UNIVERSITY RANKING SYSTEM SOLUTION

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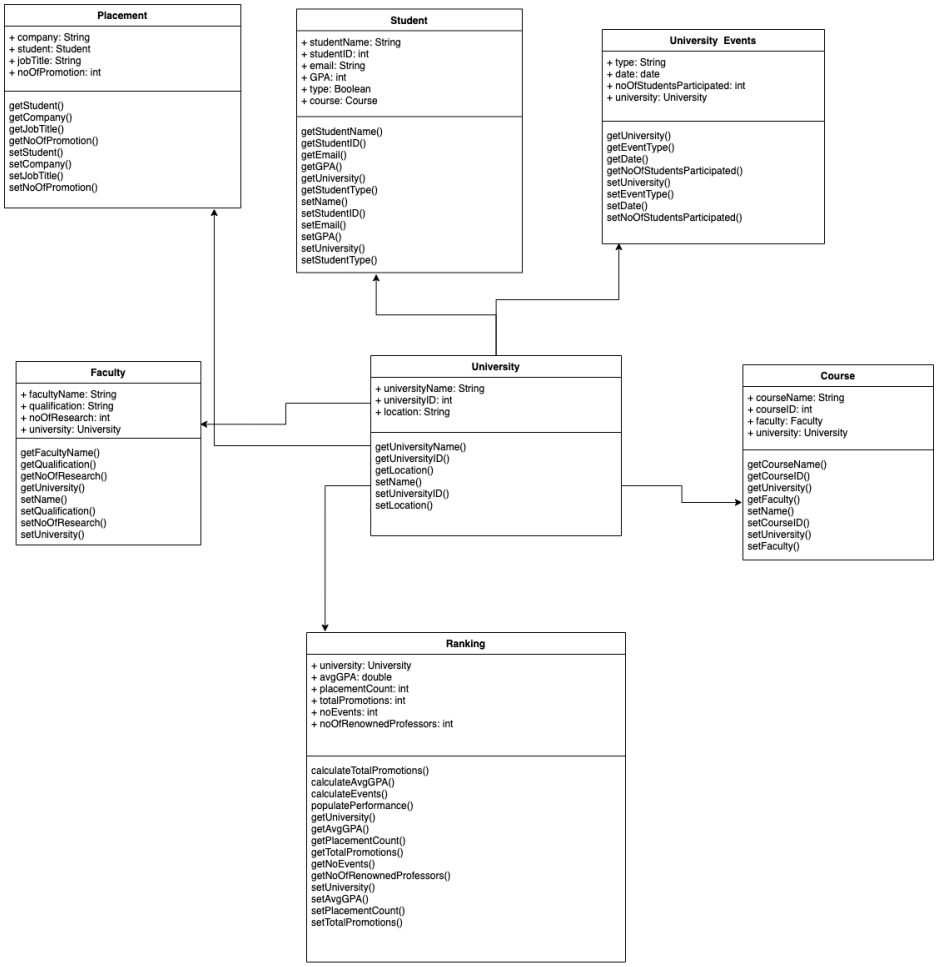
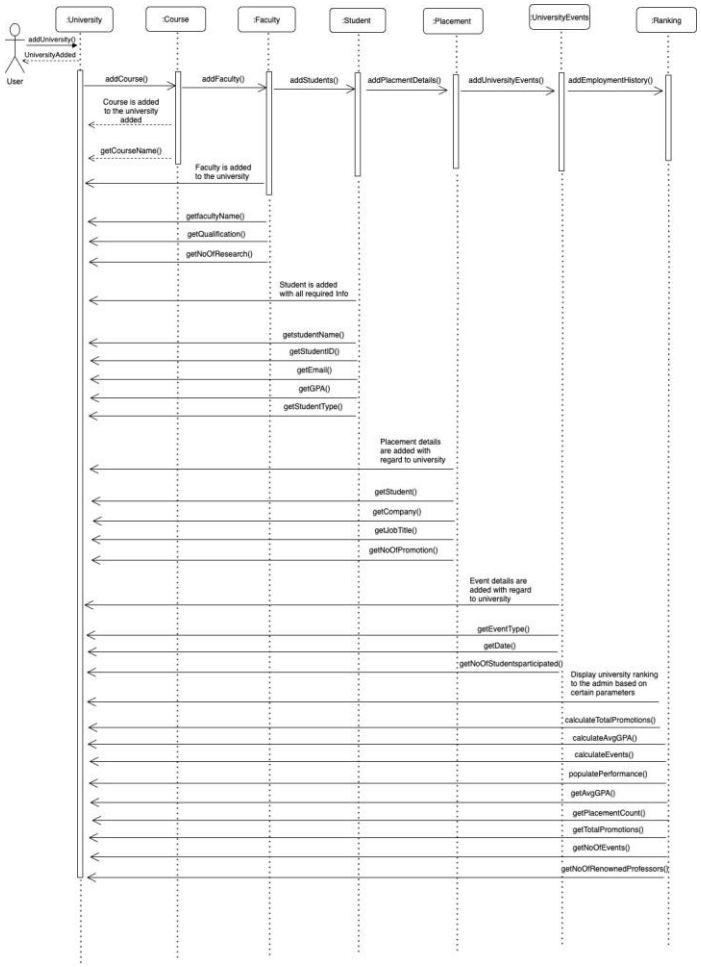
OVERVIEW

The report summarizes the design made for ranking system to evaluate the performance of a university. The design process involved the following - understanding the problem statement, designing the system, sketching the specifications, drawing the sequence and class diagram, and finally creating a mockup for the dashboard. The approach will be to investigate how an educational system in terms of faculty and courses contribute to the growth of their graduates over a 5-year period. You must figure out ways to track the jobs and promotions graduates get over time and assign rankings accordingly. In addition, track the connection of courses and their relevance to graduates growth.

CLASS DIAGRAM



SEQUENCE DIAGRAM



ENTITIES

The following are the entities with their attributes and methods, which are used for designing the model.

UNIVERSITY

ATTRIBUTES:

universityName: this variable is used to store name of the university
universityID: this variable is used to uniquely store an ID of the university
location: this variable is used to store location of the university

METHODS:

getUniversityName(): this method will get the name of the university
getUniversityID(): this method will get the universityID
getLocation(): this method will get the location of the university
setUniversityName(): this method will set the name of the university
setUniversityID(): this method will set the universityID
setLocation(): this method will set the location of the university

STUDENT

ATTRIBUTES:

studentName: this variable is used to store name of the student
studentID: this variable is used to uniquely store an ID of the student
email: this variable is used to store email address of the student
GPA: this variable is used to store GPA of the student
studentType: this variable is used to store the type of student as current or alumni
course: this variable is used to store the course object values

METHODS:

getStudentName(): this method will get the name of the student
getStudentID(): this method will get the studentID
getEmail(): this method will get the email address of the student
getGPA(): this method will get the GPA of the student
getStudentType(): this method will get the type of student
getCourse(): this method will get the course object values
setStudentName(): this method will set the name of the student
setStudentID(): this method will set the studentID
setEmail(): this method will set the email address of the student
setGPA(): this method will set the GPA of the student
setStudentType(): this method will set the type of student
setCourse(): this method will set the course object values

FACULTY

ATTRIBUTES:

facultyName: this variable is used to store name of the faculty
qualification: this variable is used to store qualification of the faculty
noOfResearch: this variable is used to store the number of research papers of the faculty
university: this variable is used to store the university object values

METHODS:

getFacultyName(): this method will get the name of the faculty
getQualification(): this method will get the qualification of the faculty
getNoOfResearch(): this method will get the number of research papers of the faculty
getUniversity(): this method will get the university object values

setFacultyName(): this method will set the name of the faculty
setQualification(): this method will set the qualification of the faculty
setNoOfResearch(): this method will set the number of research papers of the faculty
setUniversity(): this method will set the university object values

COURSE

ATTRIBUTES:
courseName: this variable is used to store name of the course
courseID: this variable is used to uniquely store ID of the course
faculty: this variable is used to store the faculty object values
university: this variable is used to store the university object values

METHODS:
getCourseName(): this method will get the name of the course
getCourseID(): this method will get the ID of the course
getFaculty(): this method will get the faculty object values
getUniversity(): this method will get the university object values
setCourseName(): this method will set the name of the course
setCourseID(): this method will set the ID of the course
setFaculty(): this method will set the faculty object values
setUniversity(): this method will set the university object values

PLACEMENT

ATTRIBUTES:

company: this variable is used to store name of the company
student: this variable is used to store the student object values
jobTitle: this variable is used to store the job title of the student
noOfPromotions: this variable is used to store the number of promotions of the student

METHODS:

getCompany(): this method will get the name of the company
getStudent(): this method will get the student object values
getJobTitle(): this method will get the job title of the student
getNoOfPromotions(): this method will get the number of promotions of the student
setCompany(): this method will set the name of the company
setStudent(): this method will set the student object values
setJobTitle(): this method will set the job title of the student
setNoOfPromotions(): this method will set the number of promotions of the student

UNIVERSITY EVENTS

ATTRIBUTES:

eventType: this variable is used to store the type of university event
date: this variable is used to store the date of the event
noOfStudentsParticipated: this variable is used to store the number of students participated
university: this variable is used to store the university object values

METHODS:

getEventType(): this method will get the type of university event
getDate(): this method will get date of the event
getNoOfStudentsParticipated(): this method will get the number of students participated
getUniversity(): this method will get the university object values
setEventType(): this method will set the type of university event
setDate(): this method will set date of the event
setNoOfStudentsParticipated(): this method will set the number of students participated
setUniversity(): this method will set the university object values

RANKING

ATTRIBUTES:

university: this variable is used to store university object values
avgGPA: this variable is used to uniquely store average GPA of the students in the university
placementCount: this variable is used to store the total number of students having jobs
totalPromotions: this variable is used to store total promotions of all the students
noOfEvents: this variable is used to store the total number of events conducted at university
noOfRenownedProfessors: this variable is used to store the number of renowned professors

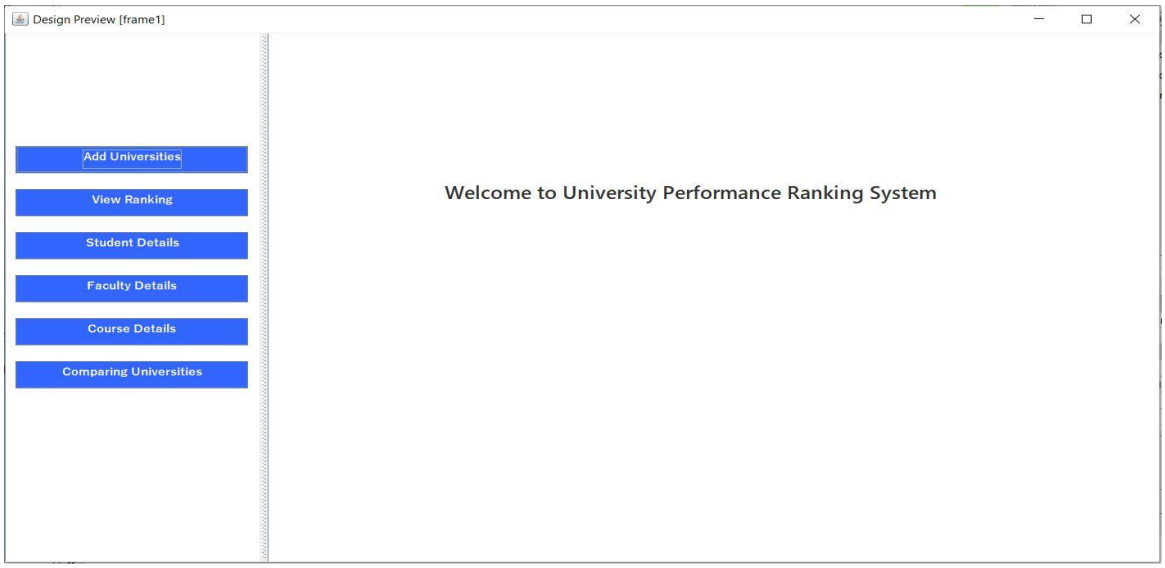
METHODS:

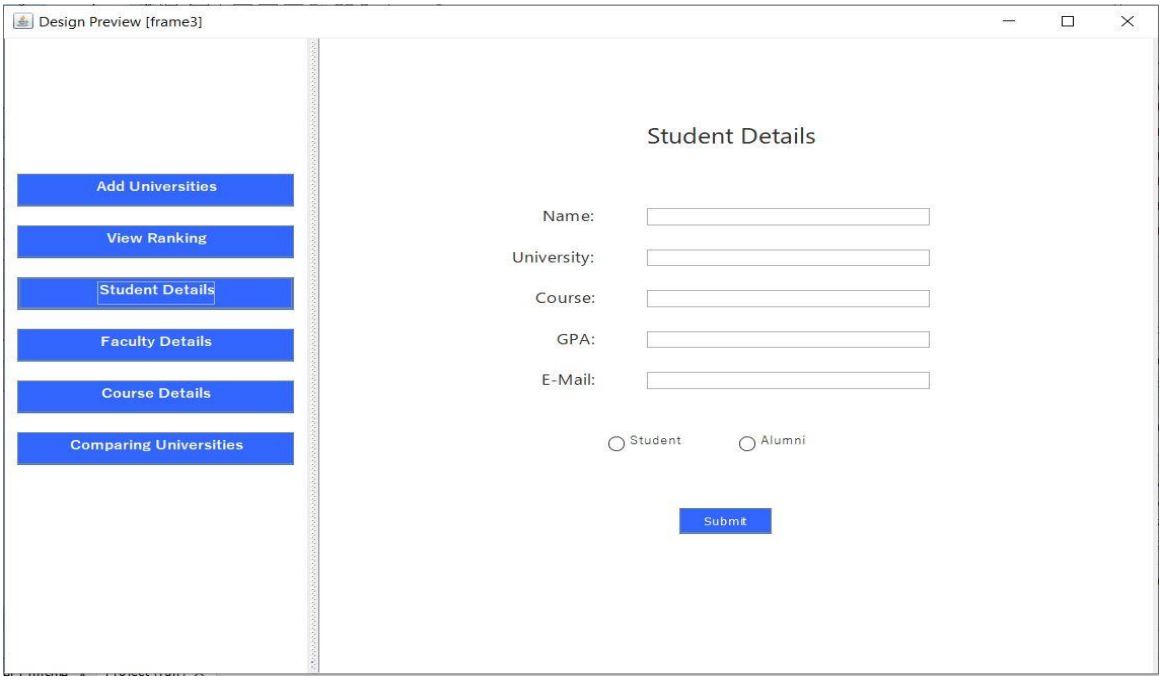
getUniversity(): this method will get the university object values
getAvgGPA(): this method will get the average GPA of the students in the university
getPlacementCount(): this method will get the total number of students having jobs
getTotalPromotions(): this method will get the total promotions of all the students
getNoOfEvents(): this method will get the total number of events conducted at university
getNoOfRenownedProfessors(): this method will get the number of renowned professors

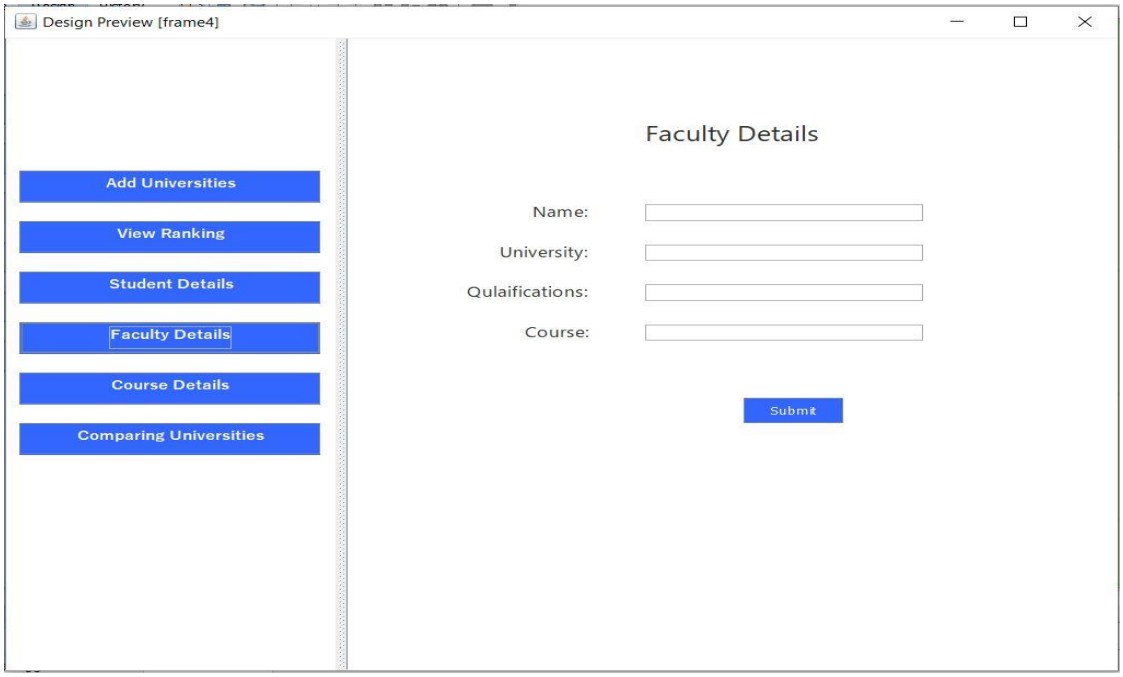
setUniversity(): this method will get the university object values
setAvgGPA(): this method will get the average GPA of the students in the university
setPlacementCount(): this method will get the total number of students having jobs
setTotalPromotions(): this method will get the total promotions of all the students
setNoOfEvents(): this method will get the total number of events conducted at university
setNoOfRenownedProfessors(): this method will get the number of renowned professors

FUNCTIONAL METHODS:
calculateTotalPromotions(): this method will calculate the total promotions of students
calculateAvgGPA(): this method will calculate the average GPA of all students in university
calculateEvents(): this method will get the total number of events conducted by the university
populatePerformance(): this method will populate the ranking of the universities in the table

MOCK USER INTERFACE



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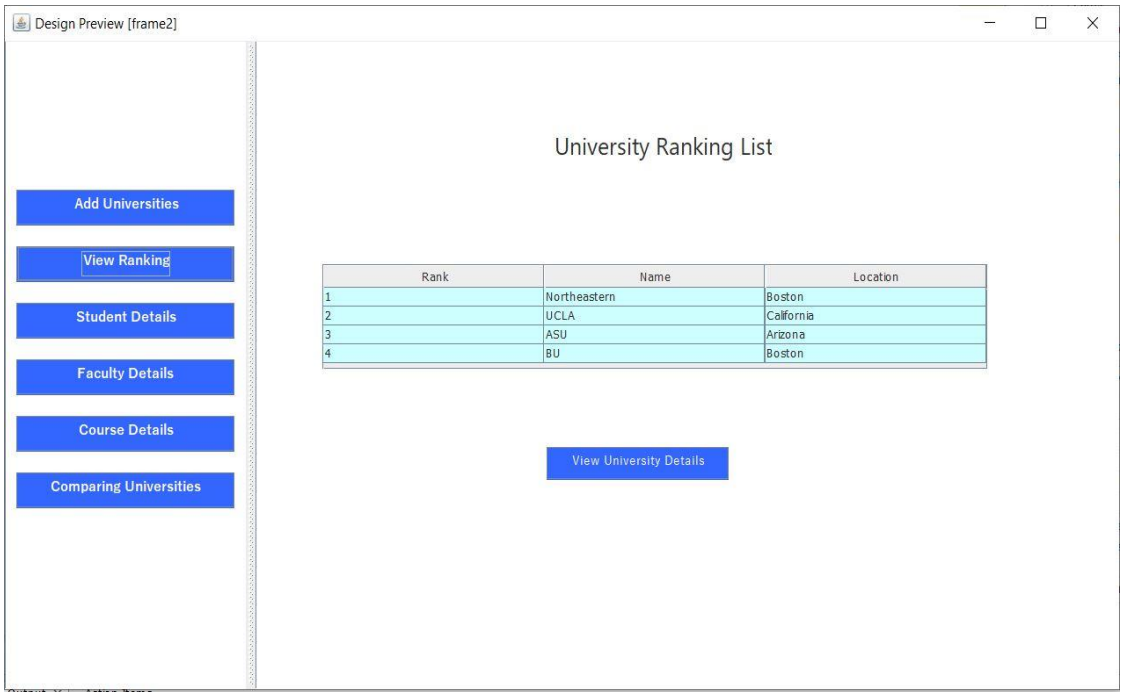
UCLA



PROPOSED SOLUTION

The solution derived was to take the student ID, courses chosen by the student, job title and promotions of the student as well as the qualifications and research of the professors, events conducted by university. Using this data, the rank of the universities is determined. The UI flow of the application is as shown in the section above.

CONCLUSION

The workflow for the application stated in the problem statement was sketched and explained in terms of the sequence diagram, class diagram and dashboard. The final product can be used at the university level as a feedback system to improve its performance from past experiences.