**Proposed level of achievement**

Gemini

**Motivation**

At the end of the semester, you, a RVRC student, are about to prepare for your oral presentation for your group project, which you did with your fellow RC mates. The discussion rooms in RVRC are the best choice for your practices. They are equipped with facilities that can help simulate a similar environment for the actual presentation. However, you are not the only one eyeing at the discussion rooms. At the same time, more than fifty other groups are thinking the same as you. To secure the precious 2-hr usage of the discussion room, you will have to go to each discussion room, and check the hand-written booking schedule pasted onto the door of the room. 5 minutes have past and you finally finish checking all the doors with false hope. While telling your groupmates about the bad news, you are not aware that there is another group who made full use of the rule that one person can only book the room for 2 hours each day --- the group successfully booked the room for the whole day using different names.

Above is a scenario that frequently happens to a RVRC student during the presentation season. From the scenario, we can see that there are several problems with the system above:

For the students:

1. It is time consuming
2. It is easily exploited without any cost:
   1. Multiple bookings by the same group
   2. Inability to regulate and monitor bookings and cancellations (e.g. some people use other people’s names to book the room without asking for permissions or cancel your booking by striking it through)
3. The room resources are allocated unfairly
4. It is insecure --- the paper schedule is easily lost or tampered with

For the administration staff:

1. It is strenuous to monitor the state of the rooms (e.g. compare the booking schedules for different rooms to check for repetitive booking; maintain a log for room usage and the state of facilities etc.)

**Aim**

We aim to build a website that allows for online booking and monitoring of the state of the rooms during the presentation season.

**Scope and Features**

The website provides information regarding the state of rooms and facilities inside. Upon login, the student is able to make or cancel his/her booking of the room on behalf of his/her group. The administration staff is able to keep track of the room usage and booking requests easily.

Below are the features we would like to implement:

|  |  |  |  |
| --- | --- | --- | --- |
| Feature | User role | Desired outcome and benefit | Remark |
| 1. RVRC students and staff login | Current RVRC students and staff are to login to the system using NUSNET ID | * To prevent outsiders from manipulating the system * To allow for group registration (Feature 2) * To allow the staff to monitor the booking made by groups |  |
| 1. Group Registration | RVRC students are to register their groupings on the system | * To prevent multiple booking by a single group |  |
| 1. Grouping information available to all current members of RVRC | RVRC students and staff are able to view the groupings | * To allow for peer monitoring of irresponsible room usage |  |
| 1. Indication of state of rooms | RVRC students and staff are able to view the state of rooms and who booked the rooms | * To allow for viewing of the availability of the room |  |
| 1. Indication of state of facilities in the room | RVRC students and staff are able to view the state of facilities | * To maximize the room usage: groups can choose the rooms based on the facilities they need |  |
| 1. Make a booking | RVRC students are able to book the room | * To allow a group to book a room for 2hr each day; any member of the group can make the booking |  |
| 1. Cancellation of booking | RVRC students are able to cancel their booking of the room | * To allow a group to cancel their booking; any member of the group can cancel the booking |  |
| 1. Report of irresponsible room usage | RVRC students and staff are able to report the irresponsible behaviors when using the rooms. The report will then be processed by admin. | * To maximize the room usage * If the report is accepted, the group being reported will receive a warning (Feature 10) | * Anytime during the period booked, at least half of the members of the group which made the booking should be present in the room * The discussion room is strictly for studying and discussion. |
| 1. Report of unfunctional facility | RVRC students and staff are able to report the malfunctioning of the facilities. The report will then be processed by admin. | * To allow for immediate maintenance |  |
| 1. Display of number of warnings that the group receives | RVRC students are able to view the number of warnings their own group has received. | * To deter irresponsible room usage | * Three warnings = ban from using the rooms for the semester |
| 1. Management of the state of the room and facilities by admin | RVRC admin is able to change the state of the rooms and facilities displayed on the website | * To update the state of rooms quickly |  |

**How are we different from similar platforms?**

Some people might suggest using **Google Spreadsheet** for such purpose. However, Google Spreadsheet does not have the security feature of RVRC student login and still runs under the honor code, which makes the system prone to exploitation. Moreover, it is inconvenient for the users to save the link to the Spreadsheet somewhere and it requires manual updating, which is troublesome.

**Technologies and tools to be used**

JavaScript, NodeJS

**A development plan**

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| --- | --- |
| 1st and 2nd week of June | Learning whatever technology needed for the project |
| 3rd week of June | Building the booking and searching system |
| 4th week of June | Testing and debugging |
| 1st and 2nd week of July | Adding other features to the system |
| 3rd week of July | Testing and debugging |
| 4th week of July | Final enhancement (if any) |