Resource pool android application for students

S.Rohini[1], G.Sowmiya[2], D. Arun Paranthaman[3], Mrs.C.Kotteswari[4]

UG Students[1,2,3], Assistant Professor[4]

Department of Computer Science and Engineering,

Velalar College of Engineering and Technology, Thindal, Erode-12.

*rohini29cs@gmail.com, sowviv3@gmail.com, arunehkn@gmail.com, kotteesc@gmail.com*

Abstract - **Android is a public, free, open source, Linux based operating system. Maximum number of Users can be detained by it when compared to all other platform. The abstract of our project is to display the details of the resources like books, placement materials, Notes and Question bank and other materials. Here, resource holder can register their details. Students can search for required resources and inter department materials can also be collected easily. Resource pool android application helps the patrons to view available resources without computers but through their android devices which performs multitasking and allows application to run concurrently. This Application retrieves the information about the resources from resource database for example checking whether the books and other materials are available or not.**

I. INTRODUCTION

Our project is to display the details of the resources like books, placement materials, Notes and Question bank. Here, resource holder can register their details. Students can search for required resources and inter department materials can also be collected easily. In 2005, Google acquired a small startup company called Android, which was developing an operating system for mobile devices based on Linux [2]. Google set up the Open Handset Alliance in 2007. It is a group of 82 technology and mobile communication companies that are collaborating to develop the Android operating system as open source software for mobile devices. It facilitated any application developer to write Android applications. Android soon become feature-rich due to its open source nature [3]. Google could embed its search engine into Android, the way Internet Explorer is embedded into Windows. By giving the away the operating system free and focusing on the search advertisement revenue, Google successfully formed a formidable challenge to Windows mobile and Symbian. Starting from 0% market share, in 2008, when the first mobile phone incorporating Android was announced, it has become the dominant player and has shown a remarkable market growth in market share and user acceptance. Database Technology has an essential feature that provides an INTERNAL Representation (model) of the EXTERNAL world of interest The particular date/time/flight/aircraft in airline reservation or of item code/item description/quantity on hand/reorder level/reorder quantity in a stock control system are the examples of database technology. Since mobile manufactures use different user interface and interaction styles for their mobile devices depending on the customer segment targeted, Android provided the ability to seamlessly use either a phone-based keyboard or touchscreen [2]. Android provides a built-in full web browser capable of rendering full web pages. This paper describes how the user can find out details about the available resources with the resource holder and also they can view resource holder information. Resource pool android application for students saves Users valuable time by making complete procedure online. It

allows application developer to write code in java programming language. It facilitates the development of applications with the help of a set of core java libraries developed using Java. The android code is structured into four different layers as shown in the figure below.
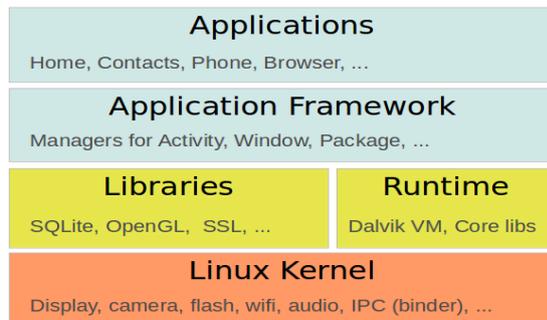
It can be explained as

- Applications – It includes default applications like Browser, Camera, Gallery, Music, Contacts etc., This design is intentional and is intended to help aggressively manage resources to ensure responsiveness
- Application framework- It provides set of services that an application programmer can make use of. The services include managers and content providers.
- Libraries and runtime - Graphic rendering, data storage, web browsing, etc,. are the common library functions performed here. Dalvik translates java application program into machine code of library.
- Linux kernel -It is the Communication layer for the underlying hardware.

Based on Linux kernel code, Android implements its own device drivers, memory management, and process management and networking functionalities. This layer is one that is commonly used by cell phone users.

II. RELATED WORK

For library management there are several concepts has been made. There are many works related to develop library management.

Ashutosh proposed a concept called Online Library Management System. It developed "Library Management System" in java language. It mainly works on the basic operations in a library like adding and deleting new books, updating books, searching a book, adding and removing the user.

RFID Based Library Management System [1] Using MATLAB. The work is contributed and based on the emerging technology called Radio Frequency Identification. It will be placed along with FPGA converter in library to authenticate students and staffs. This system contains high frequency DLP RFID1 Read/Writer having the range of frequency is 13.56 MHz. GSM technology is used to send message to the students regarding due date of the book issued. The software is written in MATLAB and MySQL to improve system performance.

Libramatic is a Library Management System based on cloud technology. On july 2012 it was launched officially at Dublin. It scans a ISBN code which allows the librarian to catalogue the available books through Smartphone, camera or USB bar code reader or Personal Computer. The use of online library management systems has been increased by drastically rise of "cloud" technology. By scanning a book's ISBN many modern cloud-based solutions is now allow automated cataloging. Although it is currently in use by systems such as LibraryWorld this technology was pioneered by libramatic.

Invenio is open source software. In 2002, it was developed by CERN. It has an inbuilt tool used to manage digital assets in an institutional repository. It is a Web based application. It was written in Python programming Language . This package was

recently chosen to be the digital library software in western Africa region which includes 8 countries.

NewGenlib is open source software. In march 2015, it was developed by Verus Solution.It is an Integrated Library Management System. It can be runs on linux and windows operating system. It was written in Java programming language. Koha is open source software which was developed by koha community its initial release was on January 2000.It is an integrated library system which runs on linux kernel and was written in Pearl programming Language .

PMB services developed PMB which is open source (Integrated library system) software. The first release of PMB was made on October 2003.GNU licensed PMB software. It was written in PHP programming language. It can be run on following operating system such as Linux, Windows and Mac. It also provides a many feature and it is user friendly for the librarian .

III. PROPOSED WORK

Cell phones are small in size and therefore can easily be carried everywhere like a wallet. Considering their portability and the powerful features sets that they provide they have now come to play an important role in today's society [2]. An application developer can host Resource Pool Android Application in the Android market place, from where it can be downloaded easily the end users. Android has come up with different versions in quick succession, such as Gingerbread, Honeycomb, Jellybean, KitKat and Lollipop. This paper mainly focus the proverb "Time and Tide and Wait for None" which means instead of students ask resources with everyone they can view the available resources and can contact the corresponding Resource holder. Thus it helps effortlessly to the user.

IV. SQLITE DATABASE

SOLite is a Relational Database. It is the most popular and widely used database in mobility platform [6]. It is used to store all the data and they are usually contained in the C Programming Library. All the information's are usually stored at the client end for the fast access. Once database created it can be usually accessed by name to any class in the application. Developers can be offered to easily access the database and can be utilised the built in features which is fully available to them.

V. ECLIPSE

Eclipse is a multi-language integrated development environment (IDE). It has a set of seamlessly integrated tools such as code editor, Compiler, debugger, execution support and other tools are required to develop application. It can be used the IDE, which also automatically installs the Android SDK as a plug-in [4]. After installing this plug-in, One can start to develop Android applications.

VI. ANDROID SDK TOOLS

Android Software Development Kit (SDK) is a mobile application development framework using which developers can create applications for the Android platform. The Android SDK provides the tools and libraries necessary to develop application that can run on Android-based devices [5]. An important advantage of Android SDK is the low processor and RAM requirements. Besides, Android SDK can be installed on almost all popular operating systems such as Windows, MAC OS and LINUX. Using the SDK, one can either run the application on the actual Android device or a software emulator on the host machine.

VII. ARCHITECTURE DIAGRAM
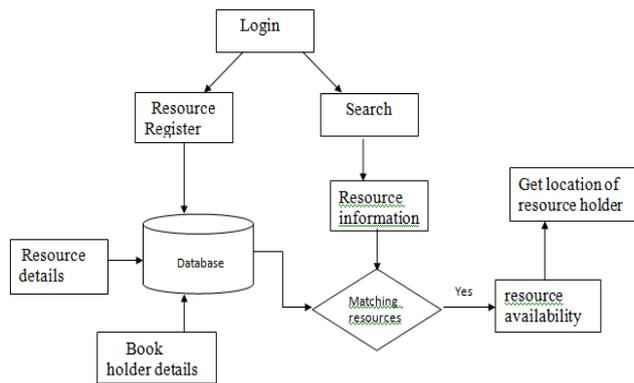
Architectural design helps to understand the overall structure and behavior of the system

VIII. WORKING MODULES

Initially Resource Pool Android Application will be loaded in the Google Play Store. Then, 'n' number of users can download that via play store. As soon the user logins there appears the list of available resources and the search option is also enabled to view the desired Resources.

Our project contains three modules they are:
1. Resource Holder Registration
2. Search Engine
3. Get Location

1. Resource Holder Registration

In this module it holds detail information about resources and resource holder .The information are resource holder name, resources such as books , notes, question banks, placement materials and so on., email-id , Mobile number is not mandatory. After registration is done successfully click save button else cancel button.

Resource holder name: It is in text field format. It accepts only alphabets of both uppercase [A-Z] and lowercase [a-z]. If any unrelated text such as numerical and special character it will not proceed to next field.

**Resources:** It is checkbox type. Resource holders can select their resources.

Location: It is textbox format. It accepts text, numerical, special characters.

Email-id: It is text field format. It accepts text, numerical , special characters.

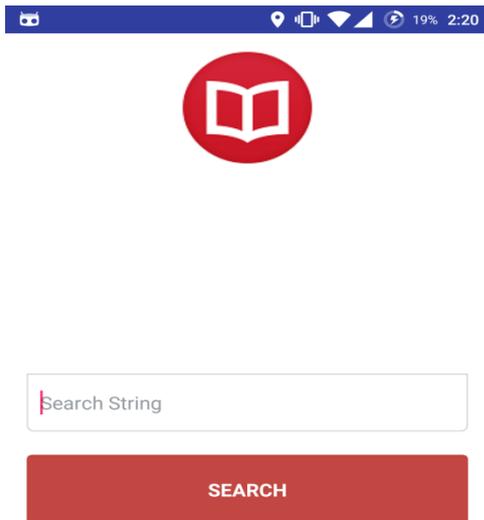**Mobile Number:** It is number format. It is not mandatory to go to next page.

Save: It is button. After registration is successfully processed click save button once.

Cancel: To cancel the registration this button is used.
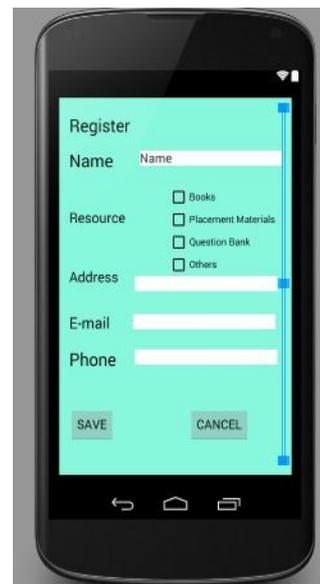
2. Search Engine

In this module, it will display all available resources .Here search icon is used to search the necessary resources.

This application navigates the search of a user for his/ her desired book by categorizing it in two major divisions; i) search by book title i) search by author.

Thus making the search a time efficient and convenient one and also supplying the user with the perfect match for his search.

3. Get Location
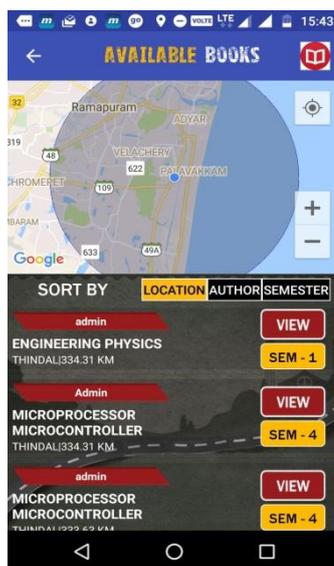
Once the available resource is viewed by the user he/she is moving to corresponding resource holder page.

The approximate postal address of any location on the world map can be determined by the user quickly by clicking get location button which leads to google map.

Drag the red marker anywhere on the google map and the address details of the resource holder location will be displayed in pop-up window.

IX.ADVANTAGE

- The main aim of the application is to make people to easily check the availability of the resources in efficient manner.

- This application in android allows the users to access system through android Smart phone instead of computers.

X LIMITATIONS

- Only the Android Users can use this Application.

XI. CONCLUSION

In this paper we have presented a Resource Pool Application, developed for Android using SQLite Database. The main aim of the application is to make people to easily access their resources in order to check the availability of the books and other materials. This Application saves Users estimable time by making complete procedure online. The problem of data storage is solved by storing them in popular open source SQLite database.

XII. FUTUREWORK

In order to improve the efficiency of data processing, cloud messaging can be used.

XIII. REFERENCES

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[4] https://eclipse.org/juno/.

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