.

Potato Properties Web Application

The Potatoes - Group 03

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1 Requirements

1.1 Project Scope

The scope of the Potato Properties web application encompasses user authentication for client user types. The tenant user should be able to view apartment complex information, view current and upcoming vacancies, and apply for an apartment. The current tenant user should be able to view their lease documentation, make payments, and request unit maintenance.

1.2 Phase Progress (Phase III)

This phase we finished up the maintenance request part of our application. A user can submit a maintenance request associated with their designated property, and this maintenance request will appear on the manager dashboard. The manager can mark the request as complete at their discretion.

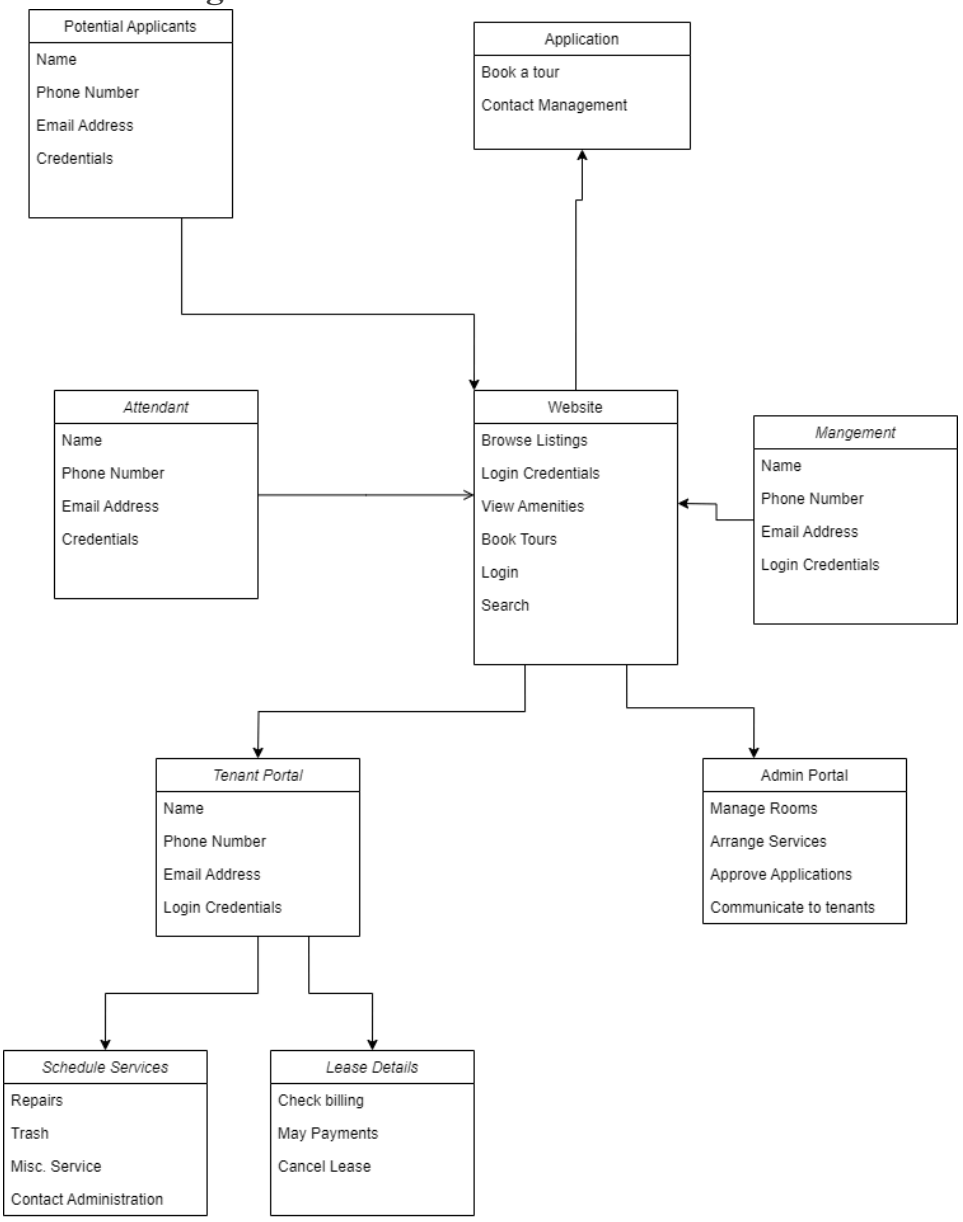
1.2 Phase Requirements

Feature	Phase	Task	Description	Technologies
Tenant UI & Pages	1	Create pages for the tenant facing side of the application.	Base UI for starting tenant pages (Subject to change as new functionality is introduced)	HTML/CSS, JS, EJS
Create User Account	1	Allow user to create an account	The user can create an account.	Express Node.js, Mongoose MongoDB
User Authentication	1	Implement user login	Implement login functionality for tenants. Tenants should be redirected to the dashboard page upon successful login.	Express Node.js, Mongoose
Authentication Validation	1	Create flash messaging for users that are logging in and/or creating an account.	Users should see a flash message for invalid input on registration and login as well as a flash message for successful account creation.	Express Node.js, Mongoose
Tenant Maintenance	2	Implement tenant maintenance requests	Implement functionality for tenants to submit and track maintenance requests	Express Node.js, Mongoose MongoDB
Application Submission	2	Implement application submission system	Implement functionality for simulated application submission from potential tenants	Express Node.js, Mongoose MongoDB

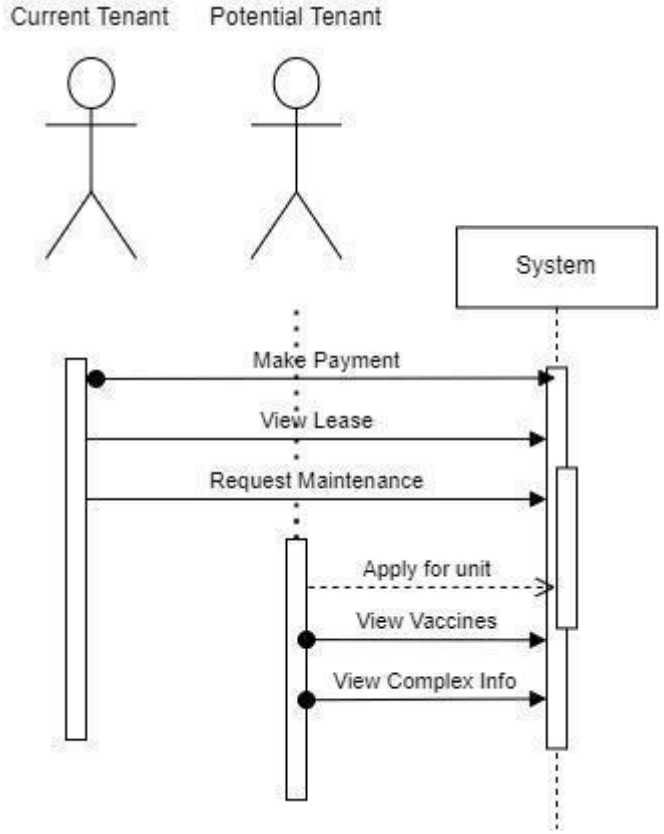
Application Tracking	2	Implement application tracking	Allow potential tenants to track application	Express Node.js, Mongoose MongoDB
Contact admin via the contact page	2	Implement a function to show a message that the user wants to send admin via contact us page.	Users should be able to send a message to admin via the contact us page. A function can be implemented to show this message, simulating an email.	Express Node.js, Mongoose MongoDB
Lease Information	2	Display lease information	Allow current tenants to view their lease information	Express Node.js, Mongoose MongoDB
Improve UI	3	Update UI to look better	All UI Pages receive updated styling to improve flow of the pages.	Express Node.js, Mongoose MongoDB
Security Update	3	Implement user data encryption	Encrypt user data for enhanced security	Bcryptjs
Optimize performance	3	Optimize website performance	Optimize web page loading times and page responsiveness	Express Node.js, Mongoose MongoDB
Write Test Cases	3	Test different endpoints for user	Write unit test cases to ensure that each endpoint, post and get endpoints, are working as intended using the Jest framework and Supertest library.	Node.js, Jest, Supertest

2 Diagrams

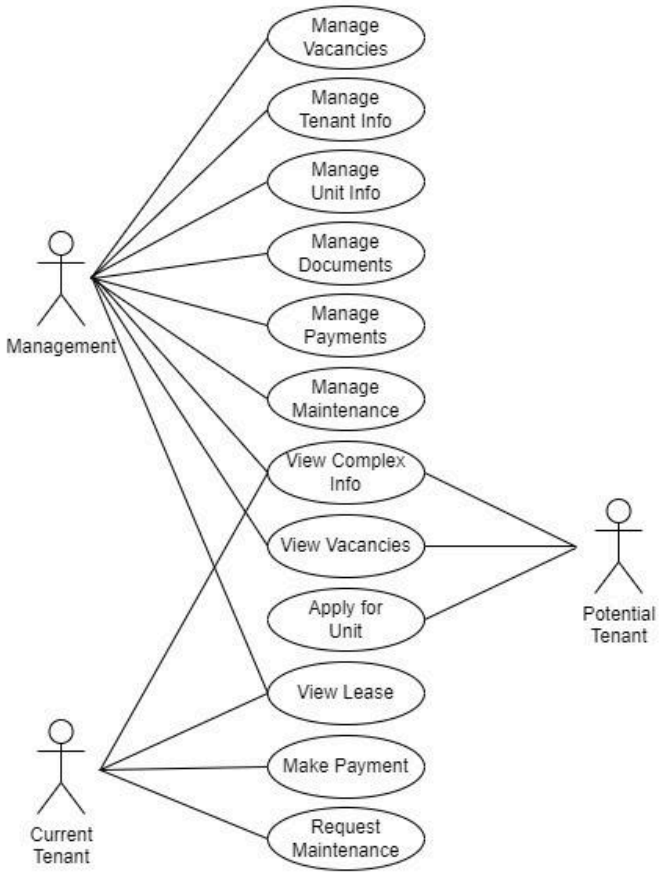
2.1 Class Diagram



2.2 Sequence Diagram



2.3 Use Case Diagram



3 User Manual

3.1 Installation

Clone this repository to your local machine using git clone

https://github.com/jlowe093/ITIS3300-GroupProject.git

4 Instructions

4.1 Compilation

Change the directory to the project folder (\src).

Open a terminal in this project folder and run `npm i` to install dependencies.

Now to start the web server, run `node app`.

Go to http://localhost:3000 to see the running application.

Note: You must have git and Node.js installed to run these commands.

4.2 Test Cases

Navigation Testing

To test this project, we ran the project and tested many functionalities that were working as intended. For the **user interface**, we tested that all buttons/links are responsive as expected such as the login and contact us. This allowed for fluid navigation through the website letting the user find the information they wanted to find.

Furthermore, we tested the **login functionality**, by entering valid and invalid credentials to see if the form was able to handle these instances properly. If the wrong credentials were input then errors would be displayed and on the flipside the correct allowed login.

We also ensured that the **property listings** were populated with the correct images, prices, and features. This is vital as customers who visit the website can confidently make choices based on accurate information.

Unit Testing

Furthermore, we utilized the **Jest Framework** and the library **supertest** to create unit tests for our user routes thus far. This framework allowed us to test GET/POST routes to ensure that 200/302 status codes were achieved on successful cases, and 404/400 errors were shown on error cases.

Below is our test cases for userController after running:

```
GET /users/applications/673a20f6da5bc40dc5ac5347 404 1563 - 4.708 ms
 PASS  __tests__/controllers/userController.test.js
  √ Get /users returns 404 NF (811 ms)
  √ Get /users/new returns 200 OK (55 ms)
  √ Get /users/contact returns 200 OK (49 ms)
  √ Get /users/login returns 200 OK (65 ms)
  √ POST /users/login returns 302 redirect on Successful Login (179 ms)
  √ POST /users/login returns 400 client error on Unsuccessful Login (96 ms)
  √ GET /users/dashboard with LoggedIn User gives 200 OK on dashboard page (391 ms)
  √ GET /users/dashboard with a Guest User gives 302 redirect to login page (198 ms)
  √ GET /users/application/:id with an invalid property id gives a 404 error (312 ms)
  √ GET /users/application/:id with a valid property id, but on a Non-Management user gives a 403 error (272 ms)

Test Suites: 1 passed, 1 total
Tests:       10 passed, 10 total
Snapshots:   0 total
Time:        3.491 s, estimated 4 s
Ran all test suites matching /__tests__\\controllers\\userController.test.js/i.
```

5 Final Review

5.1 Project Final Description

This project is a property management website for an apartment complex. In this application we were able to implement several key features.

User Types		
All	Tenant	Management
• Account creation • Login/Logout • View Property Details	• Maintenance Request • Apply for Property	• View vacant/occupied units • Approve/Reject unit applications • Mark maintenance requests as complete • Edit property listings • Add new property listing

5.1 Reflection

In the final phase, we successfully implemented a final key feature for tenants to be able to submit maintenance requests into management. Then management is able to confirm the completion of these requests. UI improvements were made to enhance the user experience, and we optimized the system's performance. One challenge we faced was managing the integration of new features without breaking existing functionality. Overall, the project has evolved significantly, and we plan to continue working on improving usability and scalability in the future.

6 Member Contributions

Member Name	Contribution Description	Overall % of Contribution	Note (if applicable)
Jade Lowe	Report formatting, use case diagram, implement various aspects of code to allow for a more in depth front end and allow for adding properties and users, team collaboration	16.66	
Dakota Chanthakoummane	Report contribution, team collaboration	16.66	
Aryan Kharva	frontend for the login, signup, further implemented more front end aspects,	16.66	

	and dashboard pages, team collaboration		
Quintin Obey	Report contribution, sequence diagram, team collaboration	16.66	
Connor Smith	Slotted html, created database, implement various code to add to the dynamic aspect of the project, report contribution, team collaboration	16.66	
Edward Tobiasson	Report contribution, team collaboration	16.66	