*Condo Management System*

**Testing Plan for Sprint #4**

22/03/2024

## Testing Approaches

Testing strategies for this project will encompass a diverse range to optimize our testing plan's efficiency and effectiveness. Throughout the project timeline, we will employ Agile methodology, conducting iterative testing during sprints. Complementing Agile, Test Driven Development will be integrated, prioritizing test writing before code implementation. Exploratory testing will also be conducted to enhance user experience, allowing simultaneous testing of various system functions. Moreover, our CI Pipeline will be configured to automatically execute tests, facilitating early issue detection during development.

## Testing Tools, Coverage and Metric

For our project, we're utilizing the Next.js framework for both backend and frontend development. Therefore, our choice of testing tools must seamlessly integrate with these frameworks. Since Next.js leverages React.js for frontend development, JEST emerges as the optimal testing tool for unit and integration tests due to its compatibility. JEST is renowned for its "zero-configuration" testing environment and includes a built-in code coverage tool, crucial for our project's objectives. We'll be extensively utilizing unit and integration tests to generate testing analytics and validate code quality.

In terms of testing metrics, JEST provides insights into test coverage, execution time, and pass/fail ratios. Running "npx jest --coverage" in the project terminal generates a coverage directory containing details on statements, branches, functions, and lines. Similarly, a command is used to assess execution time. Results from these tests will be stored and evaluated in a concise testing report. Our target is to achieve a minimum code coverage of 80%, a figure we deem both achievable and indicative of the system's robust functionality.

To gauge code quality, we'll leverage ESLint, a static code analysis tool renowned for pinpointing potential errors and enhancing overall code quality. Integrated into IDEs, ESLint offers real-time feedback as the team codes, ensuring adherence to best practices. With the flexibility to install numerous plugins and extensions, we can encompass a wide array of code quality metrics.

ESLint performs static code analysis during execution in the terminal for the entire project, highlighting violations, code duplication, and performance metrics. It provides valuable feedback, indicating potential errors and areas for improvement. Fixable errors can be addressed by running the command "npx eslint --fix" to automatically resolve detected issues. To address code duplication, an ESLint plugin will be utilized, and the ESLint configuration file will be updated to detect duplication during project-wide terminal execution.

Employing these tools will enhance code readability, detect bugs at an early stage of development, and ensure adherence to a uniform coding standard. Integration of static code analysis tools will be seamlessly incorporated into the continuous integration pipeline.

Another key testing metric we prioritize is defect density, which quantifies the number of defects discovered per unit of code. We view this metric as instrumental in guiding testers to craft effective and beneficial tests for the project. Test coverage results will be utilized to compute defect density, aiding in our assessment of testing efficacy.

## Acceptance Tests

**Feature:** Notifications  ([US #44](US #44))

As a condo owner, I want to receive notifications about the latest activities in submitted or assigned requests

| Acceptance Criteria | Example Test Data |
|---|---|
| - The system should send an email detailing the newly submitted request<br>- The system should send an email detailing the newly assigned request<br>- The system should send an email detailing any updates on the requests<br>- The updated status should be reflected on the condo owner's request page when they log in to check the status of their assigned requests on the web platform | - Request Submitted Notification:<br>  - Request ID: 011<br>  - Submitted By: John Doe<br>  - Date Submitted: April 10, 2024<br>  - Status: Pending<br>  - Description: Moving in request. |

**Feature:** File upload ([US #46](US #46))

As a condo management company, I want to upload condo files for each property, accessible to all condo owners, including declarations, annual budgets, and board meeting minute

| Acceptance Criteria | Example Test Data |
|---|---|
| - The system should reflect the updated list of documents accessible by all condo owners in the Properties page | - Upload File named "Declaration 2023"<br>  - For Property: 100 Random Street |

**Feature:** Mobile platform (US #214)

As a condo owner, I want to access my account on the mobile version of the platform.

| Acceptance Criteria | Example Test Data |
|---|---|
| - User should be able to open the app and navigate to their account and have it be displayed on the screen | PROFILE PICTURE<br><br>Name: Gladius Maximus<br><br>Email: ramranch@gmail.com<br><br>Phone number: 514 7346784673290234 |

**Feature:** Mobile platform (US #157)

As a user who has a working account, I want to access my account on the mobile version of the platform.

| Acceptance Criteria | Example Test Data |
|---|---|

| | |
|---|---|
| - The platform should have a responsive design that adapts to various screen sizes and orientations, ensuring optimal usability and readability on mobile devices.<br>- Users should be able to access their accounts by logging in using their credentials (e.g., username/email and password) on the mobile version of the platform.<br>- The login process should be intuitive and user-friendly, with appropriate error messages displayed for invalid credentials or login failures.<br>- Once logged in, users should be able to access their account information, including profile details, and settings through the mobile interface. | Username: Scooby<br><br>Password: Secret123? |

**Feature:** Property Details on Mobile ([US #163](#))

As a condo management company, I want to access the details of my property from the mobile app.

| Acceptance Criteria | Example Test Data |
|---|---|
| - Condo management company should be able to open the mobile app, go to the Properties page, and see their properties' details displayed on the screen | - Property Details<br><br>    - Name: 100 Random Street<br>    - Number of Units<br>    - Number of Parking Spots<br>    - Number of Lockers<br>    - Square feet of each unit |

**Feature:** Access Account on Mobile ([US #215](#))

As an employee, I want to access my account on the mobile version of the platform.

| Acceptance Criteria | Example Test Data |
|---|---|
| - User should be able to display and upload a profile picture<br>- Users should be able to set and change their name<br>- Users should be able to display their gmail.<br>- Users should be able to display and edit their phone number | PROFILE PICTURE<br><br>Name: Gladius Maximus<br><br>Email: ramranch@gmail.com<br><br>Phone number: 514 7346784673290234 |