

## PRMITR Wallet

**Prof. P. V. Bobade<sup>1</sup> M. J. Deshmukh<sup>2</sup> R. H. Raut<sup>3</sup> S. D. Tayde<sup>4</sup> V. V. Dalvi<sup>5</sup>**

<sup>1,2,3,4,5</sup>Department of Computer Science & Engineering

<sup>1,2,3,4,5</sup>Prof. Ram Meghe Institute of Technology and Research, Badnera, India

*Abstract*— The prime objective of “PrmitrWallet” is to create a full-fledged Android application which will be useful to students and teachers of our college. The application is all about storing the frequently used documents of students while filling various forms. The Project will be developed in Java Programming Language by using the Android Studio Integrated Development Environment (IDE). We will use the Android Software Development Kit (SDK) which includes a variety of custom tools that will help us to develop mobile applications on the Android platform. The most important of these is the Android Emulator which is a virtual android phone to run the application.

**Key words:** Android, Firebase

### I. INTRODUCTION

The main objective of this application is to provide an easier way to store and manage frequently used documents. PrmitrWallet is a platform for issuance and verification of documents & certificates in a digital way, thus eliminating the use of physical documents. Teachers will be able to access your documents and certificates from separate account provided to teachers. The numerous physical documents can be a huge administrative burden. The PrmitrWallet application shall help in reducing the burden both for the teachers and the students. The issue of providing multiple copies for a college forms can be resolved by this innovative move. The PrmitrWallet shall save our mark sheets, educational certificates etc. which can be made easily accessible to the teachers one seeks to apply. In brief, the PrmitrWallet app is an imperative measure to collect our documents and store it in one particular account. The insecurities regarding misplacing our documents are always present. The PrmitrWallet app has initiated a wonderful service that can potentially make it easy to accumulate our documents and acquire them from different students. The linkage of the system with the Unique Identification number is a significant measure to maintain the records of students. Anytime, anywhere access to the documents by the teacher.

Open and interoperable standards based architecture to support a well-structured standard document format to support easy sharing of documents across departments. The URI is a link to the e-Document uploaded by an issuer in a repository.

PrmitrWallet app is used to reduce unnecessary wastage of paper, time and human efforts. PrmitrWallet has many useful features for online storage, digitally signing and online sharing of important e-documents.

PrmitrWallet allows users to store the document in pdf, jpg, jpeg, png, bmp and gif format. The storage space where the electronic documents are stored in the standard Application Program Interface (API) is called repository. The main functions of the repository include collection of digital documents and keeping them in standard API for

authentic real-time access. Nothing beats digital file storage today. Keeping paper documents around becomes a hassle when piles build up. Without a doubt, most individuals can reap the rewards of digital file management right away. Too many people continue to use paper documents and can't find what they're looking for when they need to.

Cloud storage is a model of data storage in which the digital data is stored in logical pools, the physical storage spans multiple servers (and often locations), and the physical environment is managed by a firebase console. These firebase storage providers are responsible for keeping all the data available. People and organizations buy or lease storage capacity from the providers to store user, organization, or application data.

### II. SYSTEM ARCHITECTURE OF PRMITRWALLET

PrmitrWallet application consists of two major modules namely *student's module and teacher's module*.

#### A. Student's Module

The user has to create an account to use the application. When the user opens the application for the first time, he has to authenticate himself using the account he has created. The login panel is hosted by firebase backend platform. Whenever a new account is created, the users email is listed in the firebase console.

#### B. Teacher's Module

On the teacher's side the teacher has to directly log in to the website by using email id and password provided by the admin. There is no sign up button for the teacher's to get register themselves. After successful logging in they need to enter student id of individual student to download the documents.

#### C. Student's Module

The first module of PrmitrWallet is to create user's registration. User has to first create an account by clicking on the register button and log in with that account to use the application. This registration page and login page is designed using firebase backend platform. Firebase gives functionality like databases, storage, authentication and crash reporting so we can move quickly and focus on our users. It automatically scales for even the largest applications with huge user base.

PrmitrWallet uses various firebase services such as authentication, storage and real-time databases. Firebase provides backend services to support authentication using passwords, phone number, and popular identity providers like Google and Facebook.

To sign a user into the app, we have to get authentication credentials from the user. These credentials can be the user's email address and password, or an OAuth token which is given by any identity provides such as Google and Facebook. Firebase's backend services verify those credentials and return a response to the client.

#### D. Teacher's Module

Whenever teachers want's any document of a user, he has to login with his own credentials. The credentials are provided to teachers by admin. This is done to maintain security of the application and to control access to student's documents. Teacher has to input the student's name and select the document which he wants to download. After this the document is retrieved from the firebase storage and displayed on the web page. The website for teachers module will be designed using JAVASCRIPT, HTML and CSS.

#### E. Key Technologies

PrmitrWallet uses various technologies in background and foreground namely *Android Operating System, Firebase backend platform and Material design*.

#### F. Android

PrmitrWallet is an application which runs on smartphones running on android operating system. Android is a linux-based operating system designed to run on touch screen devices such as smartphones and wearables. It is based on modified Linux kernel. It provides four major application components namely activity, services, broadcast receivers, content providers. An Activity provides all the components requires to design the user interface. PrmitrWallet has a number of activities for login and registration page, Services is used to perform long running operations in background. Background work such as network operations, playing music, perform file input output, receiving location updates can be done using services. PrmitrWallet has two services which is designed to choose and upload the documents, by clicking the choose button our mobile's gallery will open and by clicking on upload button the document which we have choosen will be uploaded.

#### G. Firebase

Firebase is a backend platform which provides various services to develop and test an application such as Authentication, Real-time Database, Cloud Storage, Hosting, Crash Analytics, Crash Reporting and Performance Monitoring. It also helps us to grow and engage our audience by providing services like AdWords, Cloud Messaging and Invides.

PrmitrWallet uses Firebase Authentication to create user accounts and authenticate user into application. PrmitrWallet provides only one authentication options to user which means user can sign in to PrmitrWallet using his email id and password. Whenever a new account is created, the email id of the user is listed into firebase console and the method he used to sign in to the application is shown. PrmitrWallet also uses real-time database to store personal details of user such as name, age and other location and time spent details. This way it is easy to retrieve the data of user if the local databases fail.

#### H. Material Design

Material Design is a design language which is used to design sleek UI for applications. It was developed by Google in 2014. It is codenamed as '*Quantum Paper*'. It was announced by Google in 2014 in Google I/O conference. Many of Google's applications such as Maps, Google Docs, Sheets have been applied this design language.

The android application development IDE that is Android Studio includes in-built material design themes which can be directly applied to the application. The UI of PrmitrWallet is also designed using material design.

### III. CONCLUSION

PrmitrWallet is an application which is used to store our educational documents and certificates digitally. This application can also be accessed anytime anywhere by the user.

Teachers can download documents anytime of any student. It is very easy for the students to choose and upload their documents and for the teachers to download the documents. The goal of this application is to eliminate the use of physical documents and enable sharing of verified electronic documents across various departments.

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