**Chapter 3**

**HIGH LEVEL DESIGN**

**3.1 Design Considerations**

**3.1.1 Assumptions and Dependencies**

**3.1.1.1 Assumptions**

* It is assumed that faculties email id is valid and authentic.
* Every faculty would register into the portal.
* The ids for the documents are generated on the order of insertion.
* The faculties registered are mailed with the activation link.
* The faculties should follow the activation link to activate their account.
* All the forms have a drop down button allowing the user to select only the valid id numbers.
* The data respective to the faculty can be modifies by the faculty. Admin can modify any data.

**3.1.1.2 Functional Dependencies**

**tbAdmission\_gateway**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Admission\_no | gateway | gateway\_no | rank | Admission\_order | Admission\_date | seat\_category | Actual\_category |

**tbstudent**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Admission\_no | First\_name | Middle\_name | Last\_name | Age | DOB | Mother\_tongue |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Blood\_group | Religion | Nationality | Category | Caste | 10\_markscard | 12\_markscard |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Diploma\_markscard | TC | photograph | family\_member | family\_member\_name | f\_batch | f\_mobile\_number |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| f\_email\_id | f\_designation | f\_add\_org | eligibility\_VTU | caste\_certi | income\_certi | extra\_cirricular | program | f\_org |

**tbcontact**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Admission\_no | House\_no | Street | City | State | Pincode | landline\_no |

|  |  |
| --- | --- |
| mobile**\_**id | email\_id |

**tbfee**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Admission\_no | RSST\_no | RSST\_date | RSST\_amt | RVCE\_no | RVCE\_date | RVCE\_amt |

**tbforeign\_student**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Admission\_no | Fr\_nationality | Passport\_no | P\_expity\_date | Visa\_no | Visa\_expiry\_date |

|  |  |  |
| --- | --- | --- |
| embassy\_no | embassy\_date | Migration\_certi |

**tblocal\_guardian**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Admission\_id | L\_name | L\_hnumber | l\_city | l\_pin | l\_mobile | l\_ll | l\_email |

**tbparent**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Admission\_no | Father\_name | Mother\_name | p\_occupation | p\_organisation | annual\_income | PAN |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| office\_ll | office\_fax | father\_email | mother\_email | parent\_number |

**tbqualifying\_exam**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Admission\_no | Qualifying\_exam\_name | month\_of \_passing | year\_of\_college | Name\_of\_college |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name\_of\_Board | Place | P\_marks | C\_marks | M\_marks | PCM\_total | Diploma\_5 | Diploma\_6 | Diploma\_total |

**tbadmin\_login**

|  |  |
| --- | --- |
| admusername | Admpassword |

**- - - -- - - -- - - -- - - - -- - - -- - - - - -**

**tbstudent\_login**

|  |  |
| --- | --- |
| stuusername | Stupassword |

**- - - -- - - -- - - -- - - - -- - - -- - - - - -**

**tbusn\_an\_map**

|  |  |
| --- | --- |
| Admission\_no | USN |

**Figure 3.1** Functional Dependency

**3.1.2** [**General Constraints**](http://www.cmcrossroads.com/bradapp/docs/sdd.html#TOC_SEC8#TOC_SEC8)

**General Constraints**

The design involves the production of technical and visual prototypes. This stage has some non-technical aspects such as gathering of web content; content can be one of the biggest problems in web projects. For the server side programming and other technical aspects of the design emphasis will be laid on such design concepts. The goal is to make the system easier to adapt, enhance, test and use.

Some of the general constraints are

**quality of contents**

* Each text, document, image or sound inserted in the project module should include user friendly properties.
* the Web site should have features of versatility and flexibility for an easy approach and a quick upgrade
* Grant admission only if the candidate satisfies all the conditions like producing 10th certificate, 12th certificate, etc.
* Guarantee the correctness of the information.
* The search should not work only on the texts, but mainly by means of graphical interfaces in order to have an easy and interactive approach.

**clarity of the information**

Every information inserted in the module shall be clear, without ambiguity. If a term used in a particular context has multiple or particular meanings, the term should be qualified or replaced with a more specific term. A specific glossary shall be inserted in the module.

**structuring**

For guaranteeing reusability of electronic data and its information for different views and layouts the structuring of data and separation of content, layout, and structure should be supported in future.

**verifiability of the information**

Each item of information inserted in the project shall be verifiable. This means that, at least it should be possible to contact the source of the information by the address/phone/e-mail reported along the information.

* 1. **System Block Diagram**

**End User 1**

FMS Database

Client 1

[Faculty]

Client 2 [Admin]

Request

Result

Request

Result

**End User 2**

Web Server

Request

Result

**Figure 3.2** System Block Diagram for CES

1. End User 1: Faculty searching for a query according to his/her need.
2. End User 2: Administrative staff member registering a student to the college.

# Entity Relationship Diagram

**Figure 3.3** Entity-Relationship

# Data Flow Diagram

**3.4.1 Level 0 Diagram**

USER

REQUEST

RESPONSE

\*Applicant registration

**Figure 3.4.1**  Level 0 Diagram for CES

* The User sends a request which is to be authenticated which if allowed for that type of user and if that kind of a request exists, then the request is allowed and converted into a query.
* If that requests is not authenticated a response to the GUI or user end is generated for eg validations on fields.
* Query hence is executed on the server side and an output is generated and displayed to the user.

**3.4.2 Level 1 Diagram**

AR

Users

I11

I10

tbusn\_an\_map

tbadmin\_login

tbcontact

RESPONSE

QUERY

RESPONSE

REQUEST

OPERATION

AUTHENTICATED

tbparent

tbforeign\_student

tbfee

I9

I1

tbstudent\_login

I8

I2

I3

I4

I5

tbstudent

tbadmission\_gateway

I6

I7

tbqualifying\_exam

tblocal\_guardian

\*Applicant Registration

**Figure 3.4.2** Level 1 Diagram for AR.

I1: [tbadmission\_gateway]-It contains details of the admission gateway and the category of seat claim.

I2:[tbcontact]-It contains information regarding the contacts.

I3: [tbfee]-It has the fee details of the student.

I4: [tbforeign\_student]-It contains all relevent details of a foreign student like passprot number.

I5:[tblocal\_guardian]- It contains all details of the local guardian.

I6:[tbparent]-Details of the parent.

I7:[tbqualifying\_exam]-Owner It has the details of the qualifying exam the student has appeared.

I8:[tbstudent]-It contains all student details like age, DoB, caste, nationality, etc.

I9:[tbstudent\_login]- It has all the usernames and their corresponding passwords for student login.

I10:[tbadmin\_login]-It has all the usernames and their corresponding passwords for admin login.

I11]:[tbusn\_an\_map]-It maps usn with the admission number.