

Vivekam: My Cyber Sarathi

An Application for Online Child Protection

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Abstract— In today's world, As Internet use by Children and teenagers, so do concerns about their online safety. Online safety for Children and teenagers has become a rising matter to parents all around the world. The odious incident that outraged the entire nation have waken us go for the safety issues and so a host of new apps has been developed to provide security systems to children via their Phones. This paper presents Vivekam – My Cyber Sarathi, An Application for the online safety for the Children. Here we have created the name of the Vivekam application by combining the names of an Aerospace Scientist - Abdul Kalam and Swami Vivekananda. Using this app parents can control and monitor their children online. Through this app parents can identifies location of their child in a duration of 30 minutes. The unique feature of this application is "android KIOSK mode" in child's mobile. Through KIOSK mode, child's mobile will be dumb mode and so child can't access anything in their mobile except parents put selected application for their child in KIOSK mode and parents can also set time limit on application usage which is selected for KIOSK mode. Parents can set time limit on applications of child's mobile and monitor child remotely by another application - Vivekam admin app. This an Application for smart parents to empower their child with mobile phone minus the risks of misuse and attacks. The app gives independence to the parents to monitoring and checking daily activity of their child on mobile.

Keywords— Android, Android KIOSK Mode, GPS, KIOSK Android launcher.

1. INTRODUCTION

Online safety for children has become a worry to parents around the globe. Consistently we hear and

observe a type of upsetting news in regards to kids who fall casualties to risky predators, who have discovered another and simple method for going after their casualties by the utilization of the Internet from the accommodation of their homes in the most recent decade or thereabouts. Like other mechanical developments, World Wide Web has numerous incredible worthwhile. It opens a universe of opportunities for children them to a huge expanse of information and data.

Nevertheless the advantages of the Internet, for example, remaining associated with friends and family through long range interpersonal communication locales, getting the hang of/picking up information, and accomplishing school work; lamentably it additionally can make kids progressively powerless to on-line dangers since it likewise has become an equipment in hands of on-line hoodlums. In such a helpful yet hazardous and unsafe condition, guardians must be outfitted with valuable and satisfactory intends to distinguish at an early stage indications of their children being in danger and limit and forestall the odds of on-line exploiters from deceiving their kids. With Internet network and accessibility in pretty much every home, legitimate child rearing gets fundamental for on-line welfare of children.

In attempt to ideally diminish and wipe out such risky and once in a while perilous dangers, guardians should cautiously and thoroughly study kids and guilty parties practices just as various sorts of dangers challenge their future generation on the Internet. Children sexual stalkers and sex offender are on-line nonstop and have learned numerous approaches to draw their victims. Some of them gradually draw their objectives by being pleasant, giving establishment and consideration during some timeframe persistently. At that point they bit by bit familiarize with sexual pictures and

discoursed with their discussions. Be that as it may, there are different sorts of sexual stalkers who take part in explicitly discussion with kids very quickly. A few guilty parties gather and trade kid explicit pictures, while others request face to face meetings.

Internet has gotten one of the most significant media among the others. Basic use of internet among individuals including kids are: Leaning, Social-Networking, Entertaining.

The development of technology makes Internet use increasingly beneficial. Children are presently ready to get to internet from their cellphone, tablet and PC rather than personal computers. Be that as it may, this made supervision substantially more troublesome than previously.

2. USE OF INTERNET BY CHILDREN

Both the measure of child and their capacity to utilize internet are expanding. Some parents claim they don't know better than their child about the internet.

As per a review, children begin to utilize the Internet at age of 7, and the period of internet user is diminishing, internet utilizes include: person to person communication (89%), engaging (84%) and homework (80%). The investigation led demonstrated that the most well-known online activities are online dating (23%), and playing games (72%).Therefore, building safe rule and setting rules for kids internet utilization should begin once they get contact with PC.

3. POTENTIAL RISKS

As indicated by inquire about, children between ages of 8-15 are for the most part prone to be harassed by online risks. Some are unsafe to their security and protection; some may likewise came about because of kids purposefully or unexpectedly damages the law, for example, torts which may prompt risky circumstances.

Figure 1 shows the outline of common internet risks:

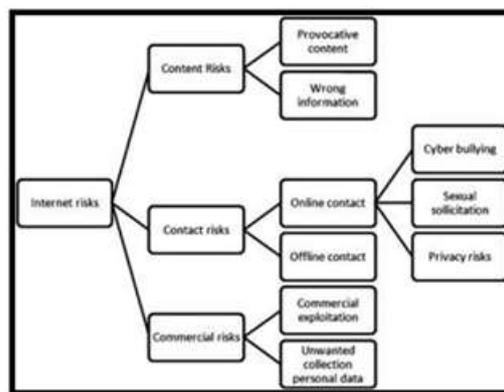


Fig. 1.Overview of internet risk

File sharing is a helpful technology that permits teachers to demonstrate valuable data to the students and other to share documents to one another. Be that as it may, many document sharing projects, similar to email, give kids a method for getting to harmful contents. Case of such contents including: pornography, violence, hate, racism. According to research, figure 2 shows data from children's positive experience of using internet, and figure 3 shows negative experience.

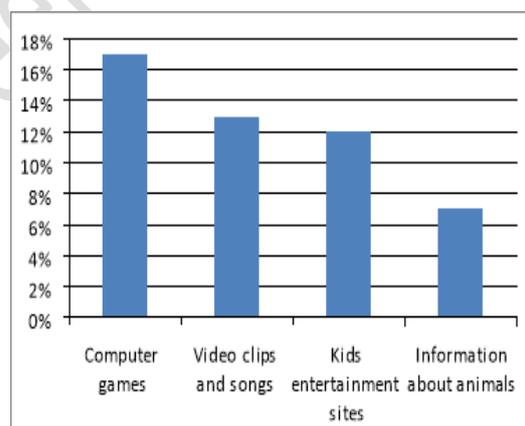


Fig.2. Positive Impacts about Children's Internet Use

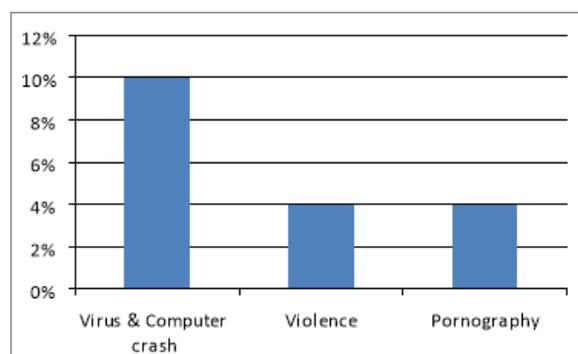


Fig.3. Negative Impacts about Children's Internet Use

Here, in Figure.4 is shows the Google trends report of Use of Internet by Children hourly in India Past 7 days.

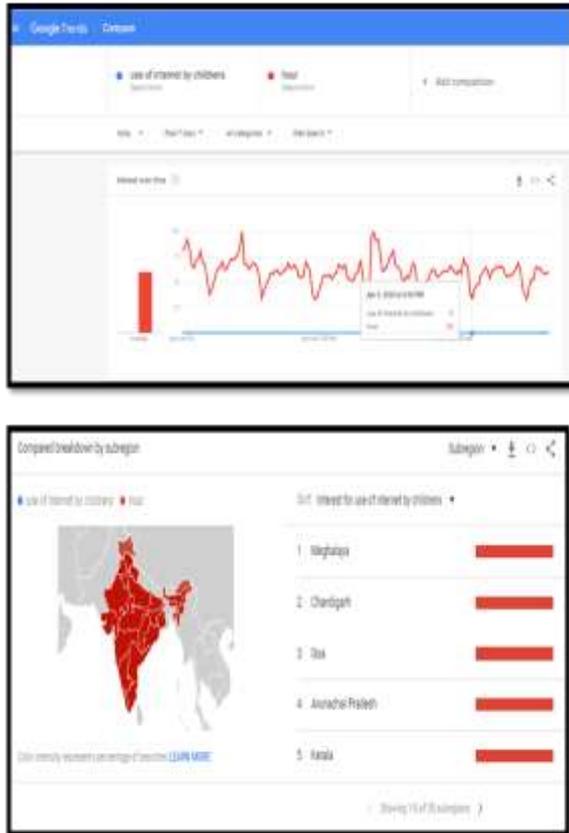


Fig. 4. Comparison of internet used by children by hourly in India

3.1 SOME RISKS OR PROBLEMS

- accessing areas that are improper or overpowering
- being revealed to online information that promotes hate, violence, and pornography
- being deluded and assaulted with intense advertising
- being welcome to enroll for prizes or to join a club when they are giving they are providing personal or household information to an unknown source
- losing time from growing genuine social abilities and from physical activity and exercise
- disclose too much personal information on social media sites
- being bullied by social media sites

Few parents blocked children internet utilization totally, asserting it as an evil thing, which will misguide the kids. They ought to likewise remember that internet use is one of the essential abilities in day by day life. What's more, kids gain from their mistakes. Accordingly, it is the objective to show children the 'internet manner' and 'look before you jump'.

Here, we introduce an android app for children that ensures the online safety of child. It reduces the risks that more and more use of internet by children and helps parents to control and monitoring their child by identifying the location of child and put time restriction on apps that is more used by children in their mobile.

The key Features of our app that creates it different from other apps designed till now are as follows:

- Parents can Allow/Disallow Apps on their Child's mobile phone which Child can use.
- Parents can put Time restriction for selected apps and features which apps child can use.
- Parents can Turning on-off the Restriction use mode (KIOSK mode), by password control.
- Parents can change the password
- Separate Remote app (Vivekam Admin app) for allowing apps & features and tracking location remotely of child.
- Disable back button, Home button, recent button and control shutter while in KIOSK mode.
- Resume KIOSK mode on Reboot, Restart.

4. OVERVIEW OF KIOSK MODE

KIOSK Mode replaces the default home screen with a custom dispatch screen called as KIOSK screen that is customizable. KOISK screen shows a single application, a particular arrangement of applications or site alternate ways. This prevents the use from getting to some other applications (aside from the applications that are shown on the screen), recent applications, and system notification and device settings. The Kiosk screen can be redone with a logo, wallpaper, and application symbol size and so on. Android Kiosks are just the gadgets that are intended to run a single application and to serve a particular use case.

4.1. SOME OF THE REQUIREMENTS NEEDED TO RUN AN ANDROID DEVICE IN KIOSK MODE

- Restrict to a single application to serve a specific use case.
- Lock up the navigational button (home and recent apps) in Android.
- Disabling status bar.
- Control or blocking all paths to settings.
- Turning off calls/messages as per the use case.
- App to run in a full-screen mode

4.2. HOW TO CONFIGURE KIOSK LAUNCHER ON ANDROID DEVICES WITH HEXNODE

A device set in single app mode won't permit exit from the kiosk mode directly from the device end. The standard kiosk exit methods are non-functional just in case of one app mode-enabled device. To beat this scenario, Hexnode brings within the kiosk launcher settings. This feature lets the users set an interval (in seconds) for a kiosk app to launch automatically. After the KIOSK application launches on the device, the user can come back to the KIOSK home screen to initiate start exit. This feature likewise permits user to modify the launcher.

• Auto Launch:

The auto-launch permits the KIOSK application to run in the foreground as the default KIOSK application. The user can set a particular time interval for the application to re-launch naturally. This element is fundamentally useful for single application mode-enabled device as leaving from the KIOSK mode in such a situation is fairly repetitive. In any case, the feature is supported on multi-app kiosk-enabled devices as well.

• Customization:

Customization refers to modifying the outlook of the launcher as per the need of the users or the scenario in demand. By fixing customization options, the users can modify the app icon size.

4.3. STEPS TO SET UP LAUNCHER SETTINGS

1. To allow a kiosk app to launch automatically on your Android device, Login to your Hexnode MDM console.
2. Navigate to Policies > New Policy. You'll also prefer to continue with an existing policy.
3. Set up one app or multi app kiosk policy under Kiosk Lockdown > Android Kiosk Lockdown.
4. Next, choose Launcher under Android Kiosk Mode.
5. Under Auto-Launch. Select app- Click on the + icon and choose an app or a PDF/video shortcut added in kiosk mode that you simply wish to open after a specified interval. App auto-launch delay- found out an interval (in seconds) for the kiosk app to re-launch.
6. Under Customizations, Customize kiosk launcher- Enable this feature to switch the kiosk launcher. Icon size- Choose the specified icon size- small, medium, large, extra-large or custom. This is able to allow the users to switch the dimensions of the kiosk app icon as per their requirement. Set size (in pixel) - Choose the custom size for the app icon. It can take values from 36-150 pixel.
7. Next, associate the policy with the target device

Here, we use Customized KIOSK launcher for entering into KIOSK mode in Vivekam Application.

5. LITERATURE REVIEW

We investigated some applications that provide an equivalent or similar services for android and other platforms. The aim is to ascertain how these applications work and to ascertain how they will be improved. These apps are as follows:

- A. **Find My Kids:** Child GPS watch app & Phone Tracker: This app is develop by GEO TRACK TECHNOLOGIES INC. "Find My Kids" may be a tracking app for parents which will assist parents to not worry if children aren't with them and that they don't hear their calls.
- B. **Kids Zone – Parental Controls & Child Lock:** This app is develop by The Park Apps. Kids Zone the app starts off evolved

to always screen the child's cell phone or tablet app utilization and locks the child at some point of a distinct child place on the device. Unique feature of this app are Create unlimited profiles of children's apps for every child or sort of app, Display a countdown that shows kids what proportion screen-time they need left, Customize each profile together with child's favourite wallpaper, Quick Unlock allows parents to quickly take incoming calls while locked.

C. Safe Browser parental and Websites Filter:

This app is develop by the Kiddoware. Kids Safe Browser Parental Control app may be a cloud based web page filtering browser to supply kids a safer kids program & internet browsing. Its parental controls and youngsters safe search internet site filter are often remotely configured for young kids; teens and adults to dam porn, adult, cyber bullying and the other potential dangerous internet sites.

D. Keepers Child Safety:

Keepers is a simple to use parental control app that helps you build a secure, healthy digital experience for your families. Keepers observe texts and social media platforms on Child's phones and immediately alerts parents about any suspicious behaviour including cyberbullying, harassment and other online risks. Unlike different parental manage apps, Keepers prioritizes kid's privateness by using solely exhibiting texts that are recognized as suspicious.

E. Parental Control & Kids GPS:

Kaspersky Safe kids: This app is develop by Kaspersky Lab. Besides permitting to block off nasty content material by means of Safe Search function, manipulate device use, block apps and decide immediately about suspicious on-line behaviour. It additionally lets parents come across their children on a map and set a impervious vicinity for them to continue

to be in. parents even monitor the battery level on kids' devices so parents don't lose touch. Their child safety solution allows parents try to all this and more with remote via own parent app, with Kaspersky Safe Kids working in two modes – kids mode and parent kit.

6. PROPOSED SYSTEM

Here, we develop two application

- 1) Vivekam Application
- 2) Vivekam Admin Application

- Vivekam application is for child which is installed on child's mobile or parent's mobile. Through this app parents can control their child. This app is Working on two mode: Child mode and parents mode
- Vivekam Admin Application is for parents which is installed on Parent's mobile. Through this app parents can control and monitoring their child remotely

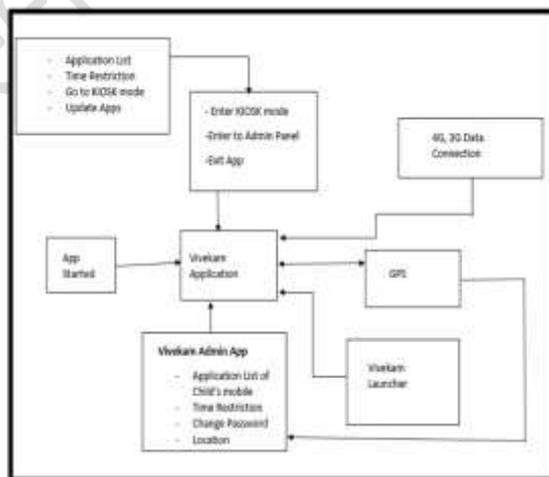


Fig. 5. Block diagram for the Proposed System

"Fig. 5." Shows the diagram of the System. Initially, once we click on the vivekam application, it first checks whether the Location settings, data connection settings within the application are on or not. Subsequently it ask for permission of accessing device's location and phone calls. After allow permission, application is going to be open. Vivekam application is functioning on two modes. On child mode Vivekam App is working to monitor children remotely. Child mode specifically use for control teenagers by their mobile remotely.

When a toddler is playing a game or other activity on a parent's mobile, parent's mode of vivekam application is working to regulate children. Parents will activate KOISK mode on Mobile, in order that Child couldn't access any application in mobile. To start out KIOSK mode, Parents must need to Select Vivekam Launcher. To monitor child from a distance, we've another Application – Vivekam Admin Application that's connected to Vivekam Application (Child mode) on Child's Mobile. This application is installed only on Parent's Mobile. Using this parents can trace child's location using GPS and put App usage Restriction remotely.

7. EVALUATION RESULTS & UNIQUENESS

Total evaluation can be done in four major steps which are described individually. Evaluation describes the whole working of Vivekam and Vivekam Admin Application in four major steps.

The First major step is KOISK mode on Mobile. Using KIOSK mode, mobile will be dumb means hide all application that shown on the screen, Lock up the status bar, Disabling Back button and recent button on mobile. For KIOSK mode we've created Customize launcher- Vivekam launcher. This launcher is automatically installed in mobile when vivekam application is install. To turn on KIOSK mode user must need to select Vivekam Launcher over system launcher. Parents can put selected application in KIOSK mode.

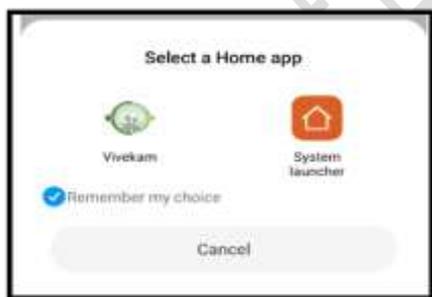


Fig. 6. Screenshot of Vivekam Launcher

The Second major step is Time Restriction on usage of Application which is in KIOSK mode. In Vivekam Application, Time Restriction option is there. Using this feature parents can set time restriction on Application usage. Application in KIOSK mode which is chosen by parents in mobile is automatically stopped when time restriction of Application use is finish over the application in KIOSK mode.

The Third major step is monitoring Child Remotely by Vivekam Admin App. Using this app parents can trace child's location using GPS in a duration of every 30 Minutes. For this step Vivekam application is compulsory installed on child's mobile.

The fourth major step is both of Vivekam and Vivekam Admin Application is password protect. Vivekam application is protected by parent's password and Vivekam admin app is protected by login and password module. If parents want to login to the Vivekam Admin app, they will have to login with the Vivekam application's User ID and Password that's installed on child mobile. Using this module parents trace location and set time boundary on application in Child's mobile.

7.1. UNIQUENESS

In Existing System, We have stated many Android Application having comparable function that tracing the location of child. But in my application there is a special function is parents can monitor kids remotely using Vivekam Admin Application. After logging into this app, parents can view the kid's mobile app and set time restrict on the app and place the app in KIOSK mode. Using time restriction feature, parents can set time limit on child's continuously app usage. This all functioning are remotely.

7.2. RESULTS

The Following figures are the Screenshot of Vivekam Application after login into it.

Fig. 7. Represents screenshot of the application after login in Vivekam Application.

It contains Use Id and three options: 1) Enter KIOSK mode 2) Enter into Admin Panel 3) Exit App

After Clicking on "Enter into Admin Panel" option, it will ask for Password.

After that again it shows some options: 1) Apps 2) Time Restriction 3) Change Pin 4) Get Premium 5) Update Apps 6) Go to KIOSK 7) Exit

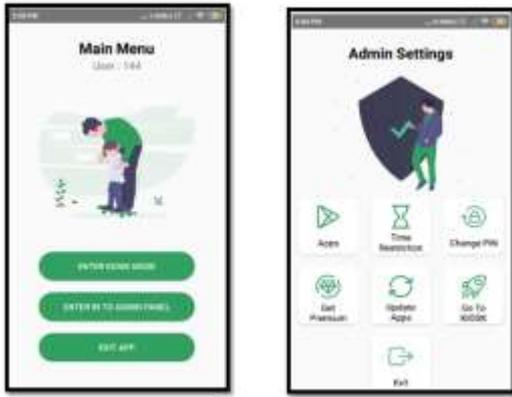


Fig.7. Screenshot of Vivekam Application after login

Fig 8. Shows the screenshot of after clicking on the Apps and Time Restriction option.

Subsequently clicking on the Apps option, it will show the list of application that is installed on parents mobile. From here parents can select application for time restriction. For Example, Here we select application “Ludo King” for time restriction.

After that clicking on the **Time Restriction** option, it will show the application which is selected for set time limit on app usage. For example, here we select “Ludo King” Application then it will Show this Application.

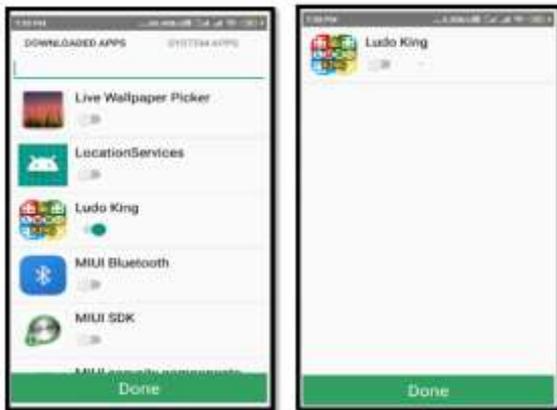


Fig.8. Screen Shots of App List and Time Restriction

We created Clock to set Starting Time and Stop Time for time restriction on Applications.



Fig. 9. Screen Shot of Clock for Time Restriction

Fig 10 Represent the screen shot of Application Which in KIOSK mode. Here, we select “Ludo King” Application for KIOSK mode. In KIOSK mode, only selected application is visible. Application in KIOSK mode which is chosen by parents in mobile is automatically stopped when time restriction of Application use is finish over the application in KIOSK mode.

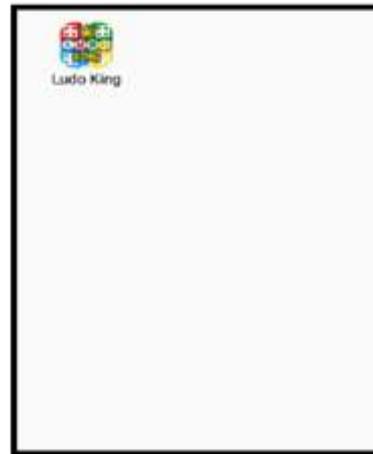


Fig. 10. Screenshot of Application in KIOSK mode

Fig 11. Shows the screenshot of Vivekam Admin Application which is monitor child remotely. After Login in Vivekam Admin App, there is a four options: 1) Applications 2) Time restriction 3) Change Pin 4) Location Application choice shows list of Applications that is installed on Childs cell same as in Vivekam Application.

Using “Time Restriction” option, Parents can set time restrict on Applications in Child’s mobile

remotely. In “Location” option, parents will trace child’s location remotely using GPS.

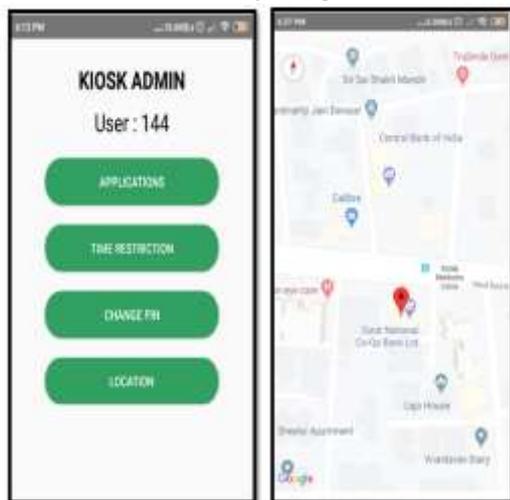


Fig. 11. ScreenShot of Vivekam Admin Application and live location of Child

CONCLUSION

In this Paper, We’ve described Vivekam Application, an Application for Child Online Protection. This Application helps parents to monitor their child online. It is also helps parents to trace live location of their child through GPS. Using this Application, parents can control Child from continuously usage of Mobile. We have a separate Application – Vivekam Admin App for allowing apps and tracking live location of Kid.

This Application is an integration of Technology and Philosophy. So, As a Future Scope, we will send quotes about Swami Vivekananda and APJ

Abdul Kalam to the children's mobile using this application because ,name of application is a combination of swami Vivekananda and APJ Abdul kalam's name.

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