

Problem

The Vertically Integrated Projects (VIP) program aims to involve everyone on campus in innovation. VIP unites undergraduate education and faculty research in a team-based context. Undergraduate VIP students earn academic credits, while faculty and graduate students benefit from the design/discovery efforts of their teams. This unique program will allow students to stratify themselves amongst their peers and make themselves competitive for the industry.

Current System

The current system allows students and faculty to register, log in, manage their profile, view projects, schedules. Faculty users can also propose new projects for students to work on. Users are able to view information about current real world problems and see which one sparks their interests. Students of all ranks are able to select and join a project where they will then be able to work side by side with industry leaders and assist with real world research problems.

Requirements

This project required the team to plan, design, and develop a web based system which would be able to allow students to apply to join an existing project. For this function to be enabled, a system was developed to permit a user to login and propose a project – this feature is enabled for a faculty user. The student member is able to select from a list of existing projects and apply to become part of a innovative team.

Description:

- As a Guest User I would like to be able to register so that I can use the systems features.

Acceptance Criteria:

- Roles include: Student, Faculty/Staff- PI and Co/PI .
- A Student does not register, he will interact with the system using his Gmail account.
- The information must be checked for authenticity (@fiu.edu email account etc). Every form should field a validation requirement.
- The user should receive an email indicating the successful creation of the account and a link to confirm the email address: “Please verify your email and wait for your account to be verified by the PI.”
- Only Strong Passwords are allowed.
- Password should have at least 8 characters.
- Password should have
 - i) at least one upper case letter (A – Z).
 - ii) at least one lower case letter(a-z).
 - iii) At least one digit (0 – 9) .
 - iv) at least one special Characters of !@#%&*()

- User has the following stats: Guest User, Pending User, Pending user with Confirmed Email, Approved User (a.k.a, registered user or active user), Rejected User (See the State Chart Diagram).

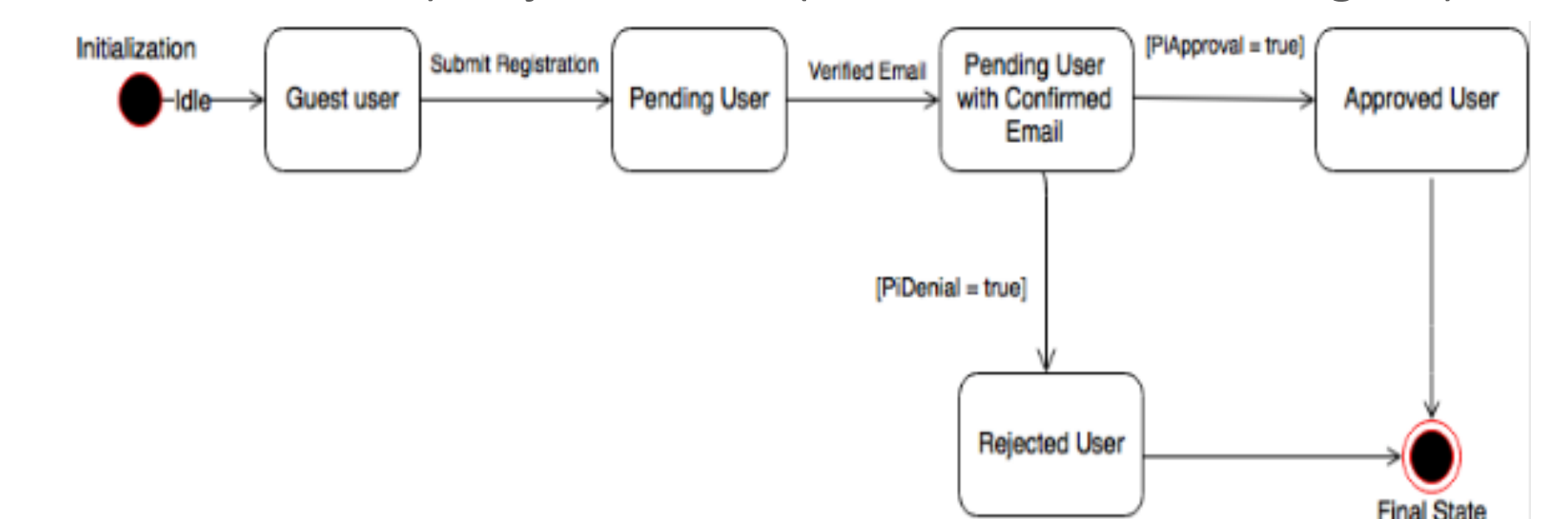


Figure 1.1 : State Chart Diagram: Registration

System Design

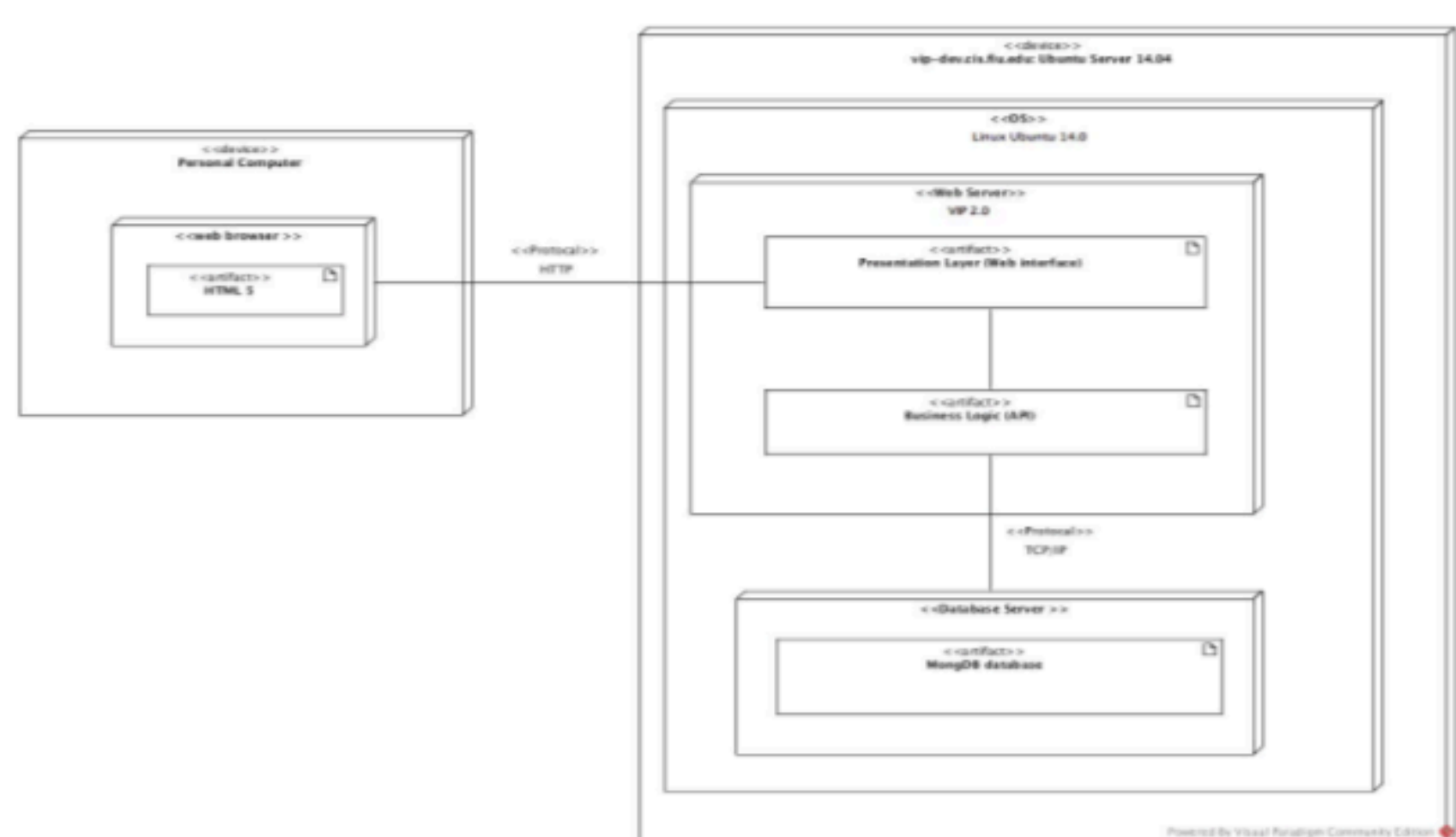


Figure: 1.2: System Design Diagram

The system employs a 3 tier client-server architecture. A user will connect to our server using a HTTP protocol and will be served the index.html file located in the presentation layer. All logic is located in the business logic area and it communicates with a mongo database located on the same server using a TCP/IP protocol.

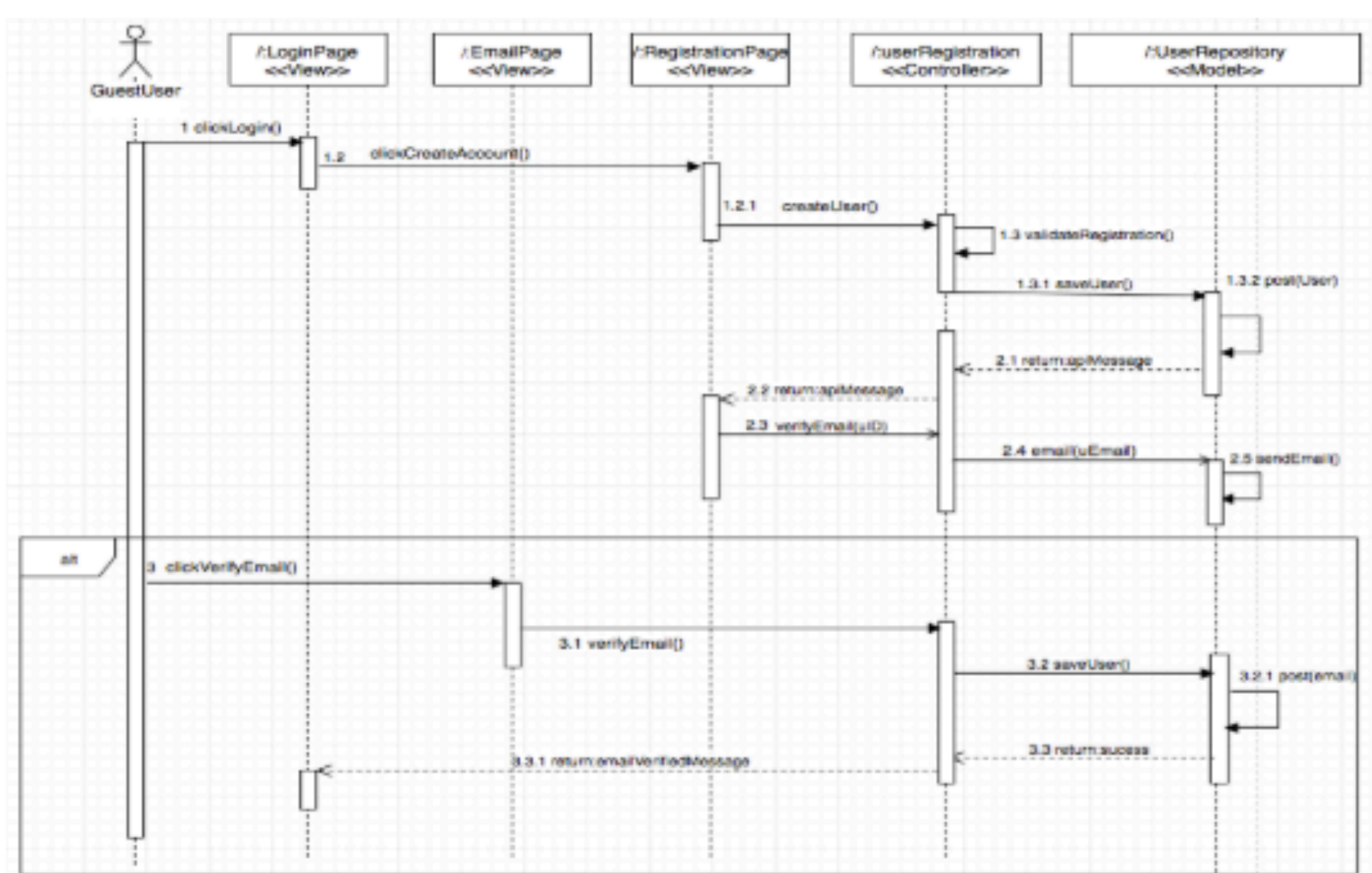


Figure 1.3: Sequence Diagram : Registration

Object Design

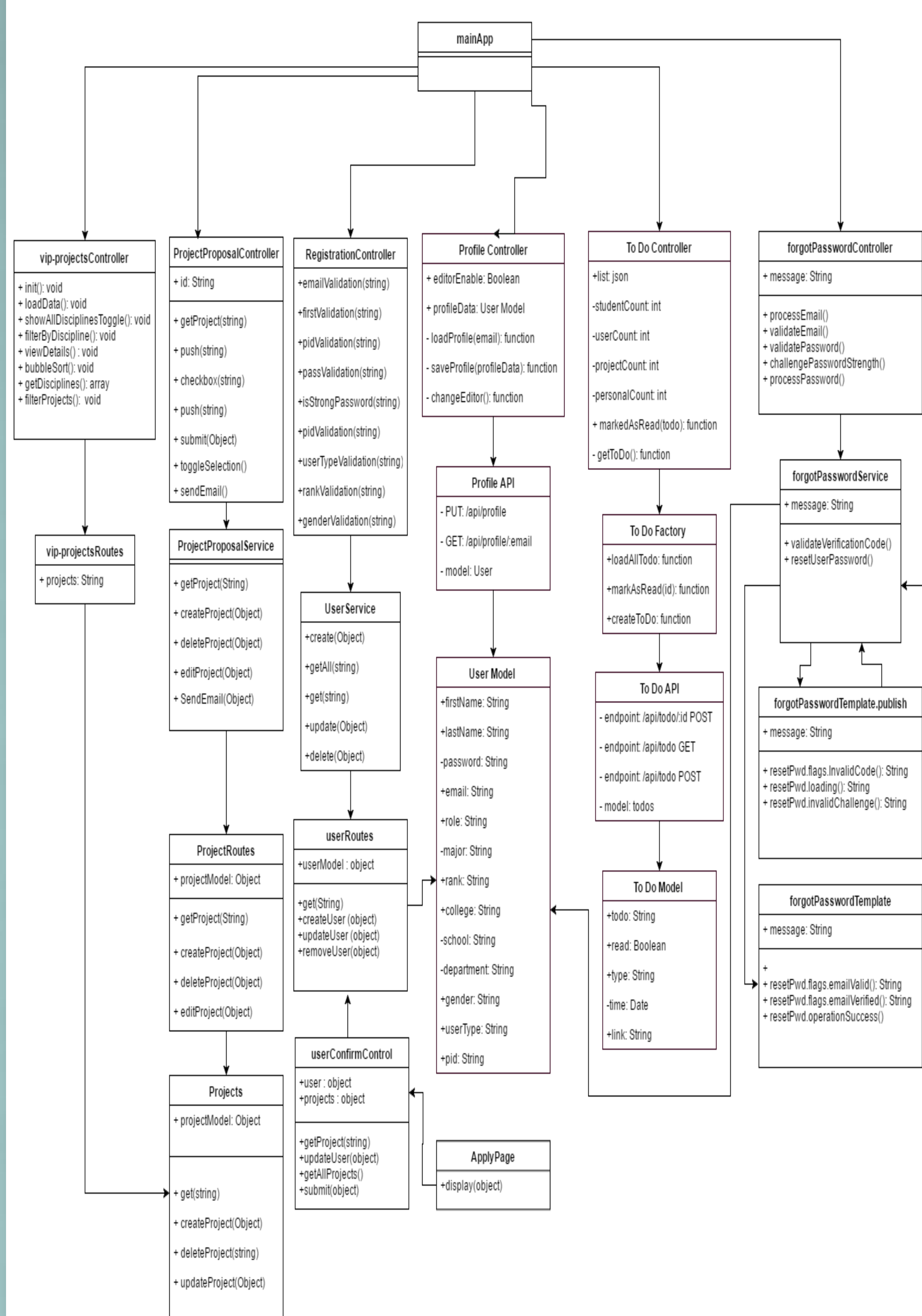


Figure 1.4: Object Design

Implementation



Figure 1.5: Main tools & frameworks used to implement VIP 2.0

Verification

Test Case 2 (Sunny Day)

ID: VIP-SD-717-02

Purpose

- Ensure Registration form creates a user when PI does not enter fiu email .

Precondition

- User fills out entire form .

Input

- User Clicks on Register User and excludes an fiu email.

Expected Result

- User Please Verify Email Message.

Actual Result

- User Please Verify Email Message.

Test Case 4 (Rainy Day)

ID: VIP-RD-717-01

Purpose

- Ensure Registration form creates a user when user inputs invalid password.

Precondition

- User fills out entire form and excludes a capital letter from the password.

Input

- User Clicks on Register User.
- Entire form is completed password or confirm password.

Expected Result

- Error message saying password must contain capital letter .

Actual Result

- Error message saying password must contain capital letter .

Screenshots

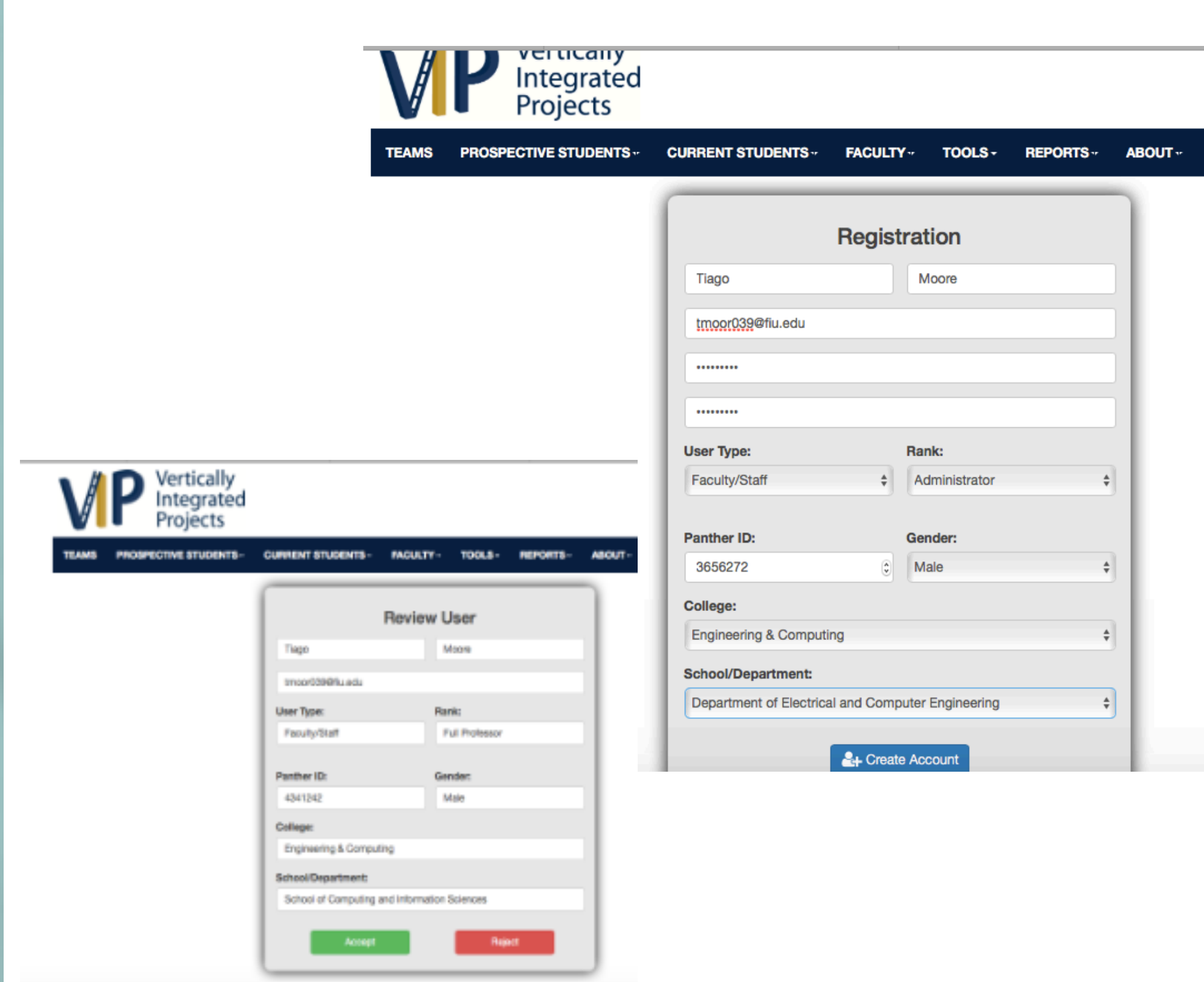


Figure 1.6: Registration/ Accept&Reject User Pages

Summary

This project is the second version of a system that will be in the works for years to come. This version allows students to start the process of getting involved in a unique team outside of their curriculum classes. It has been very beneficial to apply software engineering methodology to such a unique system. Developing this project began with a feasibility study which lead to requirements elicitation and documentation and finally system design. This was followed by an iterative cycle of object design, implementation, and verification which finally resulted in an unique system which allows students to join Vertically Integrated Projects.

Acknowledgement

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