

# Online Student Resource Management Using HTML5 and Angular -JS

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**Abstract:** [www.shrewd-sys.com](http://www.shrewd-sys.com) is a college portal that gives a straight forward interface to support all statistics of the educational institutions. It is utilized by the academy by the academy to hoard students profile effectively. The creation and maintenance of the error less data in regards to a student scholarly profession is discriminating paramount in the colleges and in universities. Maintaining of up to date information about a student is critically important in the educational institutions. In the existing system management of student information, faculty information, transaction of library books, applying for leave and storing all college related information is done manually consuming more paper work and time. In the proposed system student has to get registered in order to access this website. This system provides the browser with adequate information like student details, academic related marks and attendance details through online secure interface embedded in the college portal which gives fast access to the database and is more users friendly. It has additional advantages like online leave management system, online library management system which was lacked in the earlier institutions. The system is entirely managed by the administrator of the college. It is designed with latest technologies such as angular-js, fire-base and bootstrap.

**Keywords:** Online library management systems, Online leave management, Student database management.

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## I. INTRODUCTION

This system has been designed and implemented for comprehensive student information system and user interface in order to replace the manual records by reducing paper base work of college staff to save time. The college faculty will be able to access all aspects of students academic progress through a secure online interface. It is designed with authentication displaying only the necessary information for an individual's duties. In the system students and faculty can apply for leave through online which can be processed and approved by the administrator which was done earlier by writing a letter and getting permission from the staffs by wasting lot of time. Even the library system has been changed to online system in which librarian will upload books in the portal and Students can login to the portal and can view the books and download it for studying. Faculty and Admin has the right to upload new books needed for the students. In the earlier system student data has been maintained in paper which is to be filed safely for future references which is being difficult to do. Placement department can also upload the placement details like eligibility criteria, the list of company visiting the college and student eligible list for a particular company.

### Proposed System:

Providing online services for students and the faculty for maintaining their database effectively. This is an online system facilitating availability information at the touch of a button. Easy transaction of books can be done through online library management which saves time. Up-to-date information regarding college events can be notified to the students immediately. It is an intranet based application which can be accessed within the organisation.

## II. SYSTEM MODULES

### A. Student Role:

Once the student has gained access to the portal with user id and password he can view the following information with complete profile of the student name, address, department, internal marks ,semester marks, attendance details and so on. They can also view and download the semester books through online without visiting the library

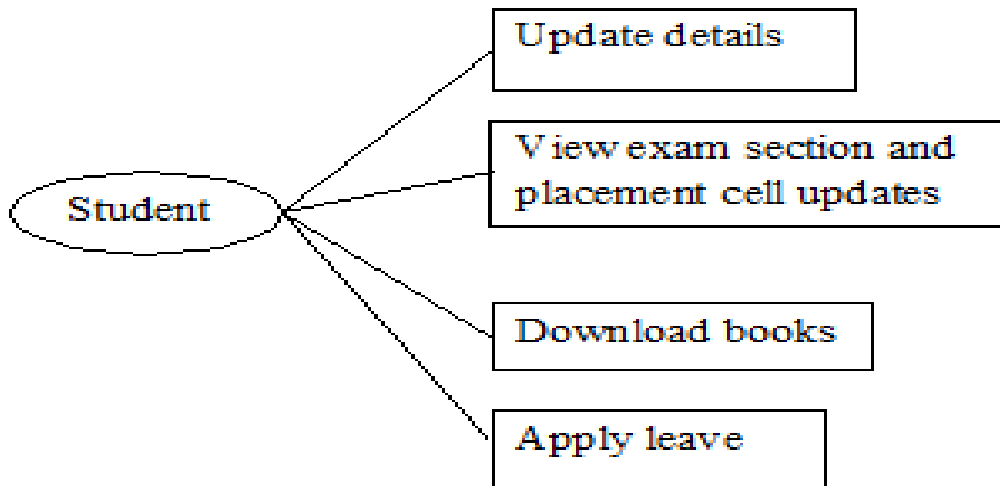


Fig 2.1. Data flow diagram of student

Applying leave through online can also be done by the student for getting approval from the faculty members. They can also request fee receipts and apply for scholarship through online.

### B. Faculty Role:

Faculty also have a separate login in which they can view their profile and also the profile of any student. They are responsible for entering the student attendance details. Faculty has the right to upload text books related to their subjects which is useful for the student. The leave requested by the student will be verified by the faculty and permission will be given only for valuable reason. Any notification given by the administrator can be viewed by the faculty.

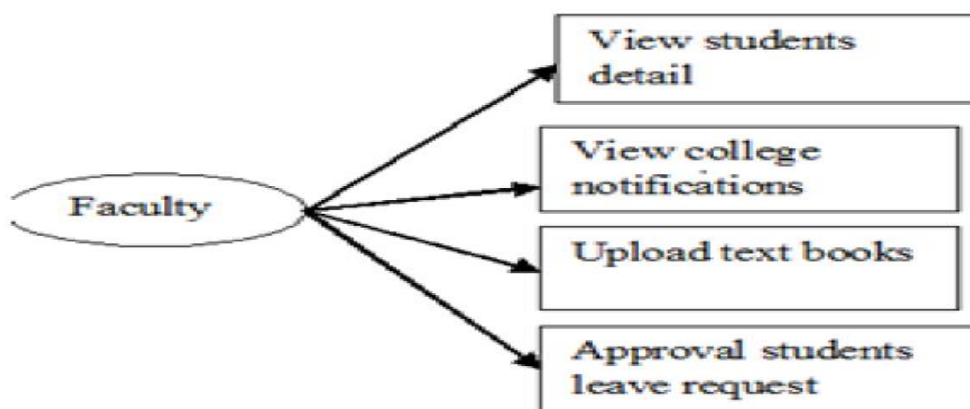


Fig 2.2. Data flow diagram of faculty

### C. Exam Cell:

This department is responsible for updating all the students internal and semester marks. They will also report the internal and external examination time table through online. They will also update the supervision list for faculty and class room allocation for the students

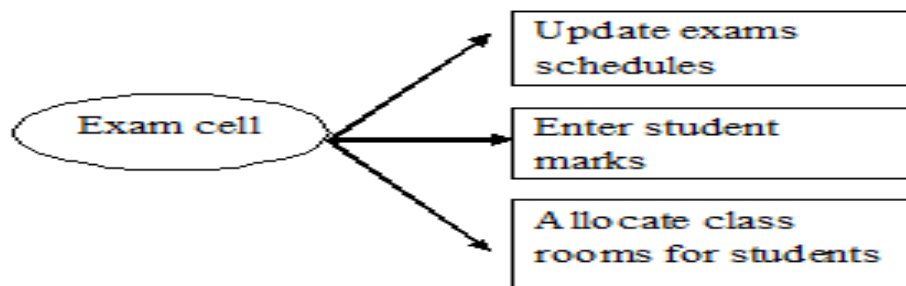


Fig 2.3. Data flow diagram of exam cell

**D. Librarian:**

Librarian manages online library management system in order to reduce the management of library books through paper records. This system reduces the space to maintain separate library block in education institution. They keep list of all the books of different authors available in the library portal which will be useful for the student, faculty .They can also upload text books requested by the student.

**E. Placement Cell:**

This department is responsible for updating the eligibility criteria, recruitment process and arriving date of the company visiting the college which will be useful for the student preparing for the placements. They can also send the eligible list of students for a particular company. Important notifications regarding placements can be sent to the students. The list of students who got placed can also be updated.

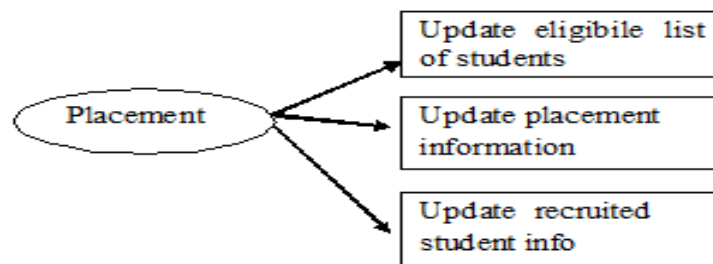


Fig 2.4. Data flow diagram of placement cell

**F. Fee Department:**

They are responsible for generating fee receipt to students those who have applied through online. Even scholarship forms will be verified and processed by the department. Bonafide certificate will be provided for different reasons to the students through the portal.

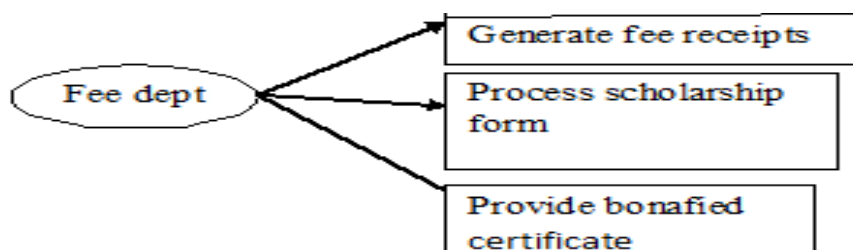


Fig 2.5.data flow diagram of fee dept

**G. Administrator:**

This department has the right to modify student details .This system will be entirely controlled by the administrator .Director ,HOD and Principal messages can be sent to the student and the faculty members. Upcoming events and training programmes can be intimated by the admin.

*Process:*

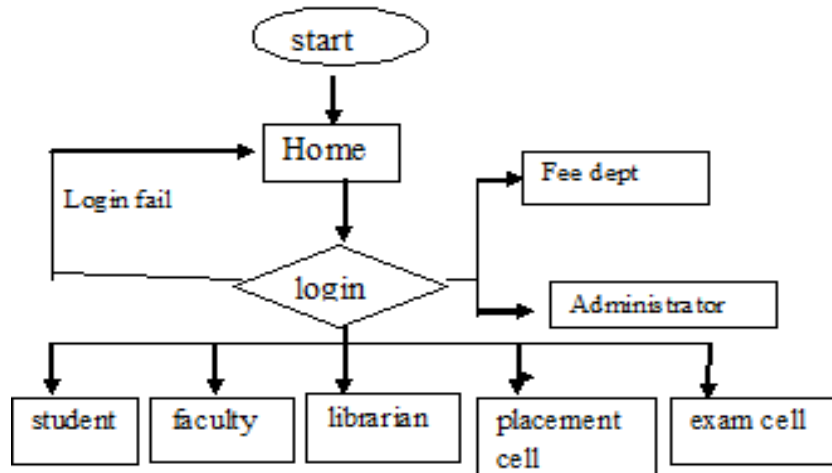


Fig 2.5. data flow diagram of overall process

*Tools used:*

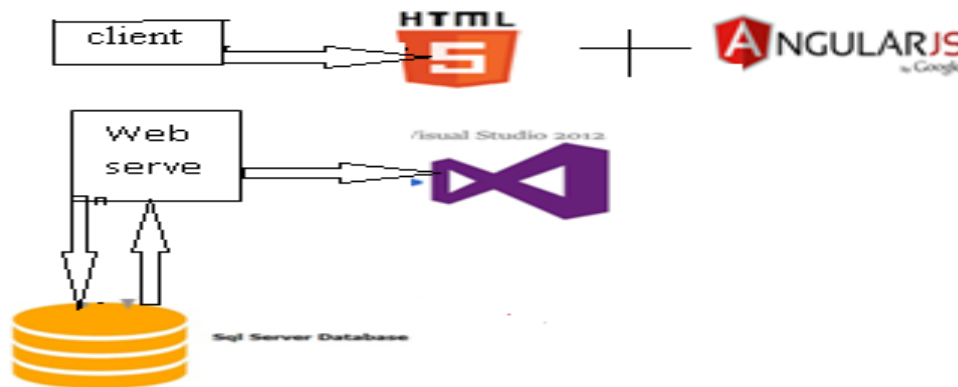


Fig 2.7. Tools used

### III. TECHNOLOGIES USED

#### A. *Html5:*

HTML5 considered as the latest version developed from the HyperTextMarkup Language which describes the structure of document. The webpage looks very attractive along with CSS styles. It aims to improve the language with latest multimedia support which will be understood by computers and humans. It is mainly intended to develop the presenting context of the world wide web which is the core technology for the internet. It also include additional feature like playing audio and video within web pages. It has been built mainly with consideration to run on low powered devices like smart phones and tablets.

#### B. *Angular js*

HTML is used for declaring static documents, but it fails when we are trying to make use of it for declaring dynamic views in web-applications. AngularJS extend HTML vocabulary for application resulting in extraordinary expressive and readable web application. AngularJS is a backbone tool for building the framework during application development. It is an open-source JavaScript framework, maintained by Google, that deals with running single-page applications. It makes both development and testing easier by using model-view-controller(MVC). AngularJS is built mainly with a belief that declarative programming should be used for building user interfaces and wiring software components, where as imperative programming is excellent for expressing business logic. As a result Angular JS improves test ability and

follows the MVC pattern and encourages loose coupling between presentation data logic components. It brings server side services such as view-dependent controllers, to client side web applications. Consequently, much of the burden on the backend will be reduced, leading in lighter web applications.

### C. *Sql Server:*

Microsoft SQL Server is a relational database management system developed by Microsoft. As a database, it is a software product whose primary function is to store and retrieve data as requested by other software applications. SQL Server 2008 was released on August 6, 2008 and aims to make data management self-tuning, self organizing, and self maintaining. Microsoft SQL Server is a relational database management system developed by Microsoft. As a database, it is a software product whose primary function is to store and retrieve data as requested by other software applications, be it those on the same computer or those running on another computer across a network (including the Internet). There are at least a dozen different editions of Microsoft SQL Server aimed at different audiences and for workloads ranging from small single-machine applications to large Internet-facing applications with many concurrent users. Its primary query languages are T-SQL and ANSI SQL.

### D. *Firebase:*

Firebase is a cloud services provider and backend as a service company based in San Francisco, California. The company makes a number of products for software developers building mobile or web applications. Firebase was founded in 2011 by Andrew Lee and James Tamplin and launched with a realtime cloud database in April 2012.<sup>[6]</sup> Firebase's primary product is a realtime database which provides an API that allows developers to store and sync data across multiple clients. The company was acquired by Google in October 2014.<sup>[7]</sup> Firebase provides a real time database and backend as a service. The service provides application developers an API that allows application data to be synchronized across clients and stored on Firebase's cloud. When data changes, apps built with Firebase update instantly across every device -- web or mobile. Firebase-powered apps work offline. Data is synchronized instantly when your app regains connectivity.

## IV. CONCLUSION

This system will provide all desired information without any delay to students and faculty members. It has been developed only for the universities and colleges. The information which is being stored in the database can be accessed any time within the organisation by using this portal. There will be no wastage of any resources in colleges and universities. It reduces the paper based works and saves time by storing entire details in this system. It saves the time for the students during transaction of the books by downloading the books through online. It is better to have a web based management information system in order to manage many errorless details. This system is very essential in all colleges.

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