Software Requirements Specification (SRS)

Title: Hostel Management System (HMS)

Assignment # 4

Topic: Hostel Management System

Submitted to:

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Class BS (IT) 4th

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SRS 2

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And a student who is not studying this subject with us because of fails in a previous subject.
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Statement

This project is done bye all the group fellows of SRS 2. There are no specific persons for a specific data of the project and the SRS and the Questionnaire is done by all the group members. I assure you that this is prepared by our self and not copy from anywhere. we take all the data from the websites that are given in the reference.

Introduction

This system is designed in favor of the hostel management which helps them to save the records of the students about their rooms and other things. It helps them from the manual work from which it is very difficult to find the record of the students and the mess bills of the students, and the information of about the those ones who had left the hostel three years before.
We design this system on the request of the hostel management, through this they cannot require so efficient person to handle and calculate the things.
This system automatically calculates all the bills and issued the notifications for those students who are against some rules.

1.0 Project overview

1.1 Project statement

The hostel management needs to create the hostel management system (HMS) to organize the rooms, mess, students record and the other information about the students. how many students can live in a room, and the students of the hostel can be recognized from their ID card number.

1.2 Business Requirements

1.2.1 Descriptions

This software product the hostel management to improve their services for all the students of the hostel. This also reduce the manual work of the persons in admin penal and the bundle of registers that were search when to find the information of a previous student, because through this system you can store the data of those students who had leaved the hostel three years ago. Through this you can check the personal profile of all the current students within few minutes the data base of the system will help you to check a particular one. You can select the time of the student to use the internet by allocating the specific time to every student. The system will help you to check the mess bills of every student and the student's hostel dues. The students of the hostel will be recognized from the ID number allocated at the room rental time. This system also attach to the system of the library and the departments, so that t5hey can access the data of the particular student. In the last this system will improve the management work in the hostel.

1.2.2 Objectives

Stake Holder	**Objective**
Student	The student can store his or her information
Administrative	The warden can see the data of students

1.2.3 Process flow

There are four types of flow

- **Registration flow**

To take the membership of the hostel the students should tell the department's name to the hostel management system. He/she should fill his/her personal profile on the profile page. After this the warden issued ID # to him/her. So that the student can accessed bye his/her ID # in case of any problem or other thing.

- **Mess Flow**

When a student will use the mess his/her ID card will be scand by the system user at mess. A student can take only 2 messes at a time.

At the end of the month the hard copy of mess details issued to the student's room, which shows the detailed of his/her messes and all the dues of the mess

The student should pay the dues within 10 days after the issued of mess bill. In case of not paying dues the warning letter is issued against the student.

- **Room process flow**

A room will be allocated when a student is registered in the hostel. The allocation will be on the basis of the department, semester and the session of the student. A room is only for the two students.

The dues of the hostel is only for 1 semester and after the end of the semester the student should pay the next semester's dues. The student will pay the dues within 10 days after next semester.

In case of not paying the dues of the hostel at the announced date a warning is send to the student.

In case of the unavailability of a room the students will be entered in a waiting list when the room will be free the student will be told by the management of the hostel.

- **Database flow**

When the new student is arrived then the administrator easily enter a new entry in the database of the system. All the information about mess and other facilities is updated easily. This database should save the record of all the current users and the 3 years old students.

1.3 Definitions & Abbreviations

HMS	Hotel management system
User	The student who lived in the hostel.
Administrator	The warden of the hostel who manage all the things.
ID card	The card issued bye the hotel which contains the information of the student.
Database	the records of every current and old students is saved here.
Account number	The issued bye the HMS when the new students becomes the part of the hostel. This number is on the ID card of the student. This is user's ID.
Mess status	it tells the mess information of the students.
User's profile	It contain the student's personal information. e.g.. his name, father's name, his full address etc.

1.4 References

[1].DFD link from
http://nptel.iitm.ac.in/courses/Webcourse-contents/IISc-BANG/System%20Analysis%20and%20Design/pdf/Lecture_Notes/LNm5.pdf
[2].SRS material link from
http://www.kassoftindia.com/Product/GeniusAcademic/hostelmgt.htm

We take the material from the sites and follow the pattern you have given in the example.

2.0 Product descriptions

2.1 General Business Rules & Constraints

The system is desired to handle all the activities of the students as well as the administrative level. The system will have the ability to search the student's information about his/her room mess and all the other things. Once the current and previous record is entered then the database will be updated for the new students automatically.

This system is for hostel so that the primary users of the system are the students and the administrative penal.

The main constraint is the system registration is valid if the department has been approve that student is valid for the department.

The constrains are the amount of the hostel dues and the mess dues that are calculated in the system. These dues should be paid within 10 days. If anyone could not do the payment for some reason the system will notify the name of the student.

- System will uses warden of the hostel.
- The Hostel id card is necessary to use mess.
- Barcode is used to read the id of the student.
- Time constraint

2.2 General Assumptions

The following details any high level assumptions regarding the proposed changes including any restrictions regarding scope of the project. It also details any functionality limitations or environment or design limitation that may impact the design or delivery of the change. Details are also provided on any assumptions that may impact the requestor/customer/user.

Area	Descriptions
Hostel processes	All other hostel related functionality and/or processes will remain intact. The process and logic the system executes to manage the hostel user accounts will remain the same as the process before automation.
Databases	The underlying database to be used for this system is already in place as part of the standard infrastructure.
Administrator	Only the warden will administer the system. All other hostel employees will only have access permissions like any other users.

2.3 Risk Assessment.

This section provides a risk assessment for each assumption or constraint. Also contained in this section is the analysis of the impact and prediction of the response including quantification, where possible.

Area	Descriptions
Acceptance	The system automates many of the current manual process. This may render some of the hostel employees redundant which may make them work against the success of the project. To mitigate this, adequate communication will be undertaken to explain the benefits to be derived from the system.

3.0 Detailed Requirements

3.1 Functional Requirements

Registration

SRS001 **Add Users**
The Hostel Management System shall allow the warden to add new users to the system's database.

SRS002 **ID card**
The HMS shall generate an account number. This number will be the user's ID number.

SRS003 **User's Profile**
The HMS shall generate the user's profile containing the following information: user's account number, user's full name, user's address, user's phone number, user's room # and mess account #.

SRS004 **Room Allocation**
The HMS will allocate a room to student according to the session or class.
The room no. will store in the student's profile.

SRS005 **Mess A/C**
A mess account will also generate. This account having the mess status of the whole month. On the base of this account monthly charges of mess of a student will be defined.

SRS006 **User's Profile**
Profile of each user will be created before operating HMS including guardian to maximize the HMS security.

SRS007 **Student's Profile**
The HMS shall allow the hostel staff members or guardian to scan the student's ID and access its profile. Student dues status and mass A/C status can be accessed here.

SRS008 **Dues Status**
Student dues status will be changed in database according to dues pay or not.

SRS009 **Mess Status**
HMS will also having the detail of mess of a student and stored in database.

SRS0010 **Room Reservation**
The HMS will allow staff to put a hold on a room if any room is not available at the moment.

Database

SRS011 **Database Entities**
The HMS has entities users, students, room, mess A/C.

SRS012 The HMS will have in the room profile the following information: room no, type and capacity.

SRS013 **Student Search**
The HMS shall allow the users to search the students from the database according to different criteria such as by name, id or phone number.

SRS014 **User Search**
The HMS shall allow the users to search the user from the database according to different criteria such as by name, id or phone number.

SRS015 **Profile's Update**
The HMS will allow the guardian to access and update any student's, room, and HMS user's profile information.

SRS0116 **Room at leaving**
When a student will leave its room. Room will checkout and changes the status of room from room profile and student's registration will be cancelled.

Registration Options

SRS017 **Room Renewal**
The HMS will allow renewing the student's registration every year.

SRS018 **Cancel Registration**
The HMS will allow the guardian to cancel registration from the system's database who will leave room.

3.2 Non-functional Requirements

SRS019 **Performance**
The system shall support up to 2 students per room.

SRS020 **ID scanning**
The system requires the user to identify by using an ID card at the checkout point.

SRS021 **Access Permission**
The HMS shall have several types of access permissions. For instance, the warden is recognized as the system's administrator, thus, the warden shall be able to perform any type of activities on the system and both the user's and student profiles. At the same time, the other hostel staff members shall have restricted access to both the users' and student profiles. The public in general shall be restricted from accessing any user profile. However, they shall be granted a read access on the student profile.

SRS022 **Maintainability**
The system shall provide the capability to backup the database.

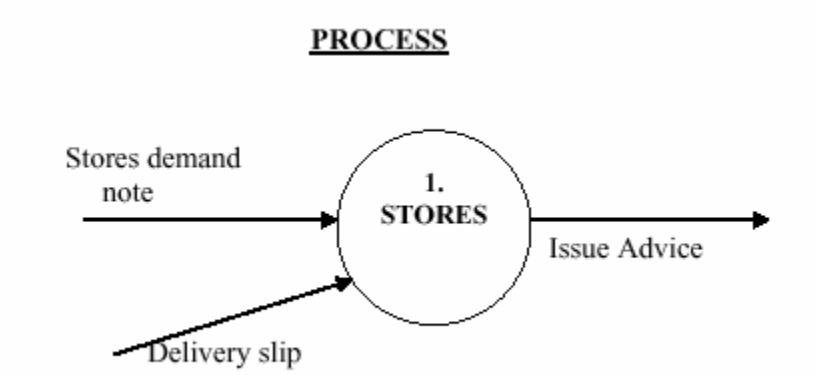
SRS023 **Reliability**
The system shall be available 99.9% of the time.

SRS024 **Other constrains**
The system shall support barcode scanning of ID cards and hostel issues.

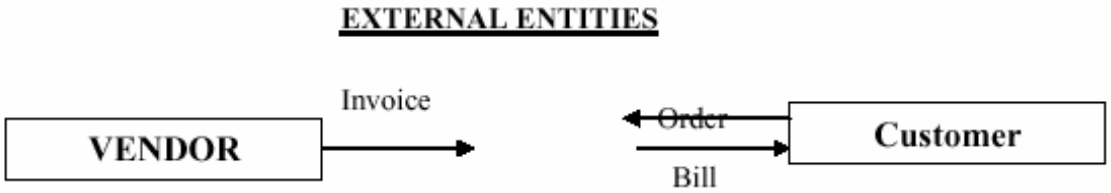
SRS025 The HMS shall be flexible and adaptable due to future plans of expanding the system.

4.0 Developing Data Flow Diagrams (DFD) Of Hostel Management system

4.1 SYMBOLS USED IN DFD



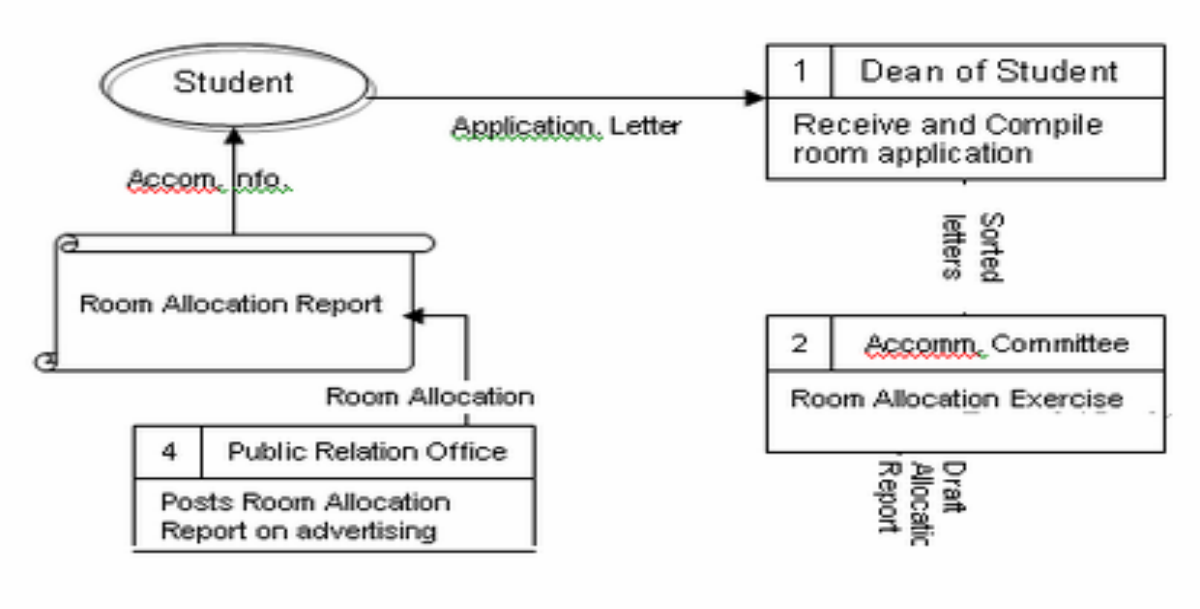
A circle represents a process
Straight lines with incoming arrows are input data flows Straight lines with outgoing arrows are output data flows Processes are given serial numbers for easy reference Labels are assigned to Data flow. These aid documentation



A Rectangle represents an external entity . They either supply data or receive data. They do not process data

A Data Store is a repository of data
Data can be written into the data store and this is depicted by an incoming arrow.
Data can be read from a data store and this is depicted by an outgoing arrow
External entity cannot read or write to the data store. Two data stores cannot be connected by a data flow
RULES OF DATA FLOW
•Data can flow from
-external entity to process
-process to external entity

4.2 DFD of Registration in Hostel



4.3 DFD of Mess in Hostel