GP1009	Design and Development of Android Based Library Management System		
Group	1. J. Uma Shankar	5. Kanishka Singhal	
	2. S. T. Rajan	6. R. Suman	
	3. Eashweshwarreddy Palla		
	4. Lakshmi Madhu		
Department	Computer Engineering (FT-2012)		
Mentor(s)	K. R. Narasimha Murthy		

The integrated library system is a resource planning system for maintaining library functions. In worldwide most of library system has functions that include are Acquisitions, Cataloguing, Circulation and Online Public Access Catalogue (OPAC) interface. All these functions are done using single system database operation maintained by librarian or network admin. The MSRSAS library system has similar function where user can search the book using OPAC which is been implemented in MSRSAS library. The MSRSAS Librarian can issue book or does renewal using I.D card bar code which recognizes user i.e., student or staff. The system is mostly automated where the user i.e., students/staffs borrow books using the I.D number. The additional feature like reservation is not possible in the current system. The server still maintained by the librarian and for any search book user needs to come library. The library system can be made more user friendly and time saving by making book search and reservation from anywhere and any place. The new system can be developed in an android platform as user application where user can directly access the library database through internet.

The application for android is written in the java programming language. Based on android application a new library management system has been developed called "Android based Library Management System" (ALMS). The application is developed on 4.3 version of android commonly called jelly bean and is backward compatible with 4.0.x version.

The concept of the application is developed to visualize the user interface interacting with the centralized library database. The user interface for the application has been developed through XML. Each user page and respective actions are handled by individual java activities. The concept of ALMS is developed through centralizing the database. The android application backend database has been implemented using MySQL run over an virtual WAMP server and PHP script is used to retrieve the database and the result is wrapped into the JSON objects. Three databases developed are "memberdetails", "bookdetails" and "borrowinghistory" database. The android application is successfully tested for its functionality and performance. The application is successfully integrated to any android device running under the specified version. The application can access the centralized server via internet.

Basic borrowing process