java run time environment(JRE), Nodejs, A server*

I INTRODUCTION

On the digital century where technology reaches kids hands, guardians may worry about the effect of this very open world on their kids' development. They may worry about the detrimental effect of this technology on their educational, emotional and social developments.

To help overcome some of these worries, guardians may need to have some controlling technology to check and track their children usage for the personal devices. As tablet devices are one of the most used technologies by children on our society, guardians will need to have some automated technologies to observe and supervise the time and quality of their children's usage for these tablets.

Monitoring and controlling methodologies and approaches have been developed as the technologies are started or developed. As human being, there are some concerns when using emerging technology. These concerns push developers to innovate ways to test, control, and manage new technologies. One of the most known approaches is based on the use of distributed architecture for the monitoring and controlling connected devices.

This distributed design allows for central controlling component over the connected devices either using client server approach, or mobile data management approach which will be the focus on this survey to monitor mobile devices. This survey is the base to help building up the proposed project, which will research the different methods available for technology usage surveillance. The project will focus more on the parental control over children's tablet devices. Furthermore, the project will develop a controlling application for parental use on children's tablet devices. The proposed application may help guardians to not only control, but also evaluate the way their children handle and utilize the technologies available at their tablet devices.

This survey is the base part of the project that includes the background for researching and developing the proposed application. The structure for this survey includes the background, the research challenges, applications, and overview of related work. The background reviews the security and network methodologies related to the main focus, and explains the main terminologies used in the related work. Then the survey includes the main difficulties that would face researchers on this area. Despite these challenges, there are vital applications for the monitoring and controlling concepts for education and work environment, which will be covered under the application part of this survey. Then the survey includes deeper insight on some experiments, studies, and methods related to monitoring and controlling mobile devices.

II PROPOSED SYSTEM

In this application we are simply used the website for accessing the student data.

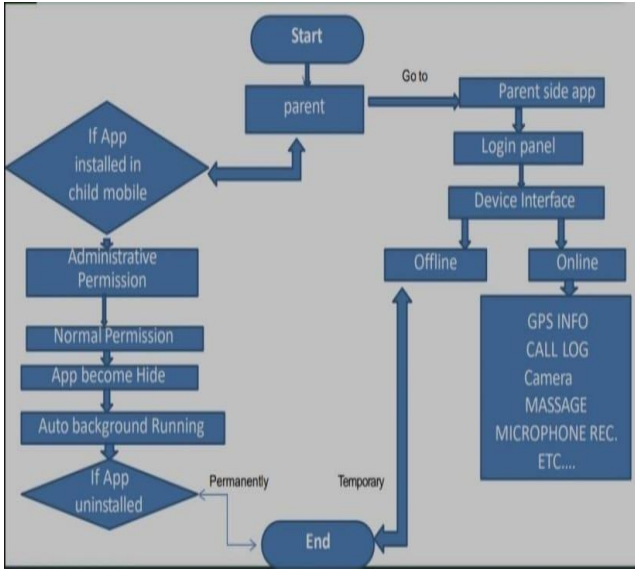
- firstly, we are installing the parent monitoring app in the children mobile phone and then this app will be automatically hide due to its characteristics of auto hiding. after that this app will hack all the children data

due to the allowing permissions.

- At last, parent visit our website and login and now they will be able to accessing the student data like there contact, messages, email, file manager, and location also and many more things.

A. Data Flow Diagram

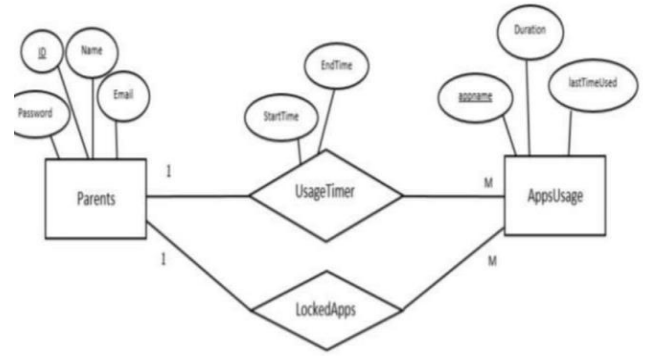
the DFD as a technique used to represent graphically data flow through the system, and interactions between the system and databases.



B. Entity Relationship Diagram

The Entity Relationship Diagram (ERD) as a snapshot of arranging information used, moved and stored by the system. For the proposed application, the Parent monitor app application, the ERD in Figure shows the relation between entities.

The Parents entity has attributes Name, ID, Password and Email, and it is connected to the Applications entity by the relationship Usage Timer. The Relation Usage Timer has two attributes Start Time and End Time, and has one-to-many cardinality (1:M). The other relationship is Locked Apps and it has one-to-many cardinality (1:M) also. The App Usage entity has many attributes including app name, Duration and last Time Used

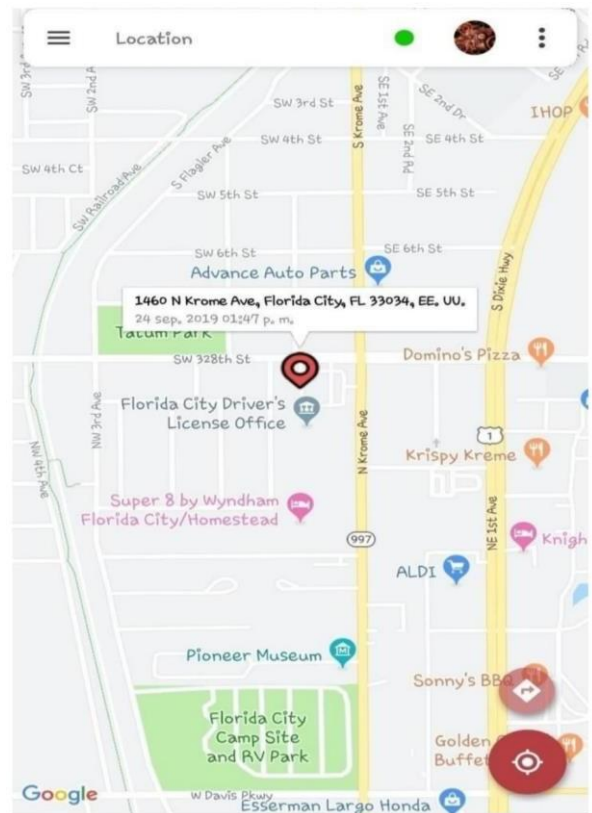


III MODULES

Parent is provided with tracking and controlling following features of child’s mobile.

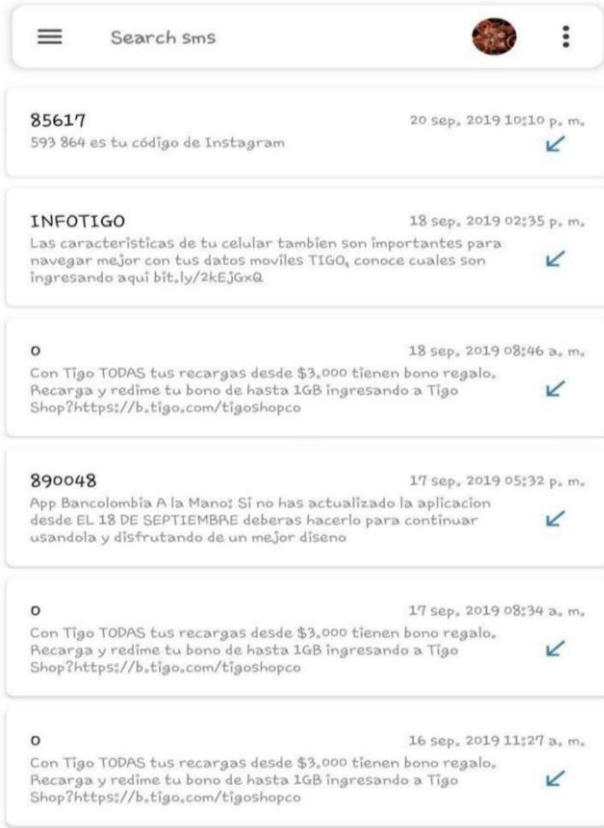
Location:

This module helps you to keep a track of child’s movements around the city and be rest assured that your beloved tot is safe and sound. It includes a force GPS command that enables GPS on child’s device if it is disabled by the child. Parent can thus know if the child is hanging out in the bad side of the town



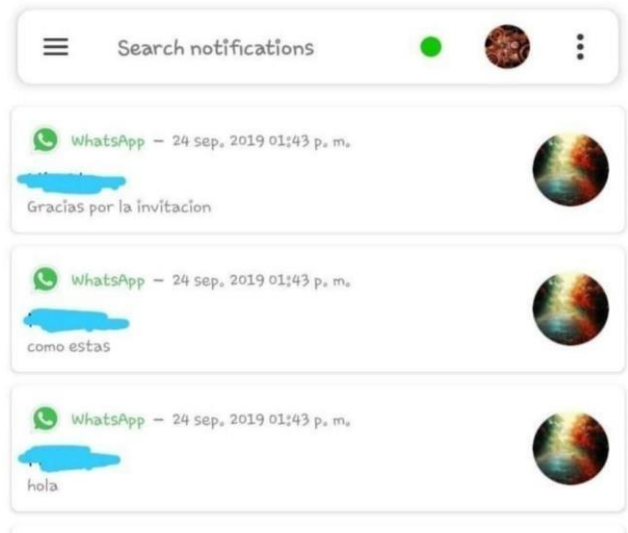
Messages and Call Logs:

This module helps you to keep in touch with your child's everyday social interaction. It assures you that your child is not messing around with the wrong crowd. It keeps record of each incoming and outgoing calls and



Application Usage:

This module allows parent to track usage of all application in child's device including the frequently used application and duration the application was used.



IV USES

1. It Track the call and messages.
2. It track the social media activities. Recording photos and many more.
3. It track Mobile application installing activity and much more.
4. Private & government sector can be able to used this software.
5. It is also we can use it for catching a criminal.
6. Parental control apps can help you control in a wide variety of ways.
7. A mobile parental control app should at the very least be able to keep track of a child's current location.

V CONCLUSION

This project demonstrated a discussion on developing systems and approaches to control, manage, and monitor the use of different electronic devices. The project discussed some of research efforts related to monitoring mobile devices and some of the developed techniques. Accordingly, the project concluded some of the main research challenges when researching this area including the difficulty on maintain privacy and providing normal and clear data while using mobile devices. Furthermore, the project included the implantation of the monitoring

system called Parent monitor app application, which will help guardians to control and evaluate their kids use of mobile devices. The analysis, design, and implementation for the proposed system, Parent monitor app, are included.

VI REFERENCES

- [1] Lane, Nicholas D., et al. "A survey of mobile phone sensing." *Communications Magazine*, IEEE 48.9 (2010): 140-150.
- [2] Enck, William, et al. "TaintDroid: an information-flow tracking system for realtime privacy monitoring on smartphones." *ACM Transactions on Computer Systems (TOCS)* 32.2 (2014): 5.
- [3] Bläsing, Thomas, et al. "An android application sandbox system for suspicious software detection." *Malicious and unwanted software (MALWARE)*, 2010 5th international conference on. IEEE, 2010.
- [4] Rohr, Matthias, et al. "Kieker: Continuous monitoring and on demand visualization of Java software behavior." (2008): 80-85.
- [5] Froehlich, Jon, et al. "MyExperience: a system for in situ tracing and capturing of user feedback on mobile phones." *Proceedings of the 5th international conference on Mobile systems, applications and services*. ACM, 2007.
- [6] Robinson, William N. "Monitoring software requirements using instrumented code." *System Sciences*, 2002. HICSS. *Proceedings of the 35th Annual Hawaii International Conference on*. IEEE, 2002.
- [7] Ofcom, October. "Children and Parents: Media Use and Attitudes Report." (2014).
- [8] Hanson. "Method and parental control and monitoring of usage of devices connected to home network." U.S. Patent No. 7,046,139. 16 May 2006.
- [9] Corrallo, Charles Shane. "Computer Entertainment Tracker Application for Limiting Use of Specific Computer Applications and Method of Use." U.S. Patent Application 13/031,032.
- [10] Gatz, Scott, et al. "Parental control system for use in connection with accountbased internet access server." U.S. Patent Application 09/858,855.
- [11] Balia, Hinal K. "Systems and methods for managing and monitoring mobile data, content, access, and usage." U.S. Patent No. 8,095,124. 10 Jan. 2012. 79
- [12] Rhee, Keunwoo, et al. "Threat modeling of a mobile device management system for secure smart work." *Electronic Commerce Research* 13.3 (2013): 243-256.
- [13] Quadri, A. S. A., and B. Othman Sidek. "An Introduction to Over-the-Air Programming in Wireless Sensor Networks."
- [14] Ayaz Nanji, MarketingProfs. "75% of American Children Under 8 Have Access to a Smartphone or Tablet". 8 November, 2013.
- [15] Kelly Wallace, CNN. "Forget TV! iPhones and iPads dazzle babies". 7 October, 2014.
- [16] Joanna Walters, The Guardian. "Tablets and smartphones may affect social and emotional development, scientists speculate". 2 February, 2015.
- [17] "The Android Source Code." The Android Source Code. Web. 21 Dec. 2015.
- [18] Bhatia, Randeep, ed. "Introduction of Android Programming." 16 Feb. 2012.
- [19] Dennis, Alan, Barbara Haley Wixom, and Roberta M. Roth. *Systems analysis and design*. John wiley & sons, 2014.
- [20] Android.com.(2016). Android. [online] Available at: <https://www.android.com> [Accessed 25 Apr. 2016].
- [21] Android.Developers.[online]Developer.android.com.Available at: <http://developer.android.com/distribute/tools/open-distribution.html> [Accessed 25 Apr. 2016].