iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 7 **Issue:** IV **Month of publication:** April 2019

DOI: https://doi.org/10.22214/ijraset.2019.4653

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.177
Volume 7 Issue IV, Apr 2019- Available at www.ijraset.com

Development of Smart Educational Services for Effective Teacher-Parent Communication using Android Technology

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Abstract: ***Now a day's school children parent's face problems about children's home work, work sheets, marks etc. So, to avoid those problems this Smart School Diary is proposed. This system is an approach to improve the current system. It provides an effective Teacher–parent communication. The main aim of the application is to provide parents their children's information on their fingertips. In this application parents can view their children progress, attendance, any events in school, homework, worksheets.***
Keywords: Student, parent, teacher, School Diary.

I. INTRODUCTION

This paper primarily aims at encouraging students to focus on developing applications. This way, students will be able to fulfill their responsibility to developing expertise in their preferred subject. The Smart School Diary only contains Parent login. After login parents can view the information related their children, with the help of this Application parents are able to access all the details regarding their children. The features which can see by parents are added by teachers by the website. The system features a complex logging system to track all parents' access and ensure conformity to data access in order to reduce the manual work by visiting the school personally which will help the parents to save time from their busy schedule.

II. SMART SCHOOL DAIRY USING ANDRIOD

The Smart School Diary is a Mobile application, the parent login with their phone number then their children basic information is displayed below that tabs are available like timetable, attendance, worksheets, marks, homework etc. By clicking on that tab parent can see the information on that. This app is only for viewing purpose. Android is an open source and Linux-based Operating System for mobile devices such as smartphones and tablet computers. Android was developed by the Open Handset Alliance, led by Google, and other companies. Android offers a unified approach to application development for mobile devices which means developers need only develop for Android, and their applications should be able to run on different devices powered by Android.

III. ADVANTAGES OFANDROID

A. Texting SMS are available forms of messaging, including services like Accessibility Service, Handling Keyboard Events and Keyboard Handling Functions.

B. Java support While most Android applications are written in Java, there is no Java Virtual Machine in the platform and Java byte code is not executed. Java classes are compiled into Dalvik executable and run on using Android Runtime or in Dalvik in older versions, a specialized virtual machine designed specifically for Android and optimized for battery powered mobile devices with limited memory and CPU. J2ME support can be provided via third-party applications.

C. Multitasking: Multitasking of applications, with unique handling of memory allocation, is available for the application. One of the important advantages of PHP is that it is Open Source. Therefore, PHP is readily available and is entirely free. In contrast to other scripting languages used for web development which requires the user to pay for the support files, PHP is open to everyone, anytime and anywhere.

D. Easy Adoption Android applications are scripted in Java language with the help of a rich set of libraries. Anyone can build Android applications with the knowledge of Java. According to a recent survey, a lot of Java programmers find it easy to adopt and script code for mobile applications in the Android OS. It is now very beneficial for Java developers to transition the code script into a mobile application, and can also implement android application development services in the app.

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E. Open Source Get the open source advantage from licensing, royalty-free, and the best technology framework offered by the Android community. The architecture of the Android SDK is open-source which means you can actually interact with the community for the upcoming expansions of android mobile application development. This is what makes the Android platform very attractive for handset manufacturers & wireless operators, which results in a faster development of Android based phones, and better opportunities for developers to earn more. That's the magic of Android.

IV. SYSTEM ARCHITECTURE

The Smart School Diary is Android application by using this parent can view their child academic information. The information displayed in this app is added through Parent Info website it contains users' administrator and teachers. Admin can add, update, delete students, teachers, and parents and send SMS. Teachers can add, view, update homework, marks, attendance send SMS.



Fig: 1 Use case diagram for Smart School Diary

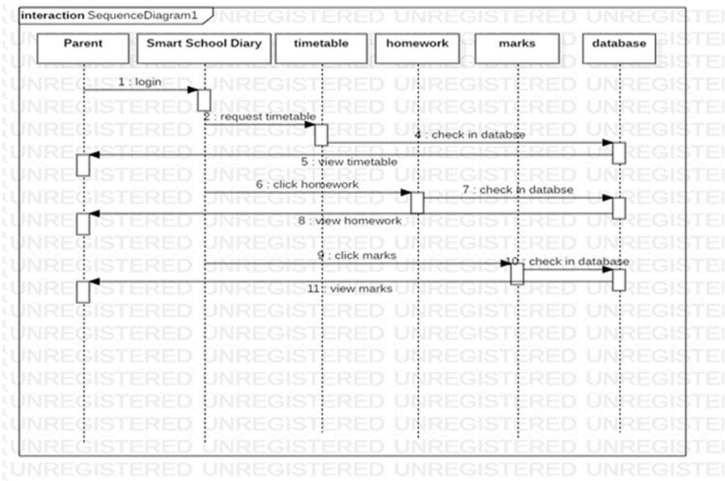


Fig: 2 Sequence diagram for Smart School Diary

The above use case explains about the parent info app actors' functionalities. First admin login through system and then add teachers and he can allot subjects to teachers by academic year wise. The teachers added by admin can only add timetable, homework etc. Parents also added by admin, here the phone number of parents attached to the student profile. Only using this attached phone number parent can login through app. Once parents' login through the app the student name class and roll no is displayed under these information tabs are placed by clicking on them, they can view homework, attendance report, marks, worksheets, timetable, holidays list, events. Homework is displayed date wise, attendance report provided by monthly basis, marks displayed as test wise, events displayed as table.

V. USER INTERFACESCREENS

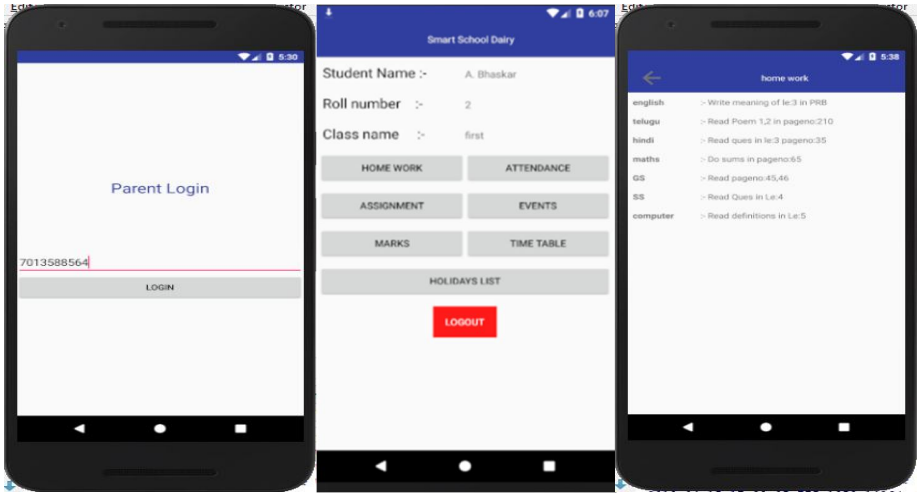


Fig 1.1 Parent Login Screen Fig 1.2 After login onboarding screen Fig 1.3 View Homework screen

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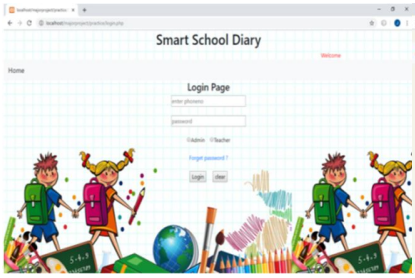


Fig 1.4 Admin Login Screen

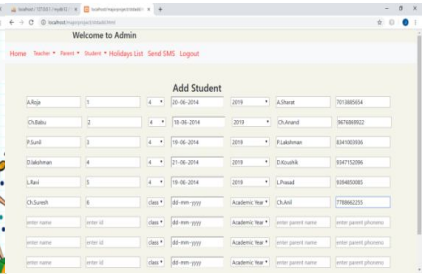


Fig 1.5 Add Student and Parent info screen

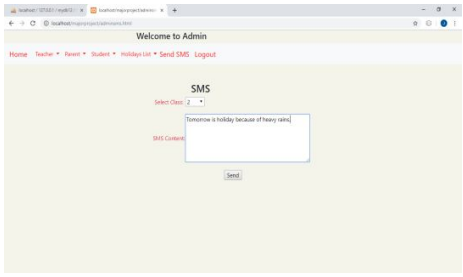


Fig 1.6 SMS Sending Screen

VI. CONCLUSION

This system is used in schools where Wi-Fi is connected with mobiles for interactive communication. It is very useful for parents to know about their children academic performances and daily activities. This project has given us great satisfaction in having designed an application which can be implemented to any school.

Providing educational services using wireless and mobile technologies, schools can potentially bring great convenience to parents who do not always have time to find Internet enabled computers to get important educational information from their children schools. With the educational services apps, parents can access services any time and any place they want.

The paper has introduced the development of the Smart School Dairy Application for the Android platform. This app allows access to school services, as well as homework, worksheets, holidays, messages, timetables etc. The project provides Mobile and Web-based app tools that allows online access for different users. The app provides a user friendly, generic, web-based GUI to request educational services such as SMS text messaging, student drop/add/defer queries, and etc. The app provides instructors with an app tool to send/receive SMS text messages to/from students using a mobile device or using a web-based interface of the app. The app provides administrators with online tools to manage, add, update, and delete system information. The main objective of the project has been the use of Android technology for providing an app tool for mobile devices, for the use of parents, instructors, and administrators in accessing educational services.

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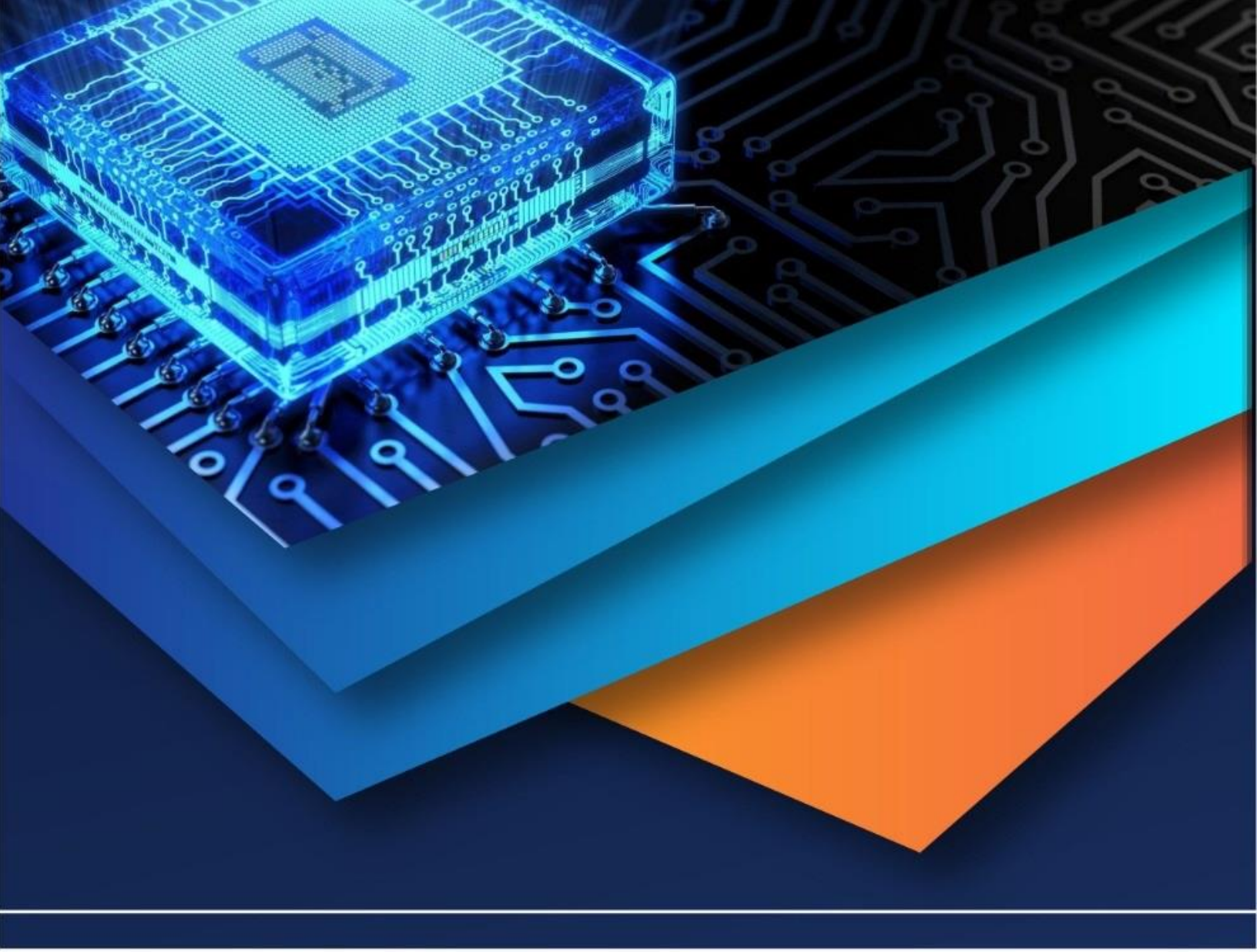


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