

GenSavior – Parental and Self-Control Application

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ABSTRACT

Technology, today has become the lifestyle. The dependance of the society on mobile amenities to perform the day-to-day activities has increased exponentially in the last decade. With around 47 percent of children below 11 years of age owns a tablet, and around 35 percent amongst them possess smartphone, which states that they too are no exception to this wave of digitalisation. Also, the pandemic intensified kid's reliance on technology and digital platforms. Despite being concerned about the effect of the technical explosion on their children development parents' hands are left idle. Not only the children but also middle age generation is concerned about their own screen activity. Due to these rising issues, we have proposed a "Parental control + Self-analyses" application. Our model, targets the problem statement of the society, dealing with the rising complexities online, the tool will safeguard children's digital ecosystem and will effectively lend-a-hand for all the concerned guardians.

"Parental Control" will help parents to control and evaluate their kids use of mobile device by filtering, monitoring, or restricting inappropriate content, with sharing their physical location. Additionally, a healthy chatting system between parent and the child with safeguarded by authentication password. The "Self-analyses" part of the application will target the issues of young as well as middle age generation. We see people spending a lot of time on the applications without even realizing the amount of time they have spent to do so. So, this part of application will give the usage time for each and every application present in the device. This will also include a floating timer which will be visible on screen every-time. This floating timer will help the users to keep the track of their usage activity and help in managing the time. Thus, controlling, monitoring, and filtering, we feel are some applications in an urgent need to help in overcoming some of these worries.

Keywords - User Wellbeing, Abstraction, Firebase, Authentication, Data-Connectivity, Data Accessibility.

I. INTRODUCTION

Now a day's notions like cloud computing, location-based amenities, and social interacting, modern IT system are permanently associated to other systems and process highly delicate data. These interconnected and unified systems are theme to security outbreaks that can lead to a extensive security occurrences affecting the technical substructure or its surrounding. Vulnerable liabilities can cause momentous cost. Example can be due to interruption or data changes. A high amount of all software security cases the world witnessed were caused by attackers exploiting identified vulnerabilities. An important and effective tool which is widely used for improving software safety is/are security testing methodologies that recognize vulnerabilities and guarantees security functionality.

Software or security testing is concerned with assessing software products and related artefacts to state whether they meet detailed requirements, validate fitness for resolution, and finding voids. Such kind of testing also verifies the major requirements of software program systems in terms of properties such as confidentiality, integrity, obtainability, authentication and verification, authorization, and non-repetition.

The susceptible and exposed web applications can be used by web developers, security auditors and generals, and also by the penetration testers to rehearse their knowledge and skills about the domain during exercise sessions (and particularly afterwards), and also to test at any time the numerous hacking tools and offensive procedures available, ingroundwork for their next real time world engagement.

The exposed web applications accessible to security specialists for hacking, offensive and self-justifying activities, so that they can manipulate and operate on the realistic web surroundings without going to lockup.

II. LITERATURE SURVEY.

In this project, we aim for safeguarding a person's digital ecosystem and to effectively assure a helping-hand for all the concerned guardians. In this new normal data-centric world, our proposed "Parental control + Self-analyses" application model, drives forth with an objective of providing the solution to a problem statement of the society who are still dealing with the rising complexities online. The main advantage of this model is to secure the efficiency of an individual from quantitative losses. Thus, implementing this idea using the modern-day method and techniques increases its efficiency and reliability as well.

We also promote the essence of psychological control as well as behavioural controls by involving influence of children's behaviour for a better good.

III. OBJECTIVE.

In this project, we aim for safeguarding a person's digital ecosystem and to effectively assure a helping-hand for all the concerned guardians. In this new normal data-centric world, our proposed "Parental control + Self-analyses" application model, drives forth with an objective of providing the solution to a problem statement of the society who are still dealing with the rising complexities online. We also promote the essence of psychological control as well as behavioral controls by involving influence of children's behavior for a better good.

IV. METHODOLOGY.

GenSavior is an android-based tool that is developed to control, monitor and filter the usage activities on a device. The methodology goes as:

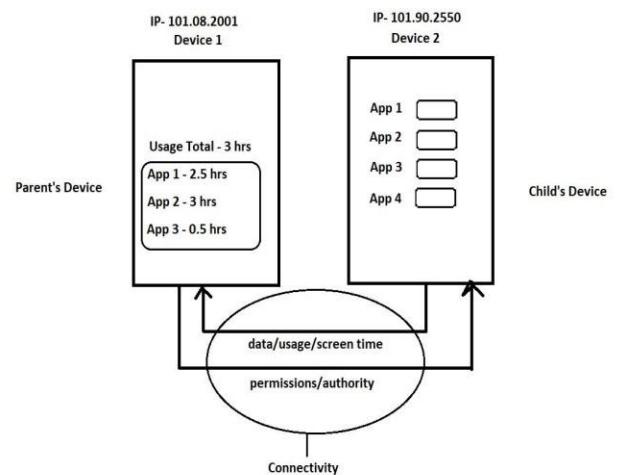
- 1) **Authentication:** First and the most important thing is to provide a authentication mechanism for security and privacy.
- 2) **Data Input:** After authenticating, we take the input of data exclusively based upon the usage activity of the person.
- 3) **Filteration:** Based upon the input, the data is being analysed as per the given threshold (wherever required).
- 4) **Controls Execution:** Different set of constraints gets executed based upon the different variations in person's usage.
- 5) **Output:** The parental controls are been set along with the proper analysis of the user's activity.

A. SYSTEM ARCHITECTURE DIAGRAM.

The architecture of the android consists of variety of workings to back the need of any android maneuver. Android – in package as a whole or as a software constitutes of an open-source Kernel which is called Linux Kernel that possess the assortment of widest C/C++ libraries which are bare through an application framework services.

Amongst (to add more) all the components that the android comprises of, Linux Kernel delivers the main functionality of operating system to various devices like smart devices and DVM which stands for Dalvik Virtual Machine by providing a working platform for executing an android application.

For delivering the main functionality of operating system to various devices like smart devices and DVM which stands for Dalvik Virtual Machine by providing an executable platform for implementing an android application, Linux kernel has got some crucial work to do.

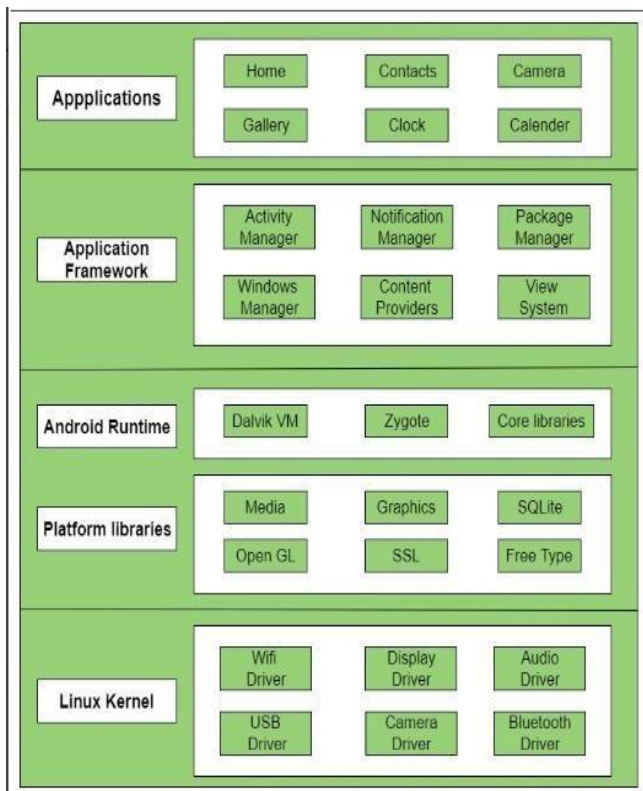


Above shown is the two emulator base view of the application, having different functionality and connectivity with each other. Based on the parent and child relation in between the two, can share all the required permission, authentication services, usage, real time location access, user based restriction.

Component like Linux Kernel has the main function for the operating system by providing the platforms to the smarter devices for implementing an android application. The main components of android architecture are as following: -

- ☐ Framework
- ☐ Applications
- ☐ Run-time of Android
- ☐ Reference library
- ☐ Kernel

(Linux)



B. TECHNOLOGY USED.

- **JAVA - Object oriented language**

Java is powerful Object Oriented, general-purpose, robust programming language created by Sun-MicroSystems in 1995 and vividly used for the android development due to its simplicity and wide variety of built in packages available.

- **Android Studio** - a development IDE

It is official IDE for googles android OS, which is manufactured on the platform JetBrains's - IntelliJ Idea and is designed particularly for apk development.

- **Gradle Build System**

Gradle is the advance toolkit used by android studio to manage and automate the building process and create the custom and flexible configurations. Each configuration has its own set of code and resources while using the app.

- **S/W Development Kit (SDK)**

Android's software development kit is the collection of tools which includes debugger, libraries and emulator for real time visualization and apk development purposes.

- **Emulators - for the testing and presentation**

The Android Emulator simulates and prepares a pretending Android devices on the user computer so that one can examine the working of an application on a number of devices without a need to worry about the presence of the physical device.

It is Flexible

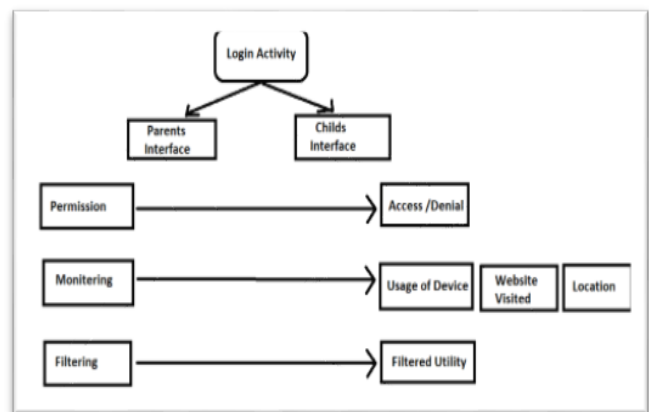
High Fidelity
Speed

- **XML – end user-layout**

- **Firestore – a Backend-as-a-Service (Baas) tool**
Firestore offers the real time hosting of services like database management, content, social authentication, and notification in addition to NoSQL, Collectively set of hosting services.

- **Different application frameworks and libraries**

C. BLOCK DIAGRAM.



V. CONCLUSION.

Digital kits can provide kids and youths with great treasures however, it can also maltreat them physically as well as mentally if they are being used improperly or too often. Setting up parental controls will come as an easy and handy way to use devices in moderation and safer ways benefiting them in the longer run.

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