Problem Statement

AIM: TO WRITE THE PROBLEM STATEMENT FOR A UNIVERSITY REGISTRATION PORTAL.

Introduction

A problem statement is a brief description of the issues that need to be addressed by a problem-solving team and should be presented to them (or created by them) before they try to solve a problem. When bringing together a team to achieve a purpose, they would be provided with a problem statement. A good problem statement should answer these questions:

- What is the problem? This should explain why the team is needed.
- Who has the problem or who is the client/customer? This should explain who needs the solution and who will decide the problem has been solved.
- What form can the resolution be? What is the scope and limitations (in time, money, resources, technologies) that can be used to solve the problem? Does the client want a white paper? A web-tool? A new feature for a product? A brainstorming on a topic?

The primary purpose of a problem statement is to focus the attention of the problem-solving team. However, if the focus of the problem is too narrow or the scope of the solution too limited, the creativity and innovativeness of the solution can be stifled.

Problem Statement

University Registration Portal

SOFTWARE ENGINEERING LAB
2K15/CO/035
DELHI TECHNOLOGICAL UNIVERSITY

Introduction

To facilitate the student admission process on an online medium in line with the digital India movement it is necessary for an institution to have an online registration portal for the students signing up. Previously this used to be an offline process involving filling physical forms and then getting them signed from the respective departments. This was a time and resource consuming process and in the modern environment, redundant. Thus, it is required to make this process more efficient in terms of time and resources consumed.

The Problem Statement

A software product is to be developed for the automation of the college registration system. The main participating entities are Students and university academics branch (referred to as management from here on). Each student must register for 6 subjects each semester where the subjects in the first 4 semester are fixed and the next 4 have options for electives. Any student failing to have less than a required number of credits will not be allowed to register for the coming semester. The system is to work in two phases:
1) As a registration facility for the students.
2) as a course management system for the college administration.

The system is required to perform the following functions:

I. Provide a medium for students to sign up:

Each student will be provided with a system to sign up, this is done by entering their details. These details include, their personal details, addresses, university details (for first time signees, previous results. Once completed, the student will then be redirected to their profiles from which they can register for the upcoming semesters.

II. A dedicated Registration mechanism:

Once the student has signed up for the system, the students will then register for the upcoming semester. The system needs to be designed such that it can accommodate the following requirement, Students of the first 4 semesters i.e. SEM1 to SEM4 won't have any provisions for electives, while the students in the last 4 semesters i.e. SEM5 to SEM8 will be able to choose from up-to 3 electives in each semester.
The registration process involved selecting the semester and signing up for the subjects in it. Once this is done a registration conformation document is generated for the student as a confirmation of said registration. This document includes the student details as well as the courses they've signed up for.

III. A course management utility for the college administration:

After the registration period is complete, the management will then be able to generate a list of all subjects with all the students enrolled in it subject/semester wise. They'll also have an option of generating sections by randomly picking students from the lot. (The number of sections will be decided using 50 students per class criterion). (It should be noted that this is an optional requirement but will be appreciated if included.)

At the end, the of the management process following data will be generated a list of all students enrolled in each course, a departmental list of students enrolled in their course and optionally a section wise list of the students with the assigned professor and the subject code.

IV. miscellaneous feature which may include:

During the registration process students will be able to visit the subject pages to see the syllabus, course books, the professor in-charge and TAs.

Each professor will have their own profile as well showing their details.

Once the mentioned lists have been generated, the professors and students will be able to check the assigned sections. The professors will also be able to get a list of the students in their section.

Learnings

The problem statement is written in simple language and should cover all expectations from the software. They should be written in detail so that no expected functionality is missed or interpreted differently by the developer. Further requirement analysis and documentation is derived from the problem statement.