

An Application for Teachers to Get Easy Access to Their Daily Activities in Classroom

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ABSTRACT

Technology is gaining an important role in day-to-day lives of almost everybody in the world. Modern devices such as smart phones and PDA's have become increasingly powerful in recent years. This application is highly useful for teachers in their daily teaching activities. Teachers can make use of features like attendance management, PPT presentation, drawing on canvas and notes sharing under a single teacher interface of an Android application. This application is about providing the ease of explaining the content of the syllabus while also moving around the class freely. Teachers need not carry the laptop to class. They can project the content of PPT directly on screen by using a chromecast device that will be attached to projector's HDMI port. Just by making use of android device, they can explain the content, show the presentations, share notes and even manage students' attendance. This application will do all of the tasks with a single, simple interface.

Keywords :- Android, Smartphone, Chromecast.

I. INTRODUCTION

Nowadays, common systems like microwave oven, refrigerators, washing machine, air conditioners etc. are largely used. Recently, the use of android based applications have also found large use in lifestyles of people. Examples are common E-commerce apps like Ola, Uber, Swiggy etc. People are also building their own customized applications for their companies. Concept of Digital India, are also encouraging these kind of application based lifestyle.

Since all are moving towards a digital perspective, the technology is finding creative ways for the people to be lazy, and it's perfectly fine as long as it is giving a positive outcome and saving some energy.

We try to design a similar objective application for the teaching faculty in college/universities (teachers). This app is about providing the ease of explaining the content of the syllabus while also moving around the class freely. They need not carry the laptop to class. Just an android device, and they can explain the content, show the presentations and even manage students' attendance without the need of bringing an attendance register (which is a conventional way). This app will do all of the tasks with a single, simple interface.

There will be an application which has different screens for different features. The app comes packed with it, a documentation of how to use the app interface. The attendance management feature requires a database connection and the data there will be handled, processed and later stored in host.

It also comes with a documentation so teacher need not worry about the UI.

There are lots of tools for teachers to manage student attendance, canvas draw and to share notes through android apps/Windows clients. Teachers in college, can have all of these software separately installed in their system. Until today, many teaching aboachers are found using the conventional methods of taking students' attendance either by calling the student names or by passing around an attendance sheet for students to write their name and USN. This method has higher risk of having students cheat their attendance. In order to get the attendance status of each student, teacher has to manually calculate it. In addition to the time-consuming issue, there are chances of calculation mistake [6]. Teachers need to take laptop to class for explanation purpose and in order to move freely around the class they need to use remote control laser pointer device. Lecturers can make use of this application to display PPT directly from android device to projector and they can also highlight on the contents of PPT for students to understand better [3]. Teachers can also share the link of class notes for students to download and refer [8].

II. METHODOLOGY

1. Signing up

The User will need to fill in some basic details for the app sign up like Name, Email, Mobile Number, Class Time table details etc. After filling it, the data will be verified and stored in a MySQL Database. Then he is taken to the next screen, the Home Page. Where he will find all the initial tutorial

views. This is done through some layout tweaks.

2. Database Initialization

After the user has signed up, we first create database entry for him to store his basic details, class time table etc. Also we will Create separate database table entries for him for attendance storage management. This phase is pretty straight forward and is handled by PHP.

3. Displaying User Interface

After the initial sign up and database initialization is done, we show the Home page to the user first. Home page in the case of android is designed using XML, Java. In case of windows, it is HTML, CSS, JS, and a bit of bootstrap for beautification. User can find all the buttons for navigating through the app. There will also be a tutorial button in case user gets stuck in the usage.

4. Attendance Management

User can add attendance, remove an attendance record, update an existing attendance record etc. User can also print the attendance right away using the print option, which will print the attendance for the specified range in a printer. All these front end part can be handled by the front end languages and database related back end task will be handled by PHP APIs. The PHP scripts will communicate with the MySQL server and perform the necessary actions.

5. Drawing On Canvas

For the feature of drawing models on canvas, In android app, WebView will be used for easy implementation, which will render an HTML page having a canvas Element and user can draw things on the canvas straight away, which will be rendered on the projector screen. Buttons for various operations while drawing are also available.

6. PPT Presentation

Powerpoint slides can be directly rendered on screen, on top of which, there will be a transparent canvas element on which user can draw and display the explanations for the PPT slide under the context.

7. Rendering smart phone content to Projector.

The content on smart phone can be rendered on to projector using a Google chromecast device. The transmissions are done using WiFi communication.

8. Sharing notes

Teachers can upload the notes into database and share the

them among the students by providing its link.

III. RESULT AND DISCUSSION

Sign-Up/ Login Page

After installing the correct application, a one-time registration window is shown in Figure 1. After the registration process we must login through the login window. Login to the application through the login window with the correct name and email id as registered during sign-up as shown in figure 2.



Fig.1 Sign-up Page

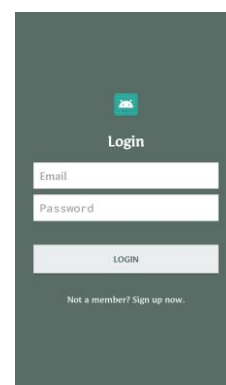


Fig.2 Login Page

Attendance Manager

Particular schedule has to be set before taking the attendance like semester, subject as shown in figure 3. Names can also be added shown in figure 4 for which the next window would be to tick the attendance of students for which the final report is got.

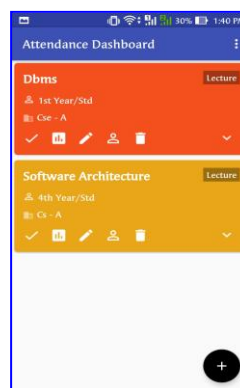


Fig.3 Attendance dashboard

| Class Report | | |
|--------------|---------------|----------------------|
| ALL TIME | | |
| Roll no | Name | 06-Apr-2018 02:05 PM |
| 1 | abhipresth | P |
| 2 | ananya | A |
| 3 | ananya | P |
| 4 | anusha | A |
| 5 | hrishesh | P |
| 6 | carol | P |
| 7 | deeksha | A |
| 8 | deepa karnath | P |
| 9 | divya kamath | P |
| 10 | ganesh | A |
| 11 | ganav prabhu | A |
| 12 | gish pat | A |
| 13 | harshitha | A |
| 14 | impama | A |
| 15 | joshma | A |

Fig.4 Attendance Report

Docs Projector

This window lets us choose a document from the folder and displays it which lets us underline or mark a particular word as shown in figure 5.

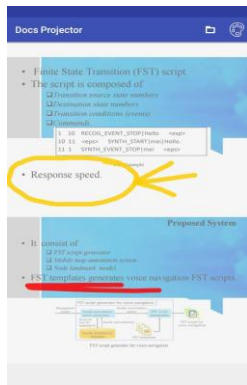


Fig.5 Docs Projector

Drawing Pad

This window is used for explanation purpose by just sliding of screen the drawing canvas appears with which we can scribble or use it like a pad screen. This is shown in figure 6.

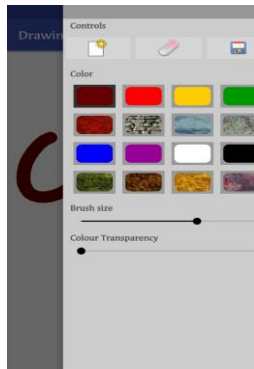


Fig.6 Drawing Pad

IV. CONCLUSIONS

The proposed application is applied for the ease of teaching in the classroom. The application provides features for taking attendance seamlessly, also used for drawing canvas which is to mark or underline particular content on the notes displayed and PPT display. This application can also be used for notes sharing among students through link which makes it easy to download notes. Hence the present approach is a integration of many alternative existing approaches. This application is easy to use and have a simple user interface.

REFERENCES

[1] 'Mobile Web Based Android Application for College Management Sysytem ' by A.J.Kadam, Aradhana Singh, Komal Jagtap, Srujana Tankala, International Journal Of Engineering And Computer Science ISSN: 2319-7242 Volume 6 Issue 2 Feb. 2017, Page No. 20206-20209.

[2] 'Attendance Management System Using a Mobile Device and a Web Application' by Jun Iio, 2016 19th International Conference on Network-Based Information Systems.

[3] 'SINGLE PAGE APPLICATION AND CANVAS DRAWING', by Renien John Joseph, International Journal of Web & Semantic Technology (IJWesT) Vol.6, No.1, January 2015.

[4] 'Android-based Attendance Management System' by Siti Aisah Mohd Noor, Norliza Zaini, Mohd Fuad Abdul Latip, Nabilah Hamzah,

[5] 'Designing the Chromecast Out-of-Box Experience' by Noor Ali-Hasan.

[6] 'Attendance Management System (AMS) with Fast Track Analysis' by M.Amir Abas (IEEE), T.B.Tuck, M. Dahlui ,2014 International Conference on Computer, Control, Informatics and Its Applications.

[7] 'Internet Browser Interface Design Suitable for the Elderly to Use' by Pai-Hsun Chen, Tsung-Chi Lin*, Ying-Hsin Liang ,2014 International Symposium on Computer, Consumer and Control.

[8] 'Mobile Devices in Learning – are Students Ready for the Change?' ,H. Kopackova and R. Bilkova, ICETA 2014 • 12th IEEE International Conference on Emerging eLearning Technologies and Applications • December 4-5, 2014, Starý Smokovec, Slovakia.