Overall Software Plan
CS 346: Assignment-2A

Academic Section Management Software

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1 Problem Statement and Stakeholders

(Yashraj)

2 Software Model

The adoption of the **Structured Analysis and Design** (SAD) model for the development of this specific software is justified by the intricate design and the comprehensive requirements that demand careful consideration. This report documents the different components of this model, including the *Data Dictionary* (encompassing Requirements and Assumptions), *Data Flow Diagrams* (DFDs), and *Entity-Relationship* (E-R) Diagrams in the following sections below.

3 Software Requirements and Assumptions

The following are the specifications of the software that has to be developed that has been mentioned in the problem statement: (Agrawal)

- Item1
- Item2

4 Data Flow Diagrams

Short Desc (Yashraj) **Bold**, `Verb`, *Italics*

4.1 Level-0 DFD

(Yashraj)

4.2 Level-1 DFD

(Yashraj)

4.3 Level-2 DFDs

The following subsections highlight the detailed **Level-2** Dataflow diagrams of various processes in the Academic system Management software:

4.3.1 Admission Management Module

(Gupta)

4.3.2 Course Management Module

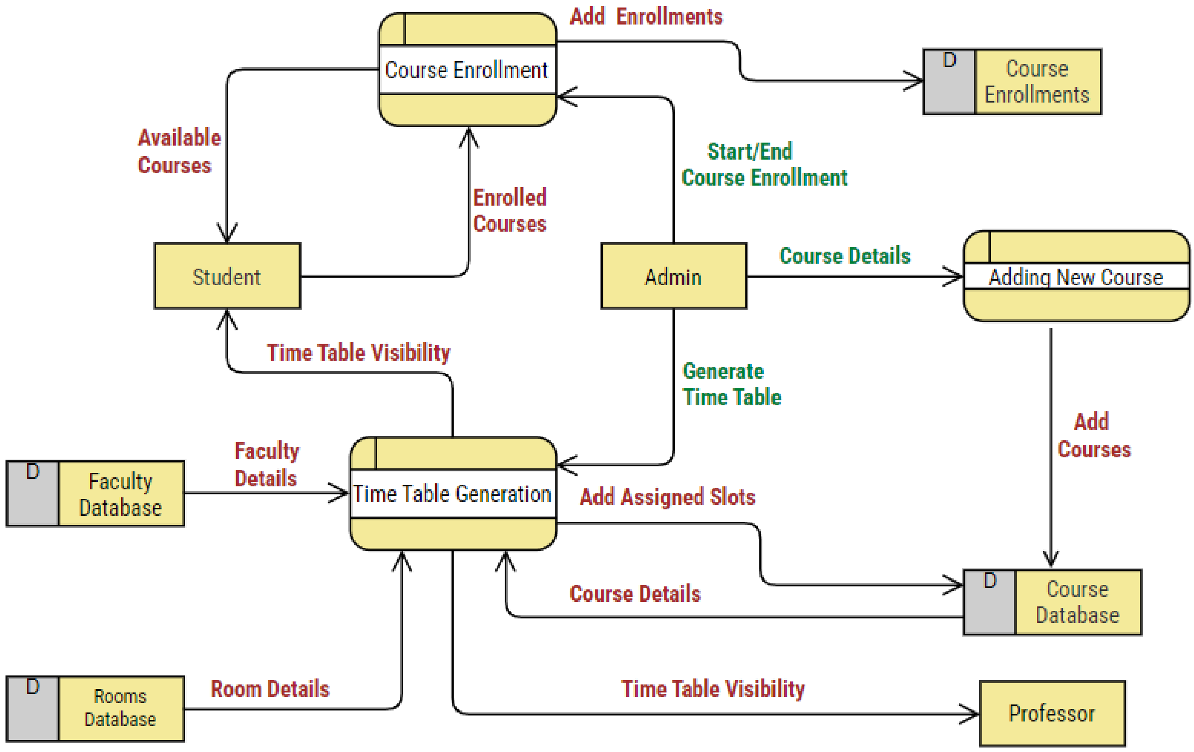


Figure 1: Level-2 DFD of Course Management Module

Course Management Module primarily consists of three essential processes :

1. **Adding New Course** :
   - The Admin initiates the addition of a new course.
   - Required details such as course name, credits, valid semesters, and assigned faculty are provided.
   - The provided course information is then stored in the **Course Database** for future reference.
2. **Course Enrollment** :
   - The Admin triggers the course enrollment process.
   - Students access their interface to view available courses.
   - Students select a list of courses, including compulsory and department electives.
   - The selected courses are validated and added to the **Course Enrollments** database.
3. **Time Table Generation** :
   - The Admin initiates the time table generation process.

- Information from the **Course Database**, **Rooms Database**, and **Faculty Database** is gathered.
- The system generates the timetable and modifies the assigned slots in **Course Database**.
- The time table is then displayed on the student and faculty interfaces.

4.3.3 Examination Management Module

(Pratyush)

4.3.4 Grade Management Module

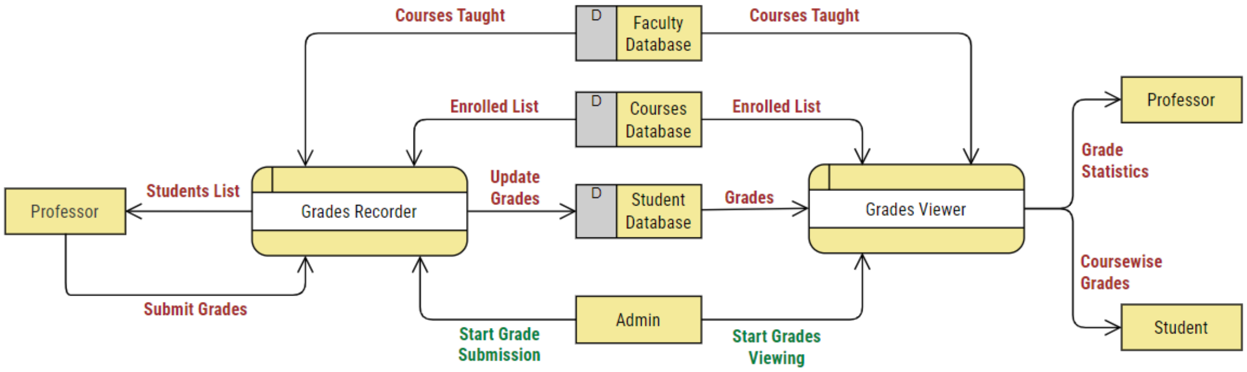


Figure 2: Level-2 DFD of Grade Management Module

- The **Grade Recorder** Process first gets the signal from the Admin side to start grade submission.
- The professors are displayed the various courses that they teach and they can upload the grade list of students enrolled coursewise, which are updated duly by the Grade Recorder process into `Grades` field of each course taken by student in **Student Database**.
- The **Grades Viewer** process first gets the signal from the Admin side after which the students are displayed the grades that they got in specific courses.
- The professors can get overall statistics about the grades like Class Average,number of students who got different grades like `AA,AB,BB` etc.
- This particular module interacts with the databases to fetch and update the results, as shown in the DFD diagram of Grade Management module.

5 Entity Relationship Diagram

(Ketan)

6 Feature Enhancement

(Shivam)

- hrtrt
- rtrtrtrttrt

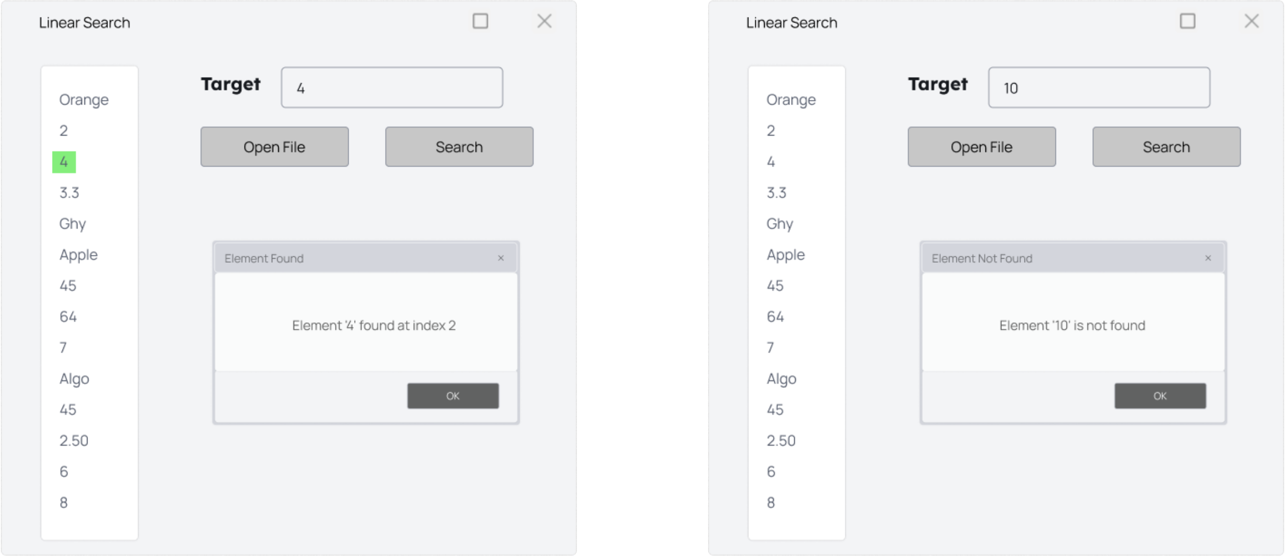
7 User Interface

(Shivam Agrawal) The user interface for this software can be developed using `Visual Basic`. The following are the tentative list of toolbox components needed for the basic implementation (without any feature enhancement):

- **Text Box:** sdfeererererere
- And so on....

7.1 Basic Design

This is the tentative basic design of the user interface which is to be designed in **Visual Basic** using the components listed above:



Element '4' found at index 2

Element '10' is not found

(a) Message box output when element is found.

(b) Message box output when element is not found.

Figure 3: Basic design of the software application

7.2 Subsections