1. **Sprint 1**
   1. Project Initiation
   2. Project Overview
   3. Target Audience Analysis
   4. Product Backlog
   5. Sprint Breakdown
      1. Sprint 1
      2. Sprint 2
      3. Sprint 3
      4. Sprint 4
   6. Progress chart
   7. Logo design
   8. Banner design
   9. Review of Technology
      1. Review of Languages
      2. Review of Database
   10. Assumptions
   11. Requirement Analysis
       1. General Requirements
       2. Functional Requirements
       3. Non-Functional Requirements
   12. Sprint 1 – Burndown Chart
2. **Sprint 2**
   1. Database Design
      1. Data Dictionary
      2. Database Structure
      3. Normalisation
      4. Entity-Relationship-Diagram (ERD)
   2. Security & validation (Login feature)
   3. User Access Control
   4. User Access Rights
   5. Validation checks
   6. Navigational Map/ Mental Map
   7. Draft Website/Pages
   8. Wireframe design of the site/story board
   9. Sprint 2 – Burndown Chart
3. **Sprint 3 (Implementation)**
   1. Functionalities
   2. List of functions
   3. Reports generation format
   4. Sprint 3 – Burndown Chart
4. **Sprint 4**
   1. UML Diagrams
   2. Use Case Diagram
   3. Sequence Diagram
   4. State Transition Diagram
   5. User Interface Design
   6. Validation of Input
   7. Screencast
   8. Sprint 4 – Burndown Chart
5. Sprint 1
   1. Project Initiation

Geylang Academy (GA)is a big well known university both international and locally. As they gain more and more student over the time, their IT infrastructure manager approaches us, a group of programmer, to work on their Course Monitoring System (CMS), in which the university specially requested a web-based CMS that is securely coded, and will only granted access for registered user, under different tier rights, based on their login credentials. We had also been informed that this website that we are working on, must be able to adapt with multiple operating environment (e.g. mobile, tablet, and desktop).

* 1. Project Overview

The reason for embarking on this project is to create a secure, role-based system for course monitoring reports (CMR) in a large university. This project finds a solution for the problem by implementing a website which thoroughly manages the CMRs through a database solution and generates various reports which gives the Faculties in-depth analysis on each course available. The website will also incorporate responsive design which enables the website to be viewed optimally on a various range of clients.

* 1. Target Audience Analysis

The audience for this website is staff at the University. Specifically, the Pro-Vice Chancellor (PVC) of a Faculty, the Director of Learning and Quality (DLT) of a Faculty, the Course Leader (CL) of a Faculty, the Course Moderator (CM) of a Faculty, the Administrator of the system, and a Faculty guest using the guest account. The system will enable the CL to submit a CMR which will be stored in a database, and a copy will be sent to the CM for approval. Once approved by the CM, a copy is sent to the PVC and DLT of each Faculty. CL and CMs can access their own CMRs only until approved, PVC and DLTs can access all approved CMRs for all faculties. The Administrator can maintain the course data, roles and staff information. A guest account for each Faculty will be able to be used to access statistical and exception reports.

* 1. Product Backlog

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| --- | --- |
| Product Backlog Item | Defining the Project Overview and Initiation |
| User Story | To understand the reasons for embarking on the project and to understand the Project Requirements |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of Project Overview and Product Initiation is generated |

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| --- | --- |
| Product Backlog Item | Defining the Target Audience |
| User Story | To understand the users of the system which will enable the project to meet user requirements |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of Target Audience is Generated |

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| Product Backlog Item | Estimation of project duration and creation of the Progress Chart |
| User Story | To estimate the duration of the project and to create a progress chart which serves as an outline to the project |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Progress Chart is Generated |

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| Product Backlog Item | Defining of a Sprint Breakdown for the Project |
| User Story | To define tasks to be carried out in each sprint |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Documentation of the Sprint Breakdown is Generated |

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| --- | --- |
| Product Backlog Item | The designing of a Logo and Banner Design |
| User Story | To design a Logo for the website and design a banner for the website |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of the Banner and Logo is Generated |

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| Product Backlog Item | Deciding on the Programming Language to use |
| User Story | To decide on an appropriate programming language for use |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of chosen programming language is generated |

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| Product Backlog Item | Deciding on the Database Technology to use |
| User Story | To appropriately choose a database technology to use |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of chosen Database Technology is generated |

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| Product Backlog Item | Deciding on Assumptions |
| User Story | To decide on relevant assumptions which can be made in accordance to the project |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Assumptions is generated |

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| --- | --- |
| Product Backlog Item | Defining of General Requirements |
| User Story | To define the general requirements of the system |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of the General Requirements is generated |

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| Product Backlog Item | Defining of Functional Requirements |
| User Story | To define the Functional Requirements of the system |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of the Functional Requirements is generated |

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| Product Backlog Item | Defining of Non-Functional Requirements |
| User Story | To define the Non-Functional Requirements of the system |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of the Non-Functional Requirements is generated |

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| Product Backlog Item | Creation of a Data Dictionary |
| User Story | To create a Data Dictionary which outlines the information on the tables and fields in the Database |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Documentation of the Data Dictionary is generated |

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| --- | --- |
| Product Backlog Item | Defining the Database Structure |
| User Story | To design the structure of the database |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Database Structure is generated |

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| --- | --- |
| Product Backlog Item | Normalization of data |
| User Story | To normalise the fields in the database |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of the Data Normalisation is generated |

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| --- | --- |
| Product Backlog Item | Creation of an Entity Relationship Diagram (ERD) |
| User Story | To create an Entity Relationship Diagram which better explains the database conceptually |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of the Entity Relationship Diagram (ERD) is generated |

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| --- | --- |
| Product Backlog Item | Defining Security Features of the Website |
| User Story | To review available security technologies and choose security technologies for the website as appropriate |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Documentation of the website security features is generated |

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| --- | --- |
| Product Backlog Item | Defining User Access Control for the website |
| User Story | To define user access levels for the various users of the website and to distinguish features for each user level |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Documentation of the user access control is generated |

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| --- | --- |
| Product Backlog Item | Defining appropriate validation checks for the website |
| User Story | To appropriately define validation checks for the different pages on the website in accordance with the security features |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the validation checks is generated |

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| --- | --- |
| Product Backlog Item | Creation of a Mental Map/Navigation Map |
| User Story | To create a Navigation Map of the website displaying the website navigation |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Navigation is Generated |

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| --- | --- |
| Product Backlog Item | Creation of a draft website design (Wireframe) |
| User Story | To create a draft visual layout of the website to indicate the overall layout of the design and the various controls |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Wireframe layout design of the website is created |

|  |  |
| --- | --- |
| Product Backlog Item | Defining Functionality for the website |
| User Story | To thoroughly outline the various functionalities for the Website |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Website Functionality is generated |

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| --- | --- |
| Product Backlog Item | Designing of Reports |
| User Story | To indicate the design of the various reports the system will generate |
| Estimated Duration | 2 Days |
| Acceptance Criteria | The designing of each report is complete |

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| --- | --- |
| Product Backlog Item | Development of Website |
| User Story | To develop the website according to specifications and the indicated design |
| Estimated Duration | 14 Days (Concurrent with Testing) |
| Acceptance Criteria | Initial development of prototype website is complete |

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| Product Backlog Item | Creation of a Use Case Diagram |
| User Story | To create a Use Case diagram indicating the various use cases of the system |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Use Case Diagram is complete |

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| --- | --- |
| Product Backlog Item | Creation of a Sequence Diagram |
| User Story | To create a Sequence Diagram which will accurately display the flow of a single CMR report |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Sequence Diagram is complete |

|  |  |
| --- | --- |
| Product Backlog Item | Creation of a State Transition Diagram |
| User Story | To create a State Transition Diagram for the system which will show the behaviour of the system |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the State Transition Diagram is complete |

|  |  |
| --- | --- |
| Product Backlog Item | Defining of the User Interface Design |
| User Story | To define the design of the User Interface and to create an appropriate user experience |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Documentation of the User Interface Design is complete |

|  |  |
| --- | --- |
| Product Backlog Item | Designing Input Validation |
| User Story | To appropriately design the input validation for the various fields and controls throughout the website in accordance with the specification |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Designing and Documentation of the Input Validation is complete |

|  |  |
| --- | --- |
| Product Backlog Item | Creation of the Screencast for the website |
| User Story | To create an informational video disseminating information on how to use the website/system to potential users |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Creation of the Screencast is complete |

|  |  |
| --- | --- |
| Product Backlog Item | Creation of Test Plans |
| User Story | To create robust test plans which thoroughly test the website functions and controls, and the database |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Creation and Documentation of the Test Plans is complete |

|  |  |
| --- | --- |
| Product Backlog Item | Software Testing |
| User Story | To test the software according to the test plans which indicate the quality of the final product |
| Estimated Duration | 21 Days (Concurrent with Development) |
| Acceptance Criteria | Documentation of testing is complete |

|  |  |
| --- | --- |
| Product Backlog Item | System Testing |
| User Story | To test the various systems which make up the final product in accordance with the test plans to indicate whether the systems interact with each other |
| Estimated Duration | 21 Days (Concurrent with Development) |
| Acceptance Criteria | Documentation of testing is complete |

|  |  |
| --- | --- |
| Product Backlog Item | Compatibility Testing |
| User Story | To test the final product to ensure the product complies with compatibility requirements (Responsive Design) |
| Estimated Duration | 7 Days (Concurrent with Development) |
| Acceptance Criteria | Documentation of testing is complete |

|  |  |
| --- | --- |
| Product Backlog Item | Creation of Test Log |
| User Story | To provide an outlet for the recording of test plan results in accordance with the test plan |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Creation and documentation of the test log is complete |

* 1. Sprint Breakdown

**Sprint 1**

|  |  |
| --- | --- |
| Product Backlog Item | Defining the Project Overview and Initiation |
| User Story | To understand the reasons for embarking on the project and to understand the Project Requirements |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of Project Overview and Product Initiation is generated |

|  |  |
| --- | --- |
| Product Backlog Item | Defining the Target Audience |
| User Story | To understand the users of the system which will enable the project to meet user requirements |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of Target Audience is Generated |

|  |  |
| --- | --- |
| Product Backlog Item | Estimation of project duration and creation of the Progress Chart |
| User Story | To estimate the duration of the project and to create a progress chart which serves as an outline to the project |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Progress Chart is Generated |

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| --- | --- |
| Product Backlog Item | Defining of a Sprint Breakdown for the Project |
| User Story | To define tasks to be carried out in each sprint |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Documentation of the Sprint Breakdown is Generated |

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| Product Backlog Item | The designing of a Logo and Banner Design |
| User Story | To design a Logo for the website and design a banner for the website |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of the Banner and Logo is Generated |

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| Product Backlog Item | Deciding on the Programming Language to use |
| User Story | To decide on an appropriate programming language for use |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of chosen programming language is generated |

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| Product Backlog Item | Defining of General Requirements |
| User Story | To define the general requirements of the system |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of the General Requirements is generated |

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| Product Backlog Item | Defining of Functional Requirements |
| User Story | To define the Functional Requirements of the system |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of the Functional Requirements is generated |

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| --- | --- |
| Product Backlog Item | Defining of Non-Functional Requirements |
| User Story | To define the Non-Functional Requirements of the system |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of the Non-Functional Requirements is generated |

**Sprint 2**

|  |  |
| --- | --- |
| Product Backlog Item | Creation of a Data Dictionary |
| User Story | To create a Data Dictionary which outlines the information on the tables and fields in the Database |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Documentation of the Data Dictionary is generated |

|  |  |
| --- | --- |
| Product Backlog Item | Defining the Database Structure |
| User Story | To design the structure of the database |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Database Structure is generated |

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| Product Backlog Item | Normalization of data |
| User Story | To normalise the fields in the database |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Documentation of the Data Normalisation is generated |

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| User Story | To create an Entity Relationship Diagram which better explains the database conceptually |
| Estimated Duration | 1 Day |
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| Product Backlog Item | Defining Security Features of the Website |
| User Story | To review available security technologies and choose security technologies for the website as appropriate |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Documentation of the website security features is generated |

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| --- | --- |
| Product Backlog Item | Defining User Access Control for the website |
| User Story | To define user access levels for the various users of the website and to distinguish features for each user level |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Documentation of the user access control is generated |

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| Product Backlog Item | Defining appropriate validation checks for the website |
| User Story | To appropriately define validation checks for the different pages on the website in accordance with the security features |
| Estimated Duration | 2 Days |
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| Product Backlog Item | Creation of a Mental Map/Navigation Map |
| User Story | To create a Navigation Map of the website displaying the website navigation |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Navigation is Generated |

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| --- | --- |
| Product Backlog Item | Creation of a draft website design (Wireframe) |
| User Story | To create a draft visual layout of the website to indicate the overall layout of the design and the various controls |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Wireframe layout design of the website is created |

**Sprint 3**

|  |  |
| --- | --- |
| Product Backlog Item | Defining Functionality for the website |
| User Story | To thoroughly outline the various functionalities for the Website |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Website Functionality is generated |

|  |  |
| --- | --- |
| Product Backlog Item | Designing of Reports |
| User Story | To indicate the design of the various reports the system will generate |
| Estimated Duration | 2 Days |
| Acceptance Criteria | The designing of each report is complete |

|  |  |
| --- | --- |
| Product Backlog Item | Development of Website |
| User Story | To develop the website according to specifications and the indicated design |
| Estimated Duration | 14 Days (Concurrent with Testing) |
| Acceptance Criteria | Initial development of prototype website is complete |

**Sprint 4**

|  |  |
| --- | --- |
| Product Backlog Item | Creation of a Use Case Diagram |
| User Story | To create a Use Case diagram indicating the various use cases of the system |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Use Case Diagram is complete |

|  |  |
| --- | --- |
| Product Backlog Item | Creation of a Sequence Diagram |
| User Story | To create a Sequence Diagram which will accurately display the flow of a single CMR report |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the Sequence Diagram is complete |

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| --- | --- |
| Product Backlog Item | Creation of a State Transition Diagram |
| User Story | To create a State Transition Diagram for the system which will show the behaviour of the system |
| Estimated Duration | 2 Days |
| Acceptance Criteria | Documentation of the State Transition Diagram is complete |

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| Product Backlog Item | Defining of the User Interface Design |
| User Story | To define the design of the User Interface and to create an appropriate user experience |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Documentation of the User Interface Design is complete |

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| Product Backlog Item | Designing Input Validation |
| User Story | To appropriately design the input validation for the various fields and controls throughout the website in accordance with the specification |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Designing and Documentation of the Input Validation is complete |

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| Product Backlog Item | Creation of the Screencast for the website |
| User Story | To create an informational video disseminating information on how to use the website/system to potential users |
| Estimated Duration | 1 Day |
| Acceptance Criteria | Creation of the Screencast is complete |

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| Product Backlog Item | Creation of Test Plans |
| User Story | To create robust test plans which thoroughly test the website functions and controls, and the database |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Creation and Documentation of the Test Plans is complete |

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| Product Backlog Item | Software Testing |
| User Story | To test the software according to the test plans which indicate the quality of the final product |
| Estimated Duration | 21 Days (Concurrent with Development) |
| Acceptance Criteria | Documentation of testing is complete |

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| Product Backlog Item | System Testing |
| User Story | To test the various systems which make up the final product in accordance with the test plans to indicate whether the systems interact with each other |
| Estimated Duration | 21 Days (Concurrent with Development) |
| Acceptance Criteria | Documentation of testing is complete |

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| Product Backlog Item | Compatibility Testing |
| User Story | To test the final product to ensure the product complies with compatibility requirements (Responsive Design) |
| Estimated Duration | 7 Days (Concurrent with Development) |
| Acceptance Criteria | Documentation of testing is complete |

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| --- | --- |
| Product Backlog Item | Creation of Test Log |
| User Story | To provide an outlet for the recording of test plan results in accordance with the test plan |
| Estimated Duration | 3 Days |
| Acceptance Criteria | Creation and documentation of the test log is complete |

* 1. Progress Chart
  2. Logo Design



The Logo represents the history and the stellar ethos of Geylang Academy.

* 1. Banner Design



The banner incorporates the Geylang Academy logo as well as the logo for BullyTrack.

* 1. Review of Technology
     1. Review of Languages

HTML & CSS is the most common tools for creating websites, if you look at the source code of any page, you will see that among all online projects, most of it is written on HTML with CSS. This is partly due to the fact that hypertext markup language is easy to master and to understand the basics of it in a short time.

HTML is the most democratic language, as it optimally supported and interpreted by internet explorer.

After all browsers operate on different engines, HTML allows delicately adjust the pages under any browser.

PHP allows us to create and display information from the database remotely, and create or edit images, read and write files, the capabilities of the language are limitless. PHP supports Apache and MySQL, and it has caused further growth of its popularity. Those who are familiar with Apache may have noticed that this is currently the most commonly used Web server in the world.

So the combination of Apache, PHP and MySQL, can create full-featured web applications.

In addition, PHP can run on all major operating systems. Speed ​​is also important for the development for web-masters as PHP can separate the HTML source script elements, it significantly reduces the time of development of projects. In many cases, even during the construction phase of the project, you can create HTML code and PHP code, and then combine them into one file. This not only makes life easier for the programmer, but also eliminates the obstacles that stand in the way of efficient and flexible designs.

* + 1. Review of Database

MySQL is a solution for small and medium-sized applications. Included in the following servers: WAMP, AppServ, LAMP and portable build web-servers such as Denwer, XAMPP, Open Server, TopServer and many others. Usually, MySQL is used as a server that is accessed by local or remote clients, but the distribution includes a library of internal server that allows MySQL to include a stand-alone program.

Advantages of MySQL:

- Easy to use - from download to complete installation it takes 15 minutes.

- Low total cost of ownership - deploy MySQL to mission-critical applications with substantial savings compared with Microsoft SQL Server

- Scalability and Performance - compliance to the scalability and performance of the busiest web sites and most demanding applications.

Flexibility of MySQL provides support for many types of tables: users can select either table type MyISAM, support full-text search, and the table InnoDB, supporting transaction-level records. Moreover, the MySQL database comes with a special type of tables EXAMPLE, demonstrating the principles of creation of new types of tables. The open architecture and GPL-licensed, in the MySQL database are always new types of tables.

* 1. Assumptions
* CMR that is not commented within 14 days by the DLT will automatically be deleted.
* Guest account will not be able to do anything other than viewing the approved CMRs.
* Administrator will have all access to every file saved on the system.
* If CMR is not approved by the CM within 14 days, the CMR will be deleted.
  1. Requirement Analysis
     1. General Requirements

All courses are identified by a Course Code (eg C12345) and are assigned to Faculties. All Faculties have a Pro-Vice Chancellor (PVC) and a Director of Learning and Quality (DLT). Every course is assigned a Course Leader (CL) and a Course Moderator (CM) for an Academic year. A CL may have one or more courses to report on, and needs to do a CMR each Academic year for each course. Once a CMR is submitted by the CL, the system emails a copy of the CMR to the CM for approval. Once approved by the CM, a copy of the CMR is also sent to the PVC and DLT of the Faculty. An administrator account is to be used to maintain the data of courses, staff and roles. A guest account for each Faculty can be used to view approved CMRs and to see statistical reports and exception reports. All CMRs must be commented on by the DLT for the Faculty within 14 days. The interface must be suitable for all devices (eg mobile phones, tablets, desktops)

* + 1. Functional Requirements

Description: To enter into this site user has to register himself first. Requirements of registration are first name, user name, email-id, password, confirm password etc.

Input: user Details

Output: Filled Registration Details.

Processing: User details are checked with database. Password constraint is checked as per validation.

* + 1. Non-Functional Requirements

The system need to be reliable. If unable to process the request then appropriate error message. Web pages are loaded within few second.

* 1. Sprint 1 Burndown Chart

1. Sprint 2
   1. Database Design
      1. Data Dictionary
      2. Database Structure
      3. Normalisation
      4. Entity Relationship Diagram (ERD)
   2. Security & Validation (Login Feature)

**Security:**

1. Passwords shall not be stored unobstructed. The system uses SHA256 hash algorithm to encode passwords. The length of salt used is 25 typescripts.
2. Timestamps are only stored in cookie files on the client side and the system checks for authorization data and has a record of the session in the database.
3. The website will include a permission system which allows access control of users to certain functions or pages. Permissions can be easily amended.

**Validation:**

1. Checking for alphanumeric typescripts
2. Validation of data formats (e.g. date)
3. Checking for matches in the database (for new records)
4. Length of strings
   1. User Access Control

The system will contain a number of different user elevations/user groups. The rights of the user accounts will change with the different user elevations available. The different accounts on the system will include the Administrator account, an account for each Pro-Vice Chancellor (PVC) and Director of Learning and Quality (DLT) account, and an account for each Course Leader (CL), and Course Moderator (CM). There also will be a guest account for each Faculty.

* 1. User Access Rights

|  |  |  |
| --- | --- | --- |
| **Account** | **CMR Access** | **Account Access** |
| Administrator | Full Access (View, Add, Edit, Delete) | Full Access (Add account, edit account, delete account, reset password) |
| Pro Vice Chancellor | Partial Access (View Approved CMRs) | No Access |
| Director of Learning & Quality | Partial Access (View Approved CMRs) | No Access |
| Course Leader | Partial Access (Add, View own CMRs) | No Access |
| Course Moderator | Partial Access (View, Edit (Add | No Access |
| Guest Account | Limited Access (View approved CMRs, view reports) | No Access |

* 1. Validation Checks

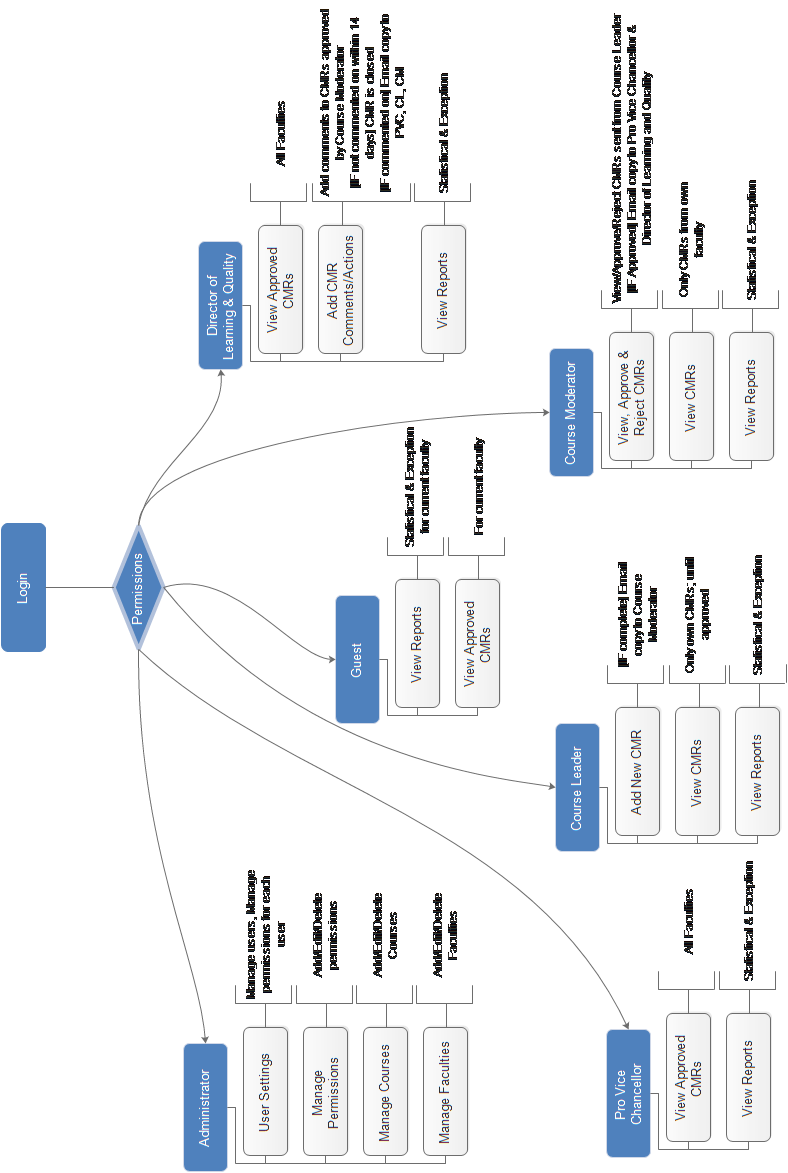
Validation check is a computer automated checking which is performed as it is codded by the programmer. There are quite a lot of variant of validation check, some of which that are commonly encountered are; *Allowed Character Check*, in which the system will check if the data entered are allowed or not, for example a phone field will only allowed numeric data from “0 to 9” to be entered and nothing else, or an email address field will have required at least one “@” symbol to be added to the string of data.

Another kind of regularly encountered piece of validation is *Format Check*, in which the computer system will automatically check for the consistency of the entered data, for example date of birth field will have “DD/MM/YYYY” entered in that order and manner.

One of the simplest validation check is probably *Presence Check*, in which the computer will capture whether the required field has been populated with data or not, presence check, however, will not analyze whether the data entered are correct and accurate or not, they will only simply check for whether or not the field had been populated with data.

There is also *Consistency Check* to be performed at some level of data entries, where the computer will make sure that the data entered are consistent, example of it is; “If the customer reside in Singapore, their telephone number must start with +65 and nothing else”.

* 1. Navigational Map/Mental Map



* 1. Draft Website/Pages
  2. Wireframe Design of the Website/Storyboard
  3. Sprint 2 – Burndown Chart