SOFTWARE REQUIREMENT SPECIFICATIONS

GATE PASS MANAGEMENT SYSTEM

Version: 1.0

Prepared by: Group 3

VIT AP

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1. INTRODUCTION

1.1 PURPOSE

The purpose of this project is to provide the College, a software solution that delivers a scalable, secure, and reliable system that manages and reports Hostel Wardens, Parents, Students and Mentors about various requests and other information. The following SRS document will outline the features of the "Gate Pass Management System" and the requirements that the project will adhere to, in developing the software for the organization.

1.2 INTENDED AUDIENCE

This document is used by developers for understanding the requirements of the project; also, the intended users of this document are project managers for planning and scheduling, testers to generate test cases, document writers for preparation of user manual and for other end-users/stakeholders to validate their requirements.

1.3 PROJECT SCOPE

Gate Pass Management System is aimed at managing requests from Students. The system is intended to automate the process of addition, updating and reporting new request and updating corresponding records and views of the database. The objective of the project is to help the college speed up the procedure of Students Gate Pass approval, data and information processing and reduces the operational cost. Also, this software reduces the paper work, thus showing the concern towards conserving the environment.

The goal of the project is to reduce the time and cost incurred in an access to the database.

1.4 OPERATING ENVIRONMENT

Programming Language	JAVA
IDE	Eclipse EE
Database	Oracle 19c

1.5 DESIGN AND IMPLEMENTATION CONSTRAINTS

Design Constraints

Design mechanisms are limited to the capabilities of Object-Oriented Paradigm (i.e. Java) and Oracle 19c DB. The user interface must be viewable on a monitor with a 1024x768 resolution or larger.

Safety and Security Considerations:

Since personal information of Mentors and students, and official information about Hostels will be contained and accessed. Safety and Security considerations need to be taken into account that personal and sensitive information are not accessed by unauthorized users.

2. SYSTEM FEATURES

The end user having the software installed at his desktop should be able to login using the valid credentials. Post validation of the credentials entered; the system allows access to the database. Upon access the user should be able to perform operations like insert, delete, and update request as well as Hostel Warden and Mentor records into the database, and also search the database. Provision should be provided for the user to query the database to obtain various views of the data.

2.1 SYSTEM FEATURES

The Gate Pass Management System maintains details about Students, Hostel Wardens, Hostel, Mentors and Security Guards. This section describes the associated Functional requirements in the table below based on priorities

#	Module Name	Description	Priority	Functional Requirement
1.	Login	This will be used for authenticating users and provide an interface to	9	**Registration Page**:

| | | the various users in order to login. | | • Should be able to register new students and **add records in the student database**.

• Students are required to enter:

o Name : Maximum 25 Character Minimum 2 Character
o Roll No.: 9 alphanumeric string
o Email: should contain @vitap.ac.in
o Gender: Choose appropriate option
o Mentor: Mentor ID should start with EM
o Hostel Type: Should match the gender specified
o Room Number: 4 digit numeric
o Password: Maximum length 10 Minimum length 5

• All fields are mandatory.

• If same student tries to register again "Already Registered" error is displayed.

Login Page:

• Should accept the username and password

• The same constraints will be followed for Name and Password during login.

• A case insensitive comparison of the username to ease login and case sensitive comparison for password. |

				• If the correct user id and password is supplied then the portal corresponding to the user is displayed. • If an invalid user id or password is entered then the system should display error message "Invalid ID or password". • Username Format: Student : 18XXX7020 Parent : P18XXX7020 Mentor : EM_____ Guard: ES_____ Hostel Warden: EHW_____
2.	Menu	This feature behaves as a user interface to display the features of the database and guides the user to access the database	8	Prompts the user to make a choice with the 6 types of menus available. 1. <u>Request Menu:</u> Update, delete or add records to the request database. 2. <u>Summary Menu:</u> View statistical information regarding requests and leaves from the join of records from various databases. 3. <u>Request Status Menu:</u> View and update records in the request database. 4. <u>Admin Menu</u>: View, modify, update, add and delete data from hostel warden, hostel, guard and mentor database.

				5. <u>Time Update Menu:</u> View records in the request database and update corresponding records in leaves database. 6. <u>Profile Menu:</u> View data from corresponding database and update password.
3.	Request Menu	Provides an interface to the request database and modifies it accordingly.	8	This menu will help to add, update and delete request. **Add Request:** 1. Students can raise request. 2. Fields to fill while filling a request: From date : dd/mm/yyyy To date : dd/mm/yyyy Destination: Maximum 10 characters Request Type: Three options will be provided 3. Request ID will be automatically generated. It will be 23 characters long and alpha-numeric in nature and the format is "RollNo-Date-Time" 4. Request ID cannot be duplicated. 5. Valid date should be mentioned in the text field otherwise subsequent error will be thrown for invalid input or date. To date should be greater than From date. 6. If complete information is not filled before confirmation of generating a new request then an error will be thrown.

| | | | | 7. Three Types of Requests purposes: Medical, Outing and Vacation.

Update Request:

1. Only mentor and hostel warden can use this service.

2. All pending requests will be shown to the users and options in form of buttons will be provided with each request.

3. Options to Mentors :   Accept, Reject

4. Options to Hostel Warden: Accept
                                                    Reject
                                                    Reconsider

Accept Request
1. Available to two actors; Hostel Warden, Mentor.

2. If Mentor accepts the request then it gets transferred to the Hostel Warden. If the Hostel Warden also accepts the request then it is sent to the Leaves Database.

Decline Request
1. Available to three actors; Hostel Warden and Mentor.

2. If any of the actors decline the request then it is updated in the request database.

Reconsider Request
1. Only available to hostel warden. |

				2. Can send a request for reconsideration back to mentor with an internal private comment attached 5. Request will be shown will following details: Request Id Student Name Student Registration Number From Date To Date Destination Request Type Room Number Hostel Name

4.	Summary Menu	This feature generates a log sheet of status all previous requests and current requests of a particular student and various mathematical values.	8	**View Request:**
				
				The student user view previous requests.
				
				The search option is only available to the Hostel Warden, Mentor and Admin Users.
				
				Single Log format:
				  1. Each log has 4 properties:
				    a. Student Name
				    b. Student Registration Number
				    c. Request date
				    d. Request status
				    e. Mentor name
				
				Search by student
				  1. Accept student first name and last name **or** Registration number of 9 characters.
				  2. Show all logs of that particular student order by date.
				
				Search by Mentor

					1. Accept Faculty number which should start with 'EM' .
					2. Show all logs having mentor name as that particular faculty.
					Filter by status
					1. Shows all logs filtered by pending requests first
					2. Filter by date
					Shows all logs filtered by latest date first
					View All Databases:
					Various values that will help the users will also be provided. These values will be created with joins of various databases.
					Student User: Number total requests Number of active requests Number of Approved Requests Number of Rejected Request Times late
					Mentor User: Total Active requests Total requests
					Warden User: List of student out of college Total active requests Total requests
					Parent User: Number total requests Number of active requests Number of Approved Requests Number of Rejected Request

				Times late
5.	Request Status Menu	Provides an interface to view and modify the status of a request.	7	This menu is only visible to the student users where they can view all current requests and present status and also delete them. **Delete Request:** Requests that have not yet reached the hostel warden portal can be deleted by a student from the records database.
6.	Admin Menu	This interface provides administrative powers to the user who can view, delete and update various databases.	7	**Add Mentor:** 1. All fields are mandatory. 2. Mentor ID will start with 'EM'. 3. Mentor name should not exceed the 25-character limit. **Add Hostel Warden:** 1. All fields are mandatory. 2. Hostel Warden ID will start with 'EHW'. 3. Warden name should not exceed the 25-character limit. 4. Can only be added if corresponding hostel exists. **Add Hostel:** 1. All fields are mandatory. 2. Hostel ID will start with 'M/L H' followed by a number. 3. Two Hostel type entries valid; Men, Ladies. **Delete Mentor:**

| | | | | 1. All fields are mandatory.
2. Mentor ID will start with 'EM'.

Delete Hostel Warden:
1. All fields are mandatory.
2. Hostel Warden ID will start with 'EHW'.
3. Cannot be deleted if only one warden is present for that hostel.

Update Hostel Warden:

1. All fields are mandatory.
2. Hostel can be updated and Id should start from 'M\LH'.
3. Warden Id should start from 'EHW'

Update Hostel:

1. All fields are mandatory.
2. Hostel Id should start with "M\LH'
3. Only hostel total strength can be updated. |
| **7.** | Time Update Menu | This module will allow guard to check and confirm the in-time and out time for the student. | 6 | **Update Request:**

This menu is only visible to the "Guard" users.

In-time Menu:

1. The Student ids should be unique and should be 9 digits long.

2. It should contain 3 alphabets and 6 numeric digits

3. In case of wrong ID, it should display error message. |

				4. The in-time needs to be verified and should be b/w 6:00AM – 8:00PM if not the leave database is updated to "running late". (only for Outing type requests) 5. The in-time needs to be verified and should be before the leave ends (end date), if not the leave database is updated to "running late". (only for Vacation and Medical type requests) 6. To automate and make this process fairer, the security guard just needs to click in the "Register Time" button and the system time will be saved in the database. **Out-time Menu:** 1. View all outing requests for a particular day. 2. Can confirm the ID's of student on leaving form. 3. To automate and make this process fairer, the security guard just needs to click in the "Register Time" button and the system time will be saved in the database. 4. The button will not be activated until In-Time for a request is not registered.
8.	Profile Menu	This interface will help users to update various fields related to their corresponding profile.	6	**Update and View** This menu will help all users to update password for their account and view various information related to the profile

| | | | | which will be fetched from various databases.

Only Security and Parent user will not be shown this menu.

Profile Will contain following information:

Student user:

Name
Registration Number
Email Id
Hostel Name
Room Number
Hostel Warden Name
Hostel Warden Email
Mentor Name
Mentor Email
Times Late

Mentor User:

Name
Employee Id
Email Id
Mentee Names
Mentee Registration Numbers

Hostel Warden User:

Name
Employee ID
Employee ID
Hostel Name |

3. EXTERNAL INTERFACE REQUIREMENTS

3.1 USER INTERFACES

The GPMS should be a simple application used by its stakeholders with/without much technical knowledge.

Login Interface: This interface prompts the user to authenticate his/her credentials by asking username and password, so that only authorized users can log in to the system. Also, it displays error message and exits if the given credentials are wrong.

Request Interface: This interface will help in viewing, updating, adding requests to the database.

Profile Interface: This interface provides the users with the option to update the existing password and also view details of itself.

Time Update Interface: This interface provides the users with the option to update in time and out time of students on various requests.

Admin Interface: This interface provides the users with the option to add a new mentors, hostel warden and update the existing details and also view details of all the existing.

Request Status Interface: This interface provides the users with the option to add a new request, update the existing request details and also view details of all the existing requests.

Summary Interface: This interface provides the users with the option to view statistical information about the requests that have been made and history of all the requests.

3.2 HARDWARE INTERFACES

This software does not require any direct hardware interfaces.

c. SOFTWARE INTERFACES

Operating System	
Programming Language	Java 1.8
IDE	Eclipse EE
Database	Oracle 19c

In this application the software interfaces are:

- Windows 7 operating system serves as a platform for development and deployment of the College Management system software.
- Eclipse EE can be used for implementing the programming language.
- JDK 1.8 can be used for front end development.

3.4 COMMUNICATIONS INTERFACES

This software is a standalone system hence does not require any communication interfaces.

4. OTHER NONFUNCTIONAL REQUIREMENTS

#	Type of Requirement	Details
1	Performance Requirements	The Gate Pass Management system should be able to run on a standalone computer. As the database grows the intended performance with respect to report generation and accessing of data should not be affected.
2	Availability Requirements	This software is completely replacing the traditional system which is in place. Hence the system must be able to provide accurate data to all the users with valid credentials. The scheduled maintenance time should not require more than 3hrs per week and make the software unavailable.
3	Training Requirements	The GUI should be user-friendly and provide self-learning with a training time of not more than 3hrs.