1. **System Analysis & Design (Records Management System)**

The system analysis and design documentation are included in this section. The system will be built using the PHP MVC architecture, with database access, user views, and logical aspects of the web application separated. All of the data will be stored in a MySQL database.

**3.1 Preliminary Design Stages**

**3.1.1 Textual Analysis**

Expected classes and their behaviors will be highlighted through textual analysis. This is based on the brief, documents, and workshops that have been provided.

|  |  |
| --- | --- |
| Area | Notes/Essential Functionality |
| Student Records | Add\_student, Edit\_student, Delete\_student, Change\_status, Login, Logout, Change\_password, Archive. |
| Staff Records | Add\_staff, Edit\_staff, Delete\_staff, Change\_status, Login, Logout, Change\_password, Archive. |
| Course Records | Add\_course, Edit\_course, View\_course, Change\_course, Delete\_course, Archive. |
| Module Management | Add\_module, Edit\_module, View\_module, Change\_status, Delete\_module, Archive. |
| Assignment Management | Add\_assignment, Edit\_assignment, View\_assignment, Change\_assignment, Delete\_assignmetn, Archive, Add\_assignmentgrade, Edit\_assignmentgrade |
| Attendance Records | Add\_attendance\_records, Edit\_ attendance\_records, View\_attendance\_records, Change\_ attendance\_records, Add\_absent\_present |
| Personal Tutor Management | Add\_tutor, Edit\_tutor, View\_tutor, change\_status |
| Timetable Management | Add\_timetable, Edit\_timtable, Create\_timetable, View\_timetable,Change\_timetable ,Delete\_timetable, View\_timetable. |
| Diary Management | Add\_Diary, Edit\_Diary, Create\_Diary, View\_Diary, View\_Prompt, Add\_Prompt, Display\_Intitate Automated Action. |
| Report Generation/  Management | Add\_report, Edit\_report, View\_report, Print\_report |

**3.1.2 Significant Event Analysis**

|  |  |  |
| --- | --- | --- |
| Event | Performers | Attributes |
| Login | Administrator, Staff, Student | ID, password |
| Logout | Administrator, Staff, Student | - |
| View Staff | Administrator, Staff, Student | ID, full name, status |
| Add Staff | Administrator | Full Name, Email, Password, status |
| Edit Staff | Administrator | Full Name, Email, Password, status |
| Delete Staff | Administrator | ID |
| View Student (Backend) | Administrator, Staff, Student | ID, full name, status |
| Add Student | Administrator | Full Name, Email, Password, status |
| Edit Student | Administrator | Full Name, Email, Password, status |
| Archive Student | Administrator | ID |
| Delete Student | Administrator | ID |
| View Course (Backend) | Administrator, Staff, Student | ID, code, name, description |
| Add Course | Administrator | Module, description |
| Edit Course | Administrator | Module, description |
| Delete Course | Administrator | ID |
| View Module (Backend) | Administrator, Staff, Student | ID, Course name, description |
| Edit Module | Administrator | Description |
| Delete Module | Administrator | ID |
| View Assignment | Administrator, Staff, Student | ID, Dateline, Module, Grades |
| Add Assignment | Administrator | Module |
| Edit Assignment | Administrator | Dateline, Grades |
| Delete Assignment | Administrator | Module |
| View Attendance | Administrator, Staff, Student | ID, Student\_ID |
| Add Attendance records | Administrator | ID, Student\_Id |
| Add tutor | Administrator | ID, Course, Student |
| Add timetable | Administrator | Course |
| Edit timetable | Administrator | Course, Student |
| Delete timetable | Administrator | ID |
| Add diary | Administrator | ID, Event, News, Activities |
| Edit diary | Administrator | - |
| Add report | Administrator | ID, Feedback |
| Edit report | Administrator | - |
| Print report | Administrator | - |

**3.1.3 Commands Queries and Constraints.**

* **Staff:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Class** | *Staff* | | **Part:**1/3 |
| **Type of object:**  University Staff Object. | | **Author: Rabindra Joshi**  **Created: 2022/05/08** | |
| **Queries** | ID, Full Name, Password, Email, Status | | |
| **Commands** | Login, Logout, Add, Edit, Change Password, Archive, Delete | | |
| **Constraints** | * At least one Active Administrator is required. * The password must be at least 8 characters long. * The administrator has complete control. * Student cannot access to staff directory. * Staff can only view. | | |

* **Student**

|  |  |  |  |
| --- | --- | --- | --- |
| **Class** | *Student* | | **Part:**1/3 |
| **Type of object:**  University Student Object. | | **Author:**  **Created:** | |
| **Queries** | ID, Full Name, Password, Email, Status | | |
| **Commands** | Login, Logout, Add, Edit, Change Password, Archive, Delete | | |
| **Constraints** | * At least one Active Administrator is required. * The password must be at least 8 characters long. * The administrator has complete control. * Staff cannot access to student directory. * Student can only view. | | |

* **Course**

|  |  |  |  |
| --- | --- | --- | --- |
| **Class** | *Course* | | **Part:**1/3 |
| **Type of object:**  A course object | | **Author:**  **Created:** | |
| **Queries** | ID, Course Name, Description | | |
| **Commands** | Add, Edit, View, Change, Display, Delete, Archive | | |
| **Constraints** | * Student must be enrolled in course * Criteria should be fulfilled to study ahead. | | |

* **Module**

|  |  |  |  |
| --- | --- | --- | --- |
| **Class** | *Module* | | **Part:**1/3 |
| **Type of object:**  A module object | | **Author:**  **Created:** | |
| **Queries** | ID, Module Name, Module leader | | |
| **Commands** | Create, Amend, Delete, Archive, Display, Assign | | |
| **Constraints** | * Student should be enrolled in any course * Module leader needed to be enrolled | | |

* **Assignment**

|  |  |  |  |
| --- | --- | --- | --- |
| **Class** | *Assignment* | | **Part:**1/3 |
| **Type of object:**  An assignment object | | **Author:**  **Created:** | |
| **Queries** | Module\_Name, Student\_ID | | |
| **Commands** | Add, Edit, View, Change, Display, Delete, Archive | | |
| **Constraints** | * Should be submitted in time * Must not be NULL | | |

* **Attendance**

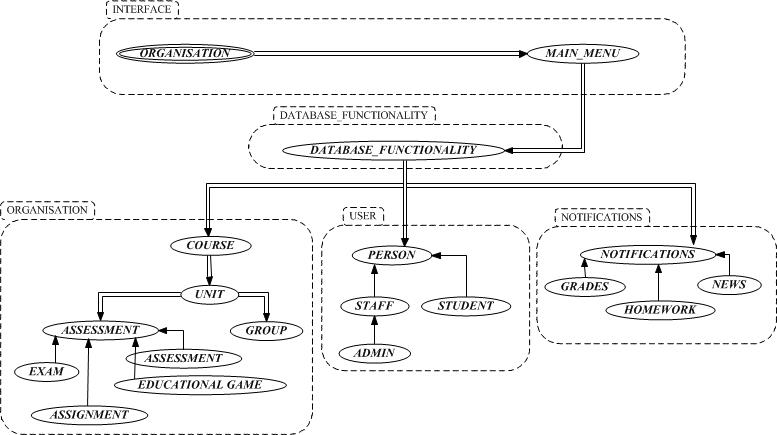
|  |  |  |  |
| --- | --- | --- | --- |
| **Class** | *Attendance* | | **Part:**1/3 |
| **Type of object:**  An attendance object | | **Author:**  **Created:** | |
| **Queries** | Student\_ID | | |
| **Commands** | Create, Amend, Archive, Monitor, Display, Action Poor Attendance. | | |
| **Constraints** | * Student should be enrolled to course and come to class | | |

* **Timetable**

|  |  |  |  |
| --- | --- | --- | --- |
| **Class** | *Timetable* | | **Part:**1/3 |
| **Type of object:**  An timetable object | | **Author:**  **Created:** | |
| **Queries** | Course\_ID, Student, Event\_ID | | |
| **Commands** | Create, Amend, Archive, Monitor, Display, Action Poor Attendance. | | |
| **Constraints** | * Event should not be Null * Course should not be Null | | |

**3.2 Detailed Static System Designs**

**3.2.1 First Draft BON System Architecture Diagram**

**

**3.2.2 BON System Chart**

|  |  |  |  |
| --- | --- | --- | --- |
| **System** | *Record Management System (RMS)* | | **Part:**1/3 |
| **Purpose:**  System keeping record of all the staff, members, visitor’s and animals of the zoo | | **INDEXING**  Keywords: Student, staff | |
| **Cluster** | Description | | |
| Staff\_Record | Store the data of all the staff of the University | | |
| Student\_Record | Store the data of all the student enrolled in the University and the history of the student | | |
| Event | Store the data of event that has been organized and the upcoming events. | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **System** | *Student Records/ Information Portal* | | **Part:**2/3 |
| **Purpose:**  System that holds information about student | | **INDEXING**  Keywords: Student, Course | |
| **Cluster** | Description | | |
| Profile | Brief description about the student | | |
| Course | Information about course he/she enrolled in | | |
| Grades | Marks scored in all the module | | |
| Diary | Upcoming exam or any event schedule | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **System** | *Woodlands University Corporate Website* | | **Part:**3/3 |
| **Purpose:**  System to make a visiting experience more entertainment | | **INDEXING**  Keywords: | |
| **Cluster** | Description | | |
| Login | To login as a staff or student | | |
| Course | Course description with its time period | | |
| News and Event | Galley of events being conducted and update on daily news of university | | |
| Visit | To visit college premises | | |

**3.2.3 BON Cluster Charts**

Cluster Chart:

**3.2.4 BON Class Charts**

* **Staff:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Class** | *Staff* | | **Part:**1/1 |
| **Type of object:**  University Staff Object. | | **Indexing cluster:** University Application  **Created:** 2022/05/08 | |
| **Queries** | Staff\_ID, Full Name, Address, Password, Email, Job Post | | |
| **Commands** | Create, Amend, Archive, Display, Assign, Print, Search | | |
| **Constraints** | * Staff\_ID, Full Name, Address and staff post cannot be Null. * Must be employed by organization. * A staff Id must be assigned at the start of employment, numbers auto-increment and are never reused. * Must have student assigned to them. * Must teach at least one unit and/or add unit lesson information. | | |

* **Student**

|  |  |  |  |
| --- | --- | --- | --- |
| **Class** | *Student* | | **Part:**1/1 |
| **Type of object:**  Student enroll on the course | | **INDEXING CLUSTER:** University Application  **Created:** 11/05/2022 | |
| **Queries** | Student\_ID, Full Name, Address, Password, Email, Status | | |
| **Commands** | Create, Amend, Archive, Display, Assign, Print, Search | | |
| **Constraints** | * Student\_ID, Full Name and Address cannot be null * Must meet entry requirements for course. * Must be enrolled at the university. * Must be assigned to least one unit. * A student ID number is assigned at creation, numbers auto-increment and never recycled. | | |

* **Course**

|  |  |  |  |
| --- | --- | --- | --- |
| **Class** | *Course* | | **Part:**1/1 |
| **Type of object:**  A course object | | **INDEXING Cluster:** University Application  **Created:**11/05/2022 | |
| **Queries** | Course ID, Course Name, Description, Course Leader, Staff\_ID, Students assigned | | |
| **Commands** | Create, Amend, Display, Delete, Archive | | |
| **Constraints** | * Course details are set by client * Course code is assigned at certain stage; format set by the client. * Course codes are not recycled, they are unique identifier. * Students cannot be enrolled on a course more than once * A course must have achieved the basic requirements necessary to be on the course * Each course must have a course leader. | | |