Software Requirements and Design Document

for

One Stop Degree Issuance

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FAST NUCES

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1. Introduction

1.1 Purpose

The purpose of this project is to build an online system to manage degree issuance and to ease the management system. It will also be effective and will be sustainable.

1.2 Product Scope

Regarding scope is to create a convenient and easy to use application for students and facility, The system is based on relational database with its one stop management. We will have this application working for hundreds of universities and will for many supporting database servers. Above all, hope to provide a comfortable user experience along with convenient degree issuance.

1.3 Title

One Stop Degree Issuance System

1.4 Objectives

Following are objectives of project:

- Online Degree Issuance
- Online Fee Installment Generation
- Online Transcript Issuance
- Online Management
- Provide ease for both students and facility by comfortable user experience and simplicity

1.5 Problem Statement

EASEBILITY FOR STUDENT:

The main reason that we chose this project is to cope with the student hurdles of degree Issuance as they have to manually come to university and have to apply for a degree and get statement from each department HOD was a great hurdle. So, to cope with this, we came up with this idea of an online one stop degree issuance application.

EASEBILITY FOR MANAGEMENT:

However, it will also be easy for the management area by allowing them to use dedicated software and perform required operations. This will help them to deal with every student effectively without making any physical hurdle.

2. Overall Description

2.1 Product Perspective

A distributed system of ours stores the following information:

- **Management Request:** It includes features for Admin, Director, Fyp and Finance to manage all requests being made by the user. All these requests are managed simultaneously.
- **Complaint Registration:** It includes features for Student to complain their registered request and correction they want to make in degree.
- **Activity Tracking:** Through this Student can track their activity of request whether it is pending or not. He or She can also trace the starting time and ending time of request.
- **Apply for Degree:** Through this Student can apply for their degree and after confirmation their request is sent to admin from where it is then regulated to respective departments.
- **Find Your Degree:** Through this Student can find their degree if request has been approved.

2.2 Product Functions

OVERALL FUNCTIONS:

- Verify users (admin, student, director, fyp members, finance members)

STUDENT FUNCTION:

- Apply for degree
- Apply for Transcript
- Get Degree
- View Activity
- View Transcript
- Registers Complain

ADMINISTARTIVE FUNCTION:

- Add/Delete Request
- Approve Request
- Update Request
- Reject Request

2.3 List of Use Cases

2.4 Extended Use Cases

2.5 Use Case Diagram

3. Other Nonfunctional Requirements

3.1 Performance Requirements

- ER Diagram
- Normalization

3.2 Safety Requirements

If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed-up log, up to the time of failure.

3.3 Security Requirements

For this special requirement of the security market in our perspective vendors must choose their database partner carefully.

3.4 Software Quality Attributes

- **AVAILABILITY:** The degree should be available on the specified date and specified time as many students are requesting in advance.
- **CORRECTNESS:** The correct data of student should be there on degree.
- **MAINTAINABILITY:** The administration should maintain the request to ensure that there is no disturbance in process.
- **USABILITY:** The system should satisfy maximum number of students request simultaneously.

3.5 Business Rules

<List any operating principles about the product, such as which individuals or roles can perform which functions under specific circumstances. These are not functional requirements in themselves, but they may imply certain functional requirements to enforce the rules.>

3.6 Operating Environment

- Distributed Database
- Client/server system
- Operating System: Windows
- Database: MySQL
- Platform: Java/JavaFx/SceneBuilder

3.7 User Interfaces

- Front-end software: SceneBuilder
- Back-end software: IntelliJ

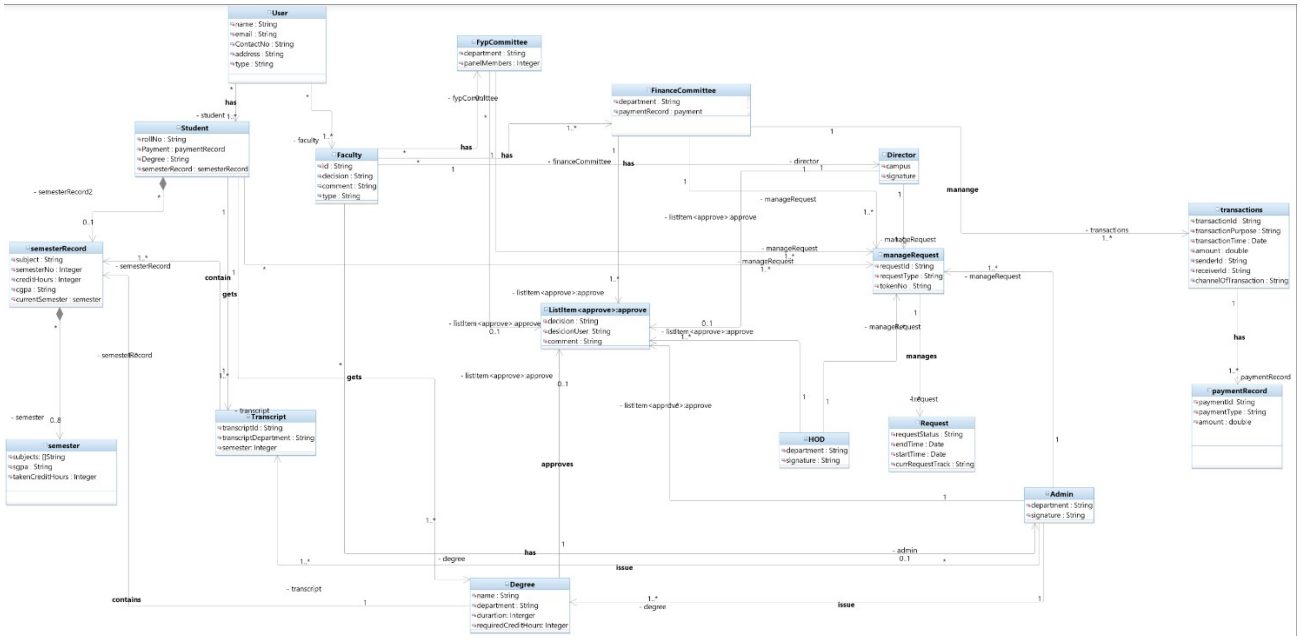
4. Domain Model

5. System Sequence Diagram

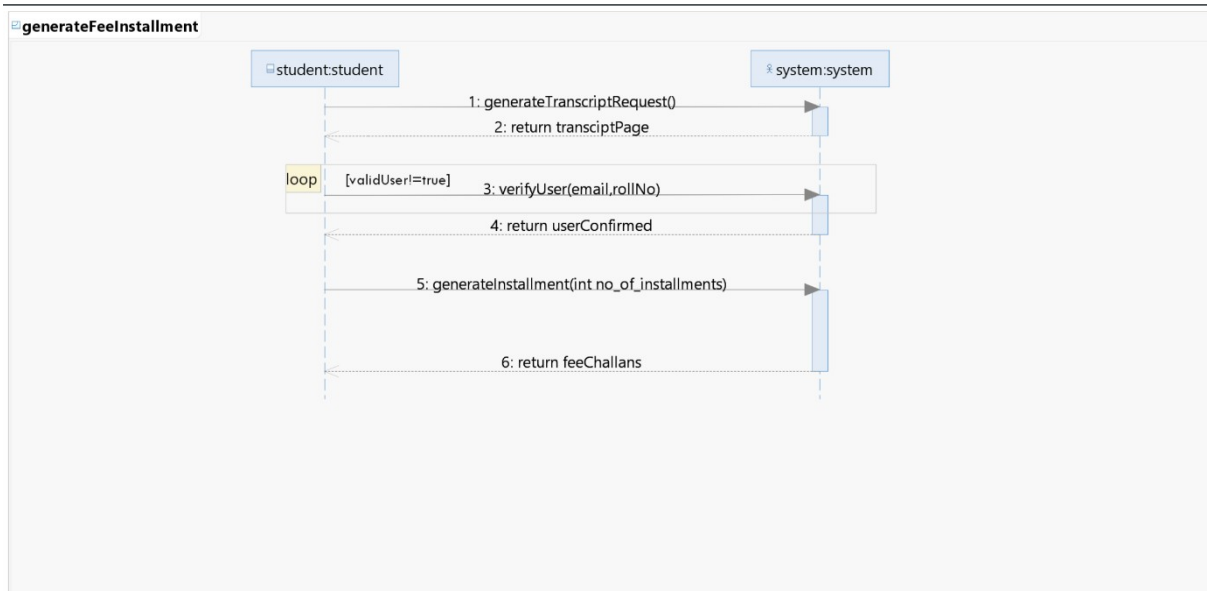
6. Sequence Diagram

7. Class Diagram

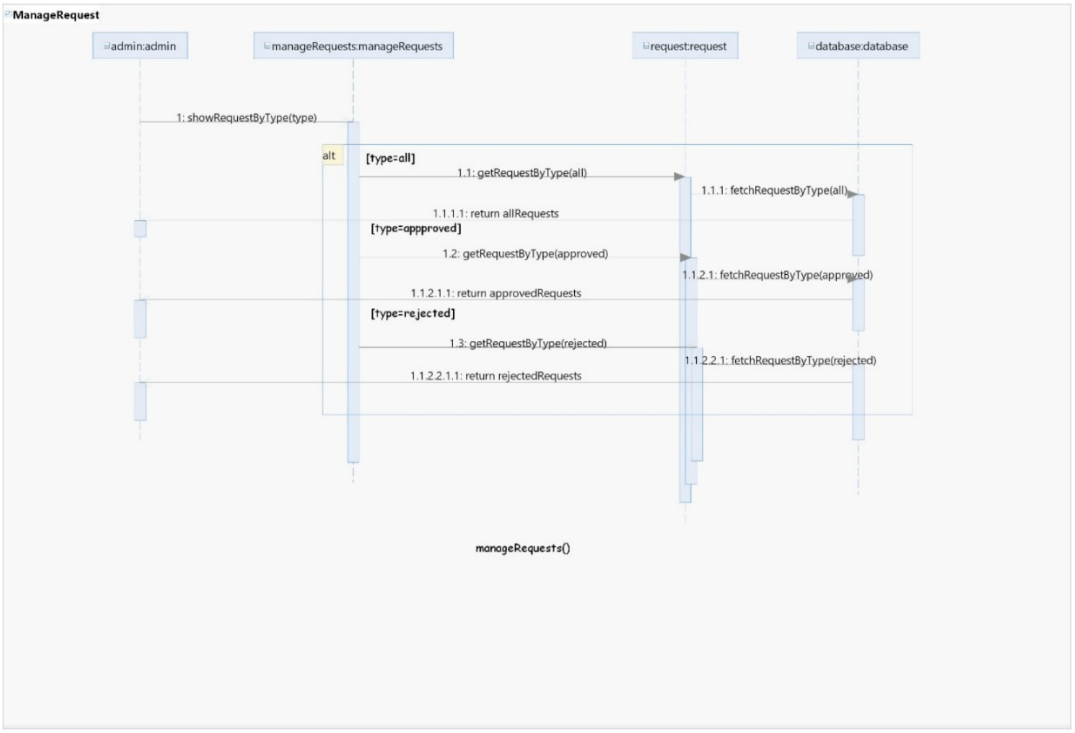
DomainModelDiagram



System Sequence Diagram



System Diagram



Class Diagram