**Software Requirements Specification**

For

**Arham Institute Management System**

**Version 2.0**

**Prepared by Team4**

**Group Name: Battalion 404**

|  |  |  |
| --- | --- | --- |
| **ID** | **Name** | **Email ID** |
| 201912003 | Archi Shah | 201912003@daiict.ac.in |
| 201912031 | Rahul Mahrsee | 201912031@daiict.ac.in |
| 201912079 | Priyanshi Rathod | 201912079@daiict.ac.in |
| 201912105 | Vatsal Mehta | 201912105@daiict.ac.in |
| 201912012 | Raj Shah | 201912012@daiict.ac.in |
| 201912093 | Naika Bhatt | 201912093@daiict.ac.in |
| 201912025 | Smit Shah | 201912025@daiict.ac.in |
| 201912116 | Venish Shiyani | 201912116@daiict.ac.in |
| 201912054 | Jainam Shah | 201912054@daiict.ac.in |
| 201912059 | Deep Bhavsar | 201912059@daiict.ac.in |

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**1.Introduction**

**1.1 Purpose:**

The purpose of this document is to give a detailed description about functional and non-functional requirements of the software to be made. It also describes how each and every stakeholder is going to interact with the system. It also specifies the assumptions made about the system to be developed. The developers can use this document to design and build the system and the user of the system can use this document for review and verification of the requirements.

**1.2Product Scope:**

The institution will be provided with major facilities like question paper generation, managing student’s attendance, keeping track of various entities which interacts with institution on daily bases like students, faculties, TA/tutors. The system will also keep track of fees payment details of every student and salary management of faculties and TA/tutors. On the other hand, the student can view various details like their result, fee payment status and various message conveyed to them by institution via announcement facility of the system. The faculties will be provided with to-do list functionality. The students will be able to give online exam using this system which will be evaluated by the system itself immediately after their submission.

**1.3 About This Document and Its Readers:**

The system requirements specification document describes what the system is to do. The audiences for this document include the system developers and the users. The system developer uses this document as the authority on designing and building system capabilities. The users review the document to ensure the documentation completely and accurately describes the intended functionality.

This version – version 2.0 - provides general descriptions of the system. The system developer should review the document to ensure there is adequate information for defining an initial design of the system. The users should review the document to affirm the features described are needed, to clarify features, and to identify additional features needed within the system.

**2. Overall Description**

**2.1 Product Perspective**

This Institute Management system is new, self-contained system intended for web-application. This system is intended to replace manual sharing of information to digital, high quality, cost-effective and reliable flow of information through-out the institution. The institution management system to be developed benefit greatly the institution, student and the information source who want to address the student easily.

**2.2 Product Functions**

The institution management consist two main parts- an institution management system for uploading, storing and management of data and a client application to allow user access and interact with the institution.

The functions of the system are as follows:

* The faculties will be provided question paper generation facility
* The institution should be provided with the functionality of keeping track of student’s attendance
* The institution should be able to keep track of salary paid to faculties
* The institution should be able to keep track of fee payment status of students.
* The institution should be able to make announcement to students
* The institution should be provided the mechanism of managing the student, staff
* The faculties should be provided the facility of managing the subjects
* The faculty should be provided with functionality of to-do list
* The students will be able to give online exams of generated question paper by the faculty.
* The institution will be provided with automatic evaluation functionality of the exams given by the students.
* The students will be able to see the results of the exams they have attempted immediately after they finish their attempt.

**2.3 User Classes and Characteristics**

**UCC1: Institution owner** – Arham Education’s owner is responsible for faculty management, student management, batch management, can update fee payment details of student, can update salary payment details of faculties, make announcements, mark attendance, manage subjects and topics, manage questions, access to-do list and conduct exams.

**UCC2: Faculty**- Faculties of Arham Education make announcements, manage questions, mark attendance, access to-do list and conduct exams.

**UCC3: Tutor** – Tutors of Arham Education can mark attendance of students, manage the fee payment details of the students, make announcements, access to-do list and manage questions and conduct exams.

**UCC4: Student**- The students of Arham Education can access their respective results, go-through announcements, check fee status and can give online exams.

**2.4 Operating Environment**

The rule for selecting hardware and software is that the components/application must be functionally efficient, capable of interfacing with system and easy to maintain.

**OE-1**: The system shall operate with the following web-browsers: Microsoft Internet Explorer, Chrome, Firefox and any modern-day browsers.

**OE-2**: The system shall operate on Certified and Accredited servers running the current corporate approved versions of operating system as appropriate.

**OE-3**: The system shall permit user access from the corporate internet and also authorized users can access the system from anywhere.

**2.5 Design and Implementation Constraints**

The Institution Management System uses web-application system. From our research we have found out that the owner of Arham Education stores the data in written form in books for which there are chances of the data loss. The owner of the Arham Education has Personal Computer in the institute and is familiar with basic skills of using it. Therefore, we are providing them with web-application to ease their process.

* Portability: The application codes generated during prototyping may not run properly when re-hosting the data-system to a non-Windows OS or transferring the data-system to another location.
* Database Design: The database structure should be as complete as possible during the design stage but there should be a room for modification without a large overhaul during the later phases.
* Information uploading and management will likely be done any time (24 hours)
* The system shall use current corporate standard MySQL Server database engine.
* The system shall be in compliance with all accessibility, Web Design and Security policies applicable.

**2.6 User Documentation**

User documentation will consist of the several components usually expected of a modern web-based software application including a complete user manual.

* The user manual will contain sufficient information and instructions required access and use the data system. It will include:
* Overview of the system features and architectures.
* Instruction for accessing the system.
* Samples of screen where appropriate.

**2.7 Assumptions and Dependencies**

* The users have sufficient knowledge of computers
* The institution has Internet connection
* The users know the English language, as the user interface will be provided in English
* The product can access the institution’s student database

**3. System Features**

The standardized way of circulating information throughout the institute will facilitate and improve information reach ability, reliability, accessibility, evaluation and student’s interaction with the faculties.

**3.1 Register and Login Capability:**

**3.1.1 Description:**

Information of the system must be predefined, so that the system can maintain the integrity, reliability and acceptance of the information. So as to have the privilege of performing certain activities one must be registered on the system authorized list by contacting the system operator physically. The system shall provide login capability for authorized personnel only.

**3.1.2 Why function required:**

Usually, anybody who is using the institution’s PC can access the database or confidential data of the institution. So, login and registration capabilities of the system will enable the confidentiality and security of the system information.

**3.2 Student/Batch /Faculty / Tutor/ Subject /Topic management:**

**3.2.1 Description:**

The student, batch, faculty, TA management functionality will keep track of the person working in the institution and all the students studying in the institution. Subject management will keep track of which faculty teaches which subject and other details related to subjects. The details regarding the same can be stored and fetched efficiently.

**3.2.2 Why Function Required:**

Keeping track of the entities that are communicating frequently with institution eases the management process of institution and information related to the same can be fetched relatively faster comparing to manual system. This will enable the authorized access facility to the system. Transparency can be achieved easily through management of these entities.

**3.3 Question Paper Generator:**

**3.3.1 Description:**

The system generates question paper by sorting out questions by complexity/difficulty as per instructions to generate a question paper. The question paper generator system should be stable and secured and have high performance.

**3.3.2 Why function required:**

Usually, course teachers or question setters manually create the question script using text processing tools or software like MS Word. If there is more than one contributor for same question, it is very difficult to manage following manual procedure.

**3.4 Attendance:**

**3.4.1 Description:**

Student attendance system deal with management of the student’s attendance details. It marks the student’s attendance on the basis of his/her presence in the institution on a particular day and maintains the same which later can be used for analysis purpose.

**3.4.2 Why Function Required:**

Manual process of marking student’s attendance is very tedious and data can’t be stored and retrieved efficiently. There are chances of misplacement of the data so this functionality will help to solve these problems.

**3.5 Announcement:**

**3.5.1 Description:**

Announcement functionality provides facility of notifying students about certain things such as work, holidays, results and other things which institution wants. Admin/Owner, Faculty, Tutor everyone can make announcements.

**3.5.2 Why Function Required:**

Sometimes the student may misinterpret the announcement or may not be able to get it. Some students may be absent or in some situation the institution wants to make an urgent announcement in such scenario announcement making functionality helps the institution to pass the information to student as soon as possible and it also helps the students to clearly understand the message conveyed to them even if they are absent.

**3.6 To do list:**

**3.6.1 Description:**

The functionality of to-do list helps the faculty to keep track of what is done in the academic curriculum and what is to be done. Through this functionality faculty can manage the academic activities easily.

**3.6.2 Why Function Required:**

Sometimes faculty may forget about some important topic that is needed to be covered or some important assignment that is to be given or anything important related to curriculum that is needed to be done can be mark in to do list so faculty do not forget about it and that work can be done on time.

**3.7 Fees and salary management:**

**3.7.1 Description:**

Student’s fees detail and faculty’s salary details can be stored in the database so that admin can keep track of how much fees a particular student has paid, how much salary has been paid and how much is yet to be paid.

**3.7.2 Why Function Required:**

This functionality helps admin to take necessary steps according to fee payment status of every student and remind students whose fees are yet too paid. This functionality also helps the owner to check the salary payment status of the faculties.

**3.8 Information provided to students:**

**3.8.1 Description:**

Student can view his/her result of the exam conducted by the institution. Student can access announcement passed to them by the institution. Student can also view his/her fee payment status.

**3.8.2 Why Function Required:**

Through announcements student can easily get official message conveyed to them by the institution. Fess payment status provides transparency between institution and student in terms of transaction.

**3.9Online exam and result generation:**

**3.9.1 Description:**

Students can give exams of the question paper generated by the faculty. The result of that exam is evaluated by the system immediately after the student submits his/her attempt.

**3.9.2 Why Function Required:**

The online exam helps the institute to ease the process of exams taken by the institution. The system provides question paper generation facility by the faculty of which student can give exam through this system. This also eases the evaluation process of these exams as the result is evaluated by the system itself.

**4. Other Non-Functional Requirements**

* The system should provide only authorized access
* The system interface should be easily understandable
* The interface should be same in any device