2.2.4. Design Constraint

Programming language:

Operating system:

We were asked by clients to make the services available across all platforms, along with IOS and Android.

Framework:

The client has not specified, so any framework we think is more appropriate can be used.

Front-end graphic style:

The client seeks a bright hue to make it look more enchanting and there should be the use of bold letters.

Design approach:

The client advised object-oriented design, which includes both top-down and bottom-up approaches.

Software Architecture:

Instead of using local architecture, the client suggested using a distributed architecture.

2.2.5. Commercial Constraints (Total Project)

Schedule:

The client has set a deadline of mid-July for the design and study to be completed and the final product should be delivered to the customer by November 20th.

Estimated Budget:

Around £250,000

The expected budget is shown in the table below based on factors like:

1. The amount of time it took to finish the work and the estimated staffing costs.
2. The cost and the resources of the project.
3. Necessary gain margin

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Project Information | |  |  |  | |  |
| Overall Project  Duration(week) | | 5 |  |
| Wage per hour: | | £ 20.0 |  |
| The Number of employees: | | 6 |  |
|  | |  |  |
| Project breakdown | |  |  |  |  |  |
| Section | | Weeks | Hours per week/p | person | Total person | Total wage |
| Requirement specification | | 1 weeks | 30 hours |  | 1 | £ 4,000 |
| Design and analysis | | 1 weeks | 30hours |  | 1 | £ 10,000 |
| Project build breakdown | |  |  |  |  |  |
|  | |  |  |  |  |  |
| Website | | 5 weeks | 40 hours |  | 6 | £ 24,000 |
| Database management | | 4 weeks | 40 hours |  | 4 | £ 40,000 |
| Testing | | 1 week | 40 hours |  | 5 | £ 4,000 |
| Evaluation | | 1 week | 40 hours |  | 5 | £ 6,000 |
|  |  |  |  |  | |  |
| Added costs | |  |  |  |  |  |
| Reason | | Cost |  | |  |  |
| Software/Hardware | | 5000 |  | |  |  |
| Office charge | | 2500 |  | |  |  |
|  |  |  | | | | |
| Entire build cost | |  |  | |  |  |
|  |  |  | | | | |
| Other expenses (10%) | | £5000 |  | |  |  |
| Profit margin () | | 59% |  | |  |  |
|  |  |  | | | | |
| Overall project cost | | £262500 |  | |  |  |

3. **System Analysis and Design (Records Management System)**

System analysis and design relate to the procedure of analyzing a company problem to optimize it through better practices and approaches. It can also be termed as the procedure of planning a new system, or one to replace or complement an existing system which basically focuses on continuous improvement and achieving profitable growth targets.

This section includes the system analysis and design documentation. The system will be built using the PHP MVC design, which separates user views, access to data, and logical web application features. All the data will be stored in a MySQL database.

3.1. Preliminary design stages

The preliminary design stage is a decision-making process whose goal is to explore if the existing system's issue or shortcoming is actual. Certain features of a project's viability could be reinvestigated by the development team. The desire to continue or terminate the contract is the eventual consequence.

3.1.1. Textual analysis

A textual test is a means of understanding how individuals make logical sense of and convey life and life events by deciphering the words, signs, and/or visuals included in writings. Graphic, textual, and spoken information often provide indications for the study demonstrated. Sociocultural systems are generally regarded as altering and reflecting ideas.

Appropriate classes and behaviors would be featured in the textual analysis contingent on the instruction, materials, and workshops that were supplied.

|  |  |  |
| --- | --- | --- |
| S.N | Applicant category | Applicant features |
| 1 | Student | Create\_student, Amend\_student, Archive\_student, Display\_student, Assign\_student |
| 2 | staff | Create\_staff, Amend\_staff, Archive\_staff, Display\_staff, Assign\_staff |
| 3 | Course | Create\_structure\_course, Amend\_course, Display\_course, Delete\_course, Archive\_course |
| 4 | Module management | Create\_module\_management, Amend\_module management, Delete\_module\_management, Archive\_ module\_management, Display\_module\_management, Assign\_modulemanagement |
| 5 | Assignment management | Create\_assignment\_management,  Amend\_assignment\_management, Delete\_assignment\_management, Archive\_assignment\_management, Display\_assignment\_management, Assign\_assignment\_management, Mark/Grade\_assignment\_management |
| 6 | Attendance records | Create\_attendance, Amend\_attendance, Archive\_attendance, Monitor\_attendance, Display\_attendance, Action\_Poor\_Attendance |

3.1.2. Significant event analysis

Significant event analysis outline some of the possible actions that various kinds of users may do when using the system.

**STUDENT**

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Events | Performer | Associated fields |
| 1 | View student | Administrator, Manager | University id, full name |
| 2 | Add student | Administrator | Full name, email, password |
| 3 | Edit student | Administrator | Full name, email, university id |
| 4 | Delete student | Administrator | University id, full name |

**STAFF**

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Events | Performer | Associated fields |
| 1 | View staff | Administrator, Manager | Id, full name, duty, address |
| 2 | Add staff | Administrator | Full name, email, password, duty |
| 3 | Edit staff | Administrator | Full name, email, Id, duty |
| 4 | Delete staff | Administrator | University id, full name |

**COURSE**

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Events | Performer | Associated fields |
| 1 | View course | Administrator, Manager | Course module, course name |
| 2 | Add course | Administrator | Course module, course name |
| 3 | Edit course | Administrator | Course module, course name |
| 4 | Delete course | Administrator | Course module, course name |

**MODULE MANAGEMENT**

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Events | Performer | Associated fields |
| 1 | View module management | Administrator, Manager | Course module, course name |
| 2 | Add module management | Administrator | Course module, course name |
| 3 | Edit module management | Administrator | Course module, course name |
| 4 | Delete module management | Administrator | Course module, course name |

**ASSIGNMENT MANAGEMENT**

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Events | Performer | Associated fields |
| 1 | View assignment management | Administrator, Manager | Student id, course module, course name |
| 2 | Add assignment management | Administrator | Student id, course module, course name |
| 3 | Edit assignment management | Administrator | Student id, course module, course name |
| 4 | Delete assignment management | Administrator | Student id, course module, course name |

**ATTENDANCE RECORDS**

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Events | Performer | Associated fields |
| 1 | View attendance | Administrator, Manager | Student id, full name |
| 2 | Add attendance | Administrator | Student id, full name |
| 3 | Edit attendance | Administrator | Student id, full name |
| 4 | Delete attendance | Administrator | Student id, full name |

**3.1.3 Commands queries and constraints**

The guidelines necessary to interact with a database to perform tasks, operations, and analyses of data are classified commands. One can make use of commands to access data as well as perform multiple activities such as designing tables, inserting data into tables, updating data, and removing tables. Queries are an information appeal to the database. Constraints are guidelines for how data in a table should be dealt with.