



ESCUELA SUPERIOR
PÓLITECNICA DEL LITORAL

ALAMEDA DEL RÍO

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SUBJECT: SOFTWARE ENG. II

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1. Abstract

This document contains the report corresponding to the project “**ALAMEDA DEL RÍO**” of **GROUP#4** belonging to the **SOFTWARE ENGINEERING II** course of **2020-PAO I**.

The report contains a description of the project, client information, scrum methodology, implementations, and important decisions.

2. Description

The project is a continuation¹ of the project of **SOFTWARE ENGINEERING I** course of **2019-PAO II**.

¹ ESPOL have a Software Engineering program that consists in two courses in two semesters, the project in the second course is a continuation of the project in the first semester.

2.1. Client

The client of the project is “**Alameda del Río**”, Alameda is urbanization in Guayaquil near to Daule river and Terminal Terrestre Highway.

The represent of **Alameda** in the project is Eng. Pedro Xavier Gavilanez Chiriboga, president of “Alameda del Río”.

2.2. Team

The team initially consisted of four members that carried out the requirements gathering and the tasks of **SOFTWARE ENGINEERING I** course of **2019-PAO II**. The initial four members are:

-

In **SOFTWARE ENGINEERING II** course of **2020-PAO I** the team received new incorporation completing five members². The new member is:

- Aguilar Mora Oswaldo Josmany

2.3. Tutor

The tutor of the project in **SOFTWARE ENGINEERING I** course of **2019-PAO II** was Dr. Carlos Mera, in the second part of the project in **SOFTWARE ENGINEERING II** course of **2020-PAO I** the tutor continues another term with the team.

2.4. Product

The initial scope of the project in **SOFTWARE ENGINEERING II** course of **2019-PAO II** consisted in a Web Administrator, database, Mobile apps for residents and security staff, hardware implementation in urbanization but since the COVID³ emergency in Ecuador and the mobility restriction affect the final scope consists only in:

- Web Administrator.

² PhD. Carlos Mera in the course of Software Engineering II increase teams' size to 5 members.

³ In the final of first semester of the year Ecuador was affect with a global pandemic, this pandemic was occasioned for the COVID-19 virus, mobility restrictions were decreed in order mitigate the pandemic. This restriction affects the scope of the project.

- Resident Mobile App.
- Security Staff Mobile App.
- Database.

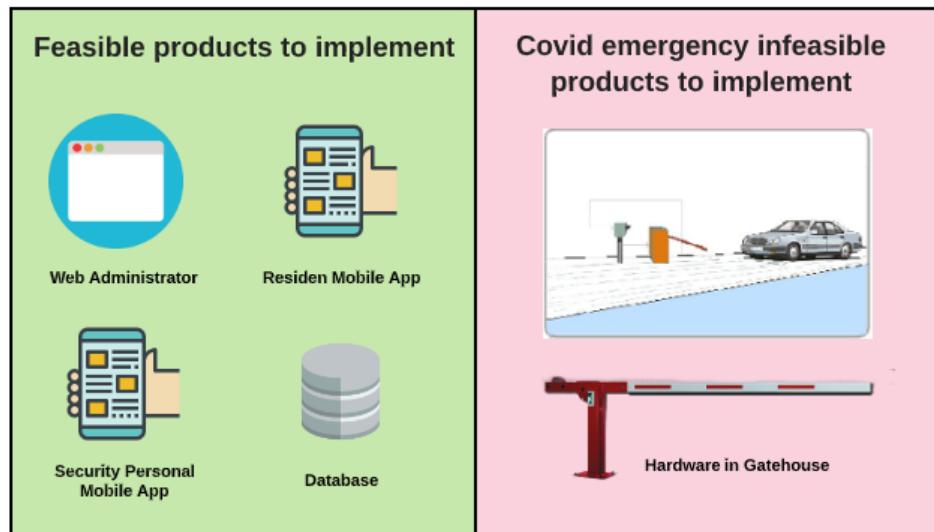


Figure 1.- Redefinition of project scope for COVID emergency.

3. Product Specifications

3.1. Web

The client requires a Web module for the Administrator, in this module the administrator will create de profiles of residents and security staff, the management of these users, and the possibility of generating aliquots and reports.

3.2. Resident Mobile app

The client requires a mobile app for the resident, in this app, the resident will control the staff information, will generate invitations for his friends, and receive the information and deadlines of the aliquots. Additionally, the resident will receive a notification when a visitor shows up at the gatehouse of the urbanization.

3.3. Security Staff Mobile app

The client requires a mobile app for the security staff, in this app the security staff will see the actives invitations and send to the resident the notification of the visitor in the gatehouse. Additionally, the security staff will see the information on payments and aliquots of the residents in order to authorize or deny certain services to the residents.

3.4. Component Diagram

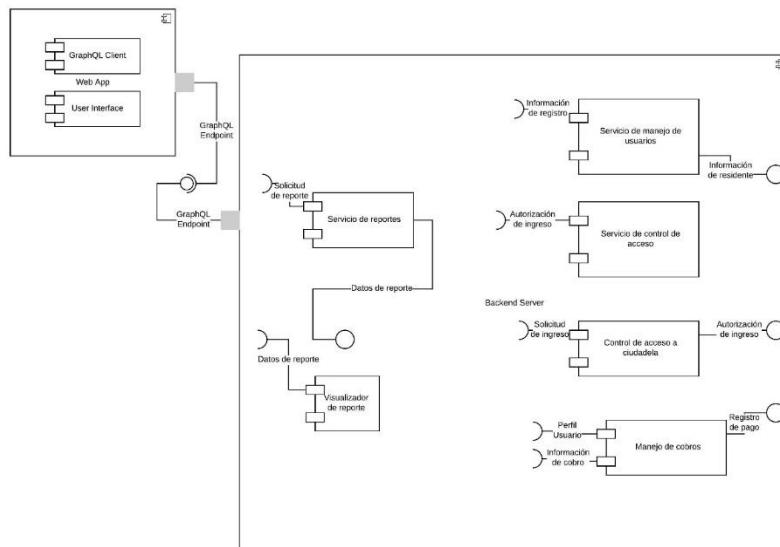


Figure 2.- Alameda Project - Component Diagram

3.5. Deployment Diagram

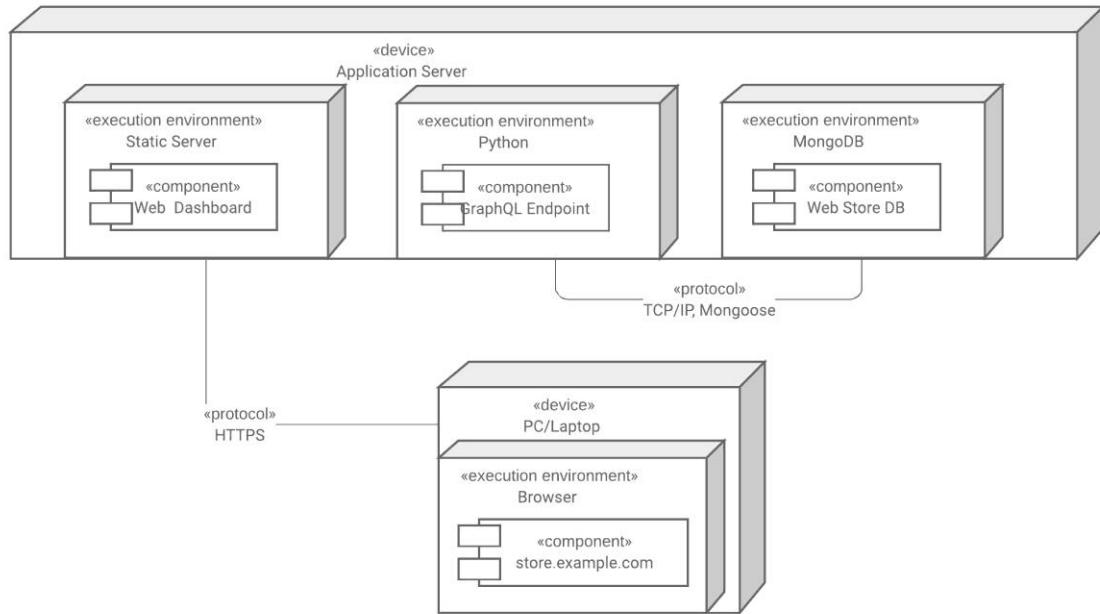


Figure 3.- Alameda Project - Deployment Diagram

4. Scrum Methodology

4.1. Roles

MEMBER	ROLE	START SEMESTER
Guillermo Enrique Bernal Moreira	Scrum Master	2019 - PAO II
Hugo Bryan Wong Pavon	Developer Team	2019 - PAO II
Karen Monserrat Bermudez Moreira	Product Owner	2019 - PAO II
Luis Eduardo Ortiz Holguin	Developer Team	2019 - PAO II
Oswaldo Josmany Aguilar Mora	Developer Team	2020 - PAO I
Eng. Pedro Xavier Gavilanez Chiriboga	Client	2019 - PAO II

Table 1. Scrum Roles

4.2. Sprints

The scrum project consists of three sprints of three weeks⁴, the last sprint ends a week before the second partial evaluation.

Sprint 1	Week 1	29-jun	4-jul
	Week 2	6-jul	11-jul
	Week 3	13-jul	18-jul
Sprint 2	Week 1	20-jul	25-jul
	Week 2	27-jul	1-aug
	Week 3	3-aug	8-aug
Sprint 3	Week 1	10-aug	15-aug
	Week 2	17-aug	22-aug
	Week 3	24-aug	29-aug
Deadline		31-aug	4-sep

Table 2.- Sprints divisions and dates

⁴ The project partial report is scheduled for July 15 of 2020, this correspond to the middle of third week of the first sprint.

4.3. Team Speed

Considering the rule of 1 effort point is equivalent to 1 hour/men the team speed for a sprint is 117 points.

SOFTWARE ENGINEERING II - SCRUM ALAMEDA			
MEMBER	ROLE	H/M WEEK	SPEED SPRINT
Eduardo Ortiz	D.T.	7,5	22,5
Guillermo Bernal	S.M.	8	24
Hugo Wong	D.T.	8	24
Karen Bermudez	D.T.	7,5	22,5
Oswaldo Aguilar	D.T.	8	24
		39	117

Table 3. Team Speed calculation

4.4. User Stories

The project consists of 69 user stories divided into the three roles and an initial story; the codification of the stories follows the structure(**USER-ACTIVITY-COUNTER**).

The available users' codes are:

- AL referring to Urbanization "Alameda del Río".
- AD referring to Web Administrator or Alameda Administrator.
- PS referring to Security Staff.
- RE referring to Alameda resident.

The available activity codes are:

- MC referring to the profile's management.
- FU referring to systems functionalities.
- This code isn't present in the initial story AL-00.

The counter number follow three rules and one exception:

- Is a number of two digits.
- The counter starts in 01 and it's incremental in the next story.
- In the case of the counter in range 1-9, the number was preceded by a 0 in order to complete two digits.

- The exception is in the initial project story AL-00 that refers to the environment creation.

The stories priorities are:

- Urgent.
- High.
- Normal.
- Low.

4.5. Scrum Poker

In order to estimate the user stories, the team scheduled a meeting on Friday 26 of June, the rules and considerations are:

- <https://play.planningpoker.com/play/game/GaKn7U6ZdVrDnyYpsGK4rMy19FNtxgcv>.
- The meeting platform is Teams, urgent, and obligatory.
- The host and environment manager are Oswaldo Aguilar Mora.
- The equivalence of an effort point is 1 hour/men.
- Three votes with the same estimation are considered a group agreement.
- In case of disagreement, the team should talk and later vote again.
- Modification of votes is allowed.
- The scale is [0, 1/2, 1, 2, 3, 5, 8, 13, 20, 40, 100, ?, Pass] and No break.
- In case of all members vote ? or Pass, the tutor vote will be considered.

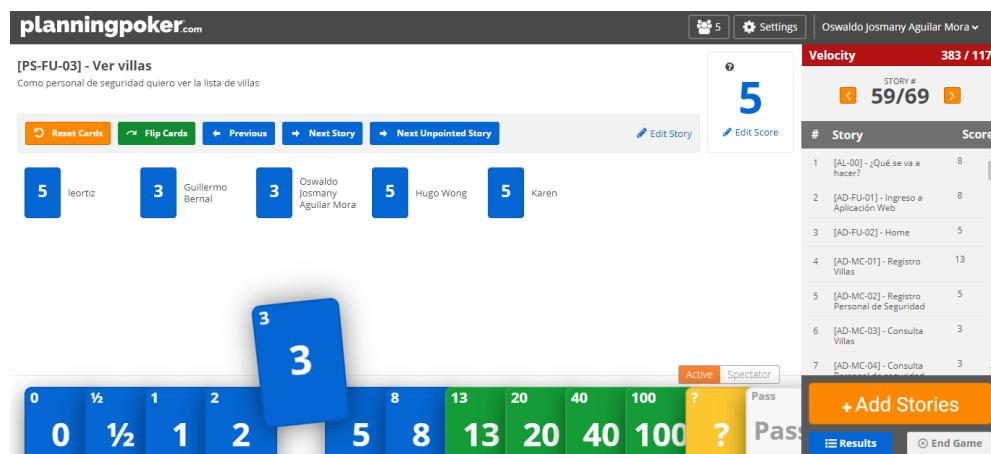


Figure 4. Scrum Poker Platform - Story 59

4.6. Backlog

CODE	DETAIL	PRIORITY	ESTIMATE
AL-00	As a client (Alameda), I want residents and security staff to have mobile applications controlled by a web application for the administrator with the persistence of data in a BD.	Urgent	8
AD-FU-01	As an administrator, I want to be able to enter the web control module with my username and password.	High	8
AD-FU-02	As an administrator, I want to be able to see all the options offered by the application and the main page.	Normal	5
AD-FU-03	As an administrator, I want to be able to consult my registered information.	Low	2
AD-FU-04	As an administrator, I want to be able to edit my registered information.	Low	3
AD-FU-05	As an administrator, I want to be able to generate a new item to be collected for all residences.	High	3
AD-FU-06	As an administrator, I want to be able to generate a new item to be charged per villa,	Low	3
AD-FU-07	As an administrator, I want to be able to change the status of an item of a villa to "PAID / CANCELED" or "DEBT" with its respective value.	High	2
AD-FU-08	As an administrator, I want to be able to see the general balance of debts of each residence.	Normal	5
AD-FU-09	As an administrator, I want to see the current debts of the resident.	High	2
AD-FU-10	As an administrator, I want to see the payment history of a residence.	Normal	3
AD-FU-11	As an administrator, I want to see all the payment items created.	High	2

AD-FU-12	As an administrator, I want to see the information on a specific payment item.	Low	2
AD-FU-13	As an administrator, I want to see the general balance of the payment status of the payment item.	Normal	5
AD-FU-14	As an administrator, I want to see a list of the villas missing to cancel the payment item.	Normal	2
AD-FU-15	As an administrator, I want to edit the information of an existing payment item.	Low	2
AD-FU-16	As an administrator, I want to delete a created payment item.	Normal	3
AD-FU-17	As an administrator, I want to see the history of visits by the villa.	Normal	3
AD-FU-18	As an administrator, I want to see the visit history of Alameda.	High	3
AD-FU-19	As an administrator, I want to receive daily reports of visits to the urbanization.	High	13
AD-FU-20	As an administrator, I want to receive daily reports on the status of the items and debts in the urbanization.	High	13
AD-FU-21	As an administrator, I want to see comments and suggestions from residents.	Low	3
AD-FU-22	As an administrator, I want to respond to these comments and suggestions.	Low	2
AD-FU-23	As an administrator, I want to receive daily reports of comments and suggestions.	Low	5
AD-FU-24	As an administrator, I want to be able to mark or categorize the comments and suggestions that I receive.	Low	3
AD-FU-25	As an administrator, I want to be able to log out of the web system.	High	1

AD-MC-01	As an administrator, I want to be able to register residents in the app.	High	13
AD-MC-02	As an administrator, I want to be able to register the security staff in the application.	High	5
AD-MC-03	As an administrator, I want to be able to consult the accounts of the residents.	Normal	3
AD-MC-04	As an administrator, I want to be able to consult the accounts of the security staff.	Normal	3
AD-MC-05	As an administrator, I want to be able to edit the profile fields of the residents' accounts.	Low	4
AD-MC-06	As an administrator, I want to be able to edit the profile fields of the security person's accounts.	Low	2
AD-MC-07	As an administrator, I want to be able to cancel the account associated with a resident.	Low	2
AD-MC-08	As an administrator, I want to be able to cancel the account associated with a member of the security staff.	Low	2
RE-FU-01	As a resident, I want to be able to enter the mobile application with my username and password.	High	13
RE-FU-02	As a resident, I want to be able to see all the options offered by the application and the main page.	Normal	8
RE-FU-03	As a resident, I want to be able to consult my personal information.	Low	5
RE-FU-04	As a resident, I want to be able to edit my allowed information.	Low	20
RE-FU-05	As a resident, I want to see the current items pending payment.	High	8
RE-FU-06	As a resident, I want to see the history of my payment items.	Low	13

RE-FU-07	As a resident, I want to see my active visitor invitations.	High	13
RE-FU-08	As a resident, I want to generate new invitations	High	8
RE-FU-09	As a resident, I want to edit active invitations.	Low	8
RE-FU-10	As a resident, I want to cancel active invitations.	Normal	13
RE-FU-11	As a resident, I want to see my visitor list.	Normal	8
RE-FU-12	As a resident, I want to add a new visitor.	Normal	5
RE-FU-13	As a resident, I want to see the detail of the visitors.	Low	3
RE-FU-14	As a resident, I want to edit the detail of the visitors.	Low	8
RE-FU-15	As a resident, I want to remove a visitor from my list.	Low	8
RE-FU-16	As a resident, I want to be notified when the visitor shows up at the sentry box of the urbanization.	High	5
RE-FU-17	As a resident, I want to be able to accept the visitor's income once it arrives.	High	8
RE-FU-18	As a resident, I want to have a communication channel with a sentry box.	Low	5
RE-FU-19	As a resident, I want to see my comments and suggestions sent.	Low	5
RE-FU-20	As a resident, I want to be able to send new comments and suggestions.	Low	3
RE-FU-21	As a resident, I want to be able to see the administrator's response to my comments or suggestions.	Low	3
RE-FU-22	As a resident, I want to be able to log out.	High	2
PS-FU-01	As a Security Staff, I want to be able to enter the mobile application with my username and password.	High	3

PS-FU-02	As a security staff, I want to be able to see all the options offered by the application and the main page.	Normal	3
PS-FU-03	As a security staff, I want to see the list of villas.	High	5
PS-FU-04	As a security staff, I want to see the basic information about the villa.	Normal	8
PS-FU-05	As a security staff, I want to see the villas that are in "mora".	High	5
PS-FU-06	As a security staff, I want to see the active visits of the day.	High	5
PS-FU-07	As a security staff, I want to be able to enter the invitation code and verify the data	High	8
PS-FU-08	As a security staff, I want to inform the resident of the arrival of the visit to the sentry box.	High	5
PS-FU-09	As a security staff, I want to mark the entrance of the visit.	Normal	3
PS-FU-10	As a security staff, I want to mark the departure of the visit.	Low	3
PS-FU-11	As a security staff, I want to have a communication channel with the villas/residents.	Low	3
PS-FU-12	As a security staff, I want to log out.	High	1
PS-FU-13	As a Security Staff, I want to be able to see the residents per villa on a map so I can give directions to visitors.	Normal	20

Table 4.- User Stories Backlog

4.7. Dependencies

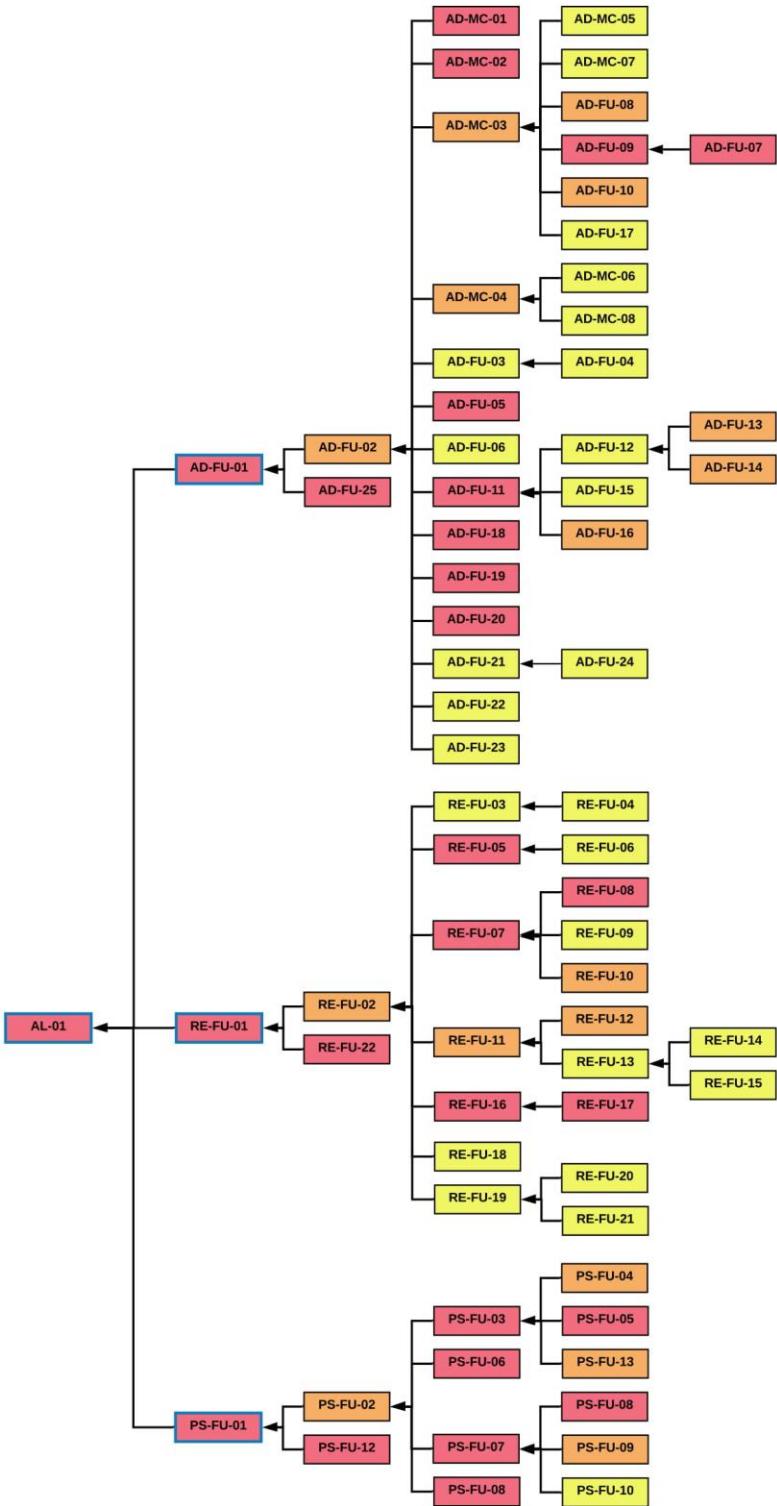


Figure 5. User stories dependencies

5. Project Control

5.1. Click Up

The task management platform of this project is “**Click up**”, at the beginning of the project was “**Asana**” but in the free version of this isn’t the link of dependencies between stories, for this reason, the team decided to change the platform.

The link to the project “Click up” environment is

<https://app.clickup.com/4208477/v/l/5-16514668-1?pr=10203943>.

Environment Structure:

- Backlog
- Sprint 1
- Sprint 2
- Sprint 3
- Bugs
- Meetings
- Other Tasks

The screenshot shows the Click Up interface for the 'Alamedatron' project. On the left, there's a sidebar with 'Favorites' and 'Spaces'. Under 'Spaces', 'Alamedatron' is selected, showing a list of items: Backlog (50), Sprint 1 (19), Sprint 2, Sprint 3, Bugs, Meetings, and Other Tasks. The main area is titled 'Backlog' and shows a table of 10 tasks. Each task has a yellow circular icon with a checkmark, a title, an assignee (a user icon), a due date, a priority (blue square), an estimated time (5h, 8h, 5h, 5h, 5h, 8h, 5h, 3h), and an E.P. Estimated column. The tasks are:

ASSIGNEE	DUE DATE	PRIORITY	TIME EST.	E.P. ESTIMATED
[User Icon]	[Date]	High	5h	5
[User Icon]	[Date]	Medium	8h	8
[User Icon]	[Date]	High	5h	5
[User Icon]	[Date]	Medium	5h	5
[User Icon]	[Date]	High	5h	5
[User Icon]	[Date]	Medium	8h	8
[User Icon]	[Date]	High	5h	5
[User Icon]	[Date]	Medium	3h	3

Figure 6.- Principal page of Click Up project.

Story Format:

- Code of Story
- Members Assigned

- Subtasks
- Dependencies
- GitHub Connection
- Time Estimated
- Comments

Figure 7. User story task in Click Up

An important characteristic of Click up is the Github connection, the members before start coding should link the repository and create the branch.

Figure 8. Github Connection to a tasks or subtask

Another important characteristic of Click Up is the time control of activities, with only a click a timer starts and helps report the developing time.

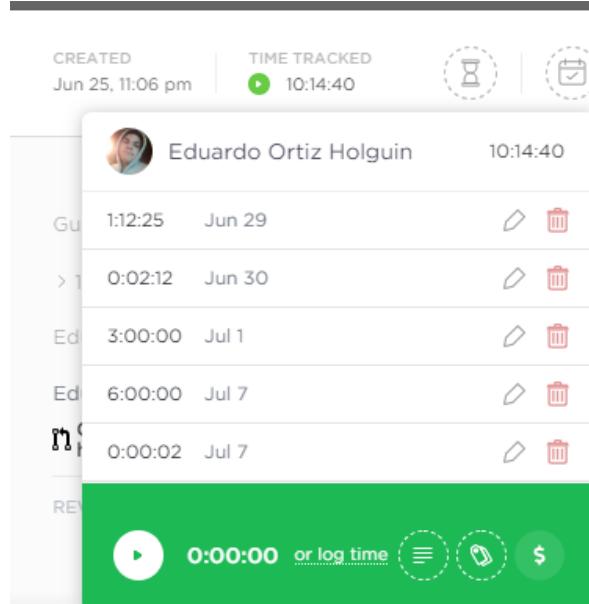
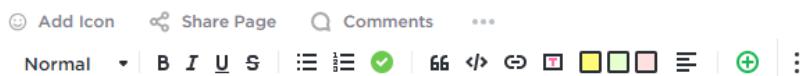


Figure 9. Time tracker of a task in Click up

Finally Click up have the option of document creation, which helps converge all information and also have a variety of views.

Use of time Report S1



Everyone immediately add the time **spent** on **development** using the following template.

Name	Start Time	End Time	User History	Comment
Osw	28-Jun 8:10PM	28-Jun 8:20PM	AL-00	Desing this Doc
leortiz	29-Jun 6:00 PM	29-Jun 7:30 PM	AL-00	Database dependencies

Figure 10.- Use of Time S1 Document in Click Up

5.2. GitHub

In this project in order to facilities the project control, the team created five repositories:

- Documentación: <https://github.com/Oswaqui/-Documentation-open-neighborhood->
- Web – Frontend: <https://github.com/Bernix01/open-neighborhood>
- Web - Backend: <https://github.com/Bernix01/open-neighborhood-backend>
- Security Staff Mobile App: <https://github.com/whugo43/App-Security>
- Resident Mobile App: <https://github.com/whugo43/App-Resident>

Additionally, the team follow a strict protocol of commits, branches, pull requests, and check:

- First, the member should be creating a branch of task with the link in Click up Platform.
- Code and Commits.
- Pull Request.
- Pass Tests and Code Stilling.
- Resolve Conflict.
- Assign a Reviewer.
- Check and comment.
- Accept the pull Request.

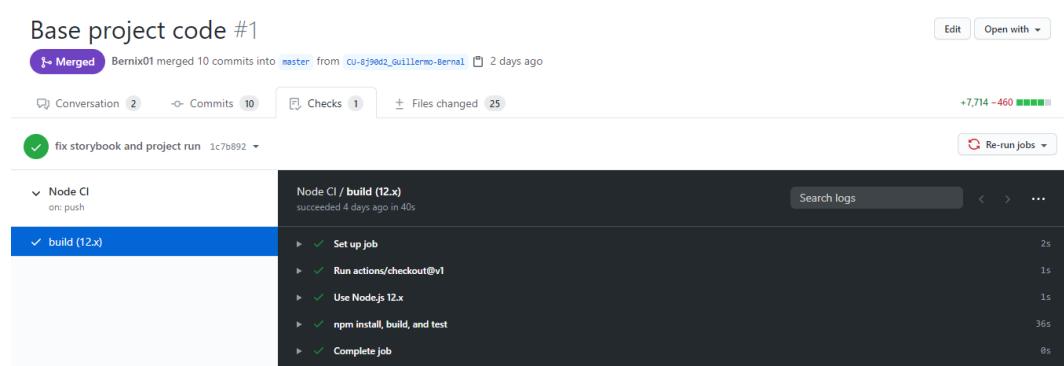


Figure 11.- Github Test and Accept

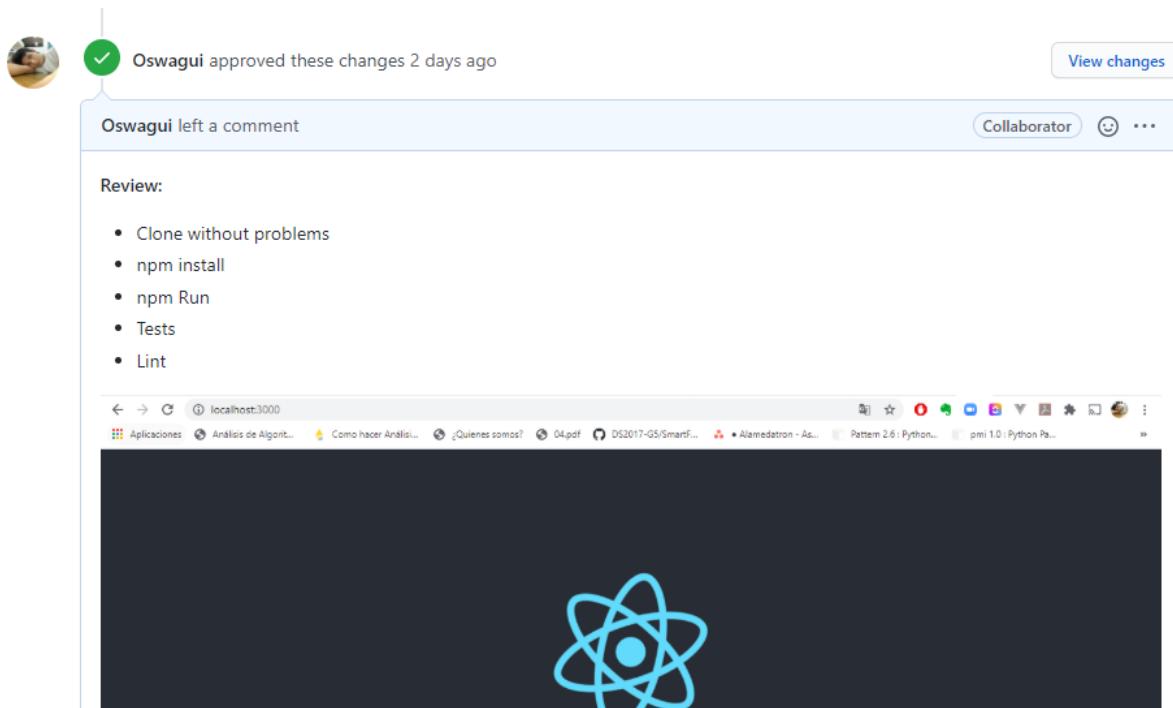


Figure 12. Github pull reviewer

5.3. Teams

The team has a private channel in course teams, in the files section, have a compilation of all documents of the project. Additionally, this platform is the meeting platform for the group.

5.4. Meetings Rules

The meetings are important in this project and are divided in the following types:

- Scrum Meetings.
- Teacher Guide Meetings.
- Bugs Resolution Meetings.
- Technology Explanation Meetings.
- Other Meetings.

The rules are:

- Daily Scrum Meeting will be from Monday to Saturday at 7:30 pm.
- Is obligatory assist to Sprint Planification Meeting.

- The assistance of Daily Scrum Meeting is important but in case of a problem or member's inability to attend this, the member should advise Scrum master and send the answer to the Daily Scrum questions.
- The Bugs Resolution, Technology Explanation is optional but is obligatory to check the records of the meeting.
- In case the Scrum Master can't assist to a Meeting should assign a represent and host of the meeting.
- The meeting minutes will be in teams and "click up" platform, but the sign of these will be postponed to a future date.
- The tutor guide meetings will be in the subject class hour.
- The Scrum Master can schedule an Urgent Meeting with obligatory attendance of members-only in the case that the members will be notified with a day of anticipation.

6. Technology, Tools and implementation decisions

6.1. Overview

TECHNOLOGY/TOOL	USE
React Native and React.js	Mobile App Framework and JavaScript library.
React Hook	React API, Hooking techniques.
Graphql	Query Language in Client-Side
Graphql Hooks	Alternative API to Apollo Hooks in Client-Side
Django	Web framework in server-side
Django Graphene	Add Graphql functionality in Django Project
Grommet	Uikit, React-based framework that provides accessibility, modularity, responsiveness, and themes in a tidy package.
GitHub Actions	Build Automation
Airbnb	Coding Standard
EsLint	Enforcing coding standards
EsLint	Preemptive Error Detection
Jest	Test Cases frontend
Django Test Cases Graphene Test Case	Test Cases backend
Chrome DevTools	Profiling web
Android Studio profiling tool	Profiling apps
Django Roles	Roles Control Tool
graphql-jwt	Authentication Tool
Windows Server 2013	Server Operating System
PostgreSQL	Server DataBase

Table 5.- Overview of tools and technology in the project

6.2. React Native and React.js

The Scrum team decided to have **React Native** as the mobile application framework of the project and **React.js** was chosen as the **JavaScript** library to build the user interfaces for Alameda's Administrator.

The main reason for the decision to choose React Native and ReactJS is to reduce the learning load of development members and to facilitate collaborative work both on the web app and mobile app.

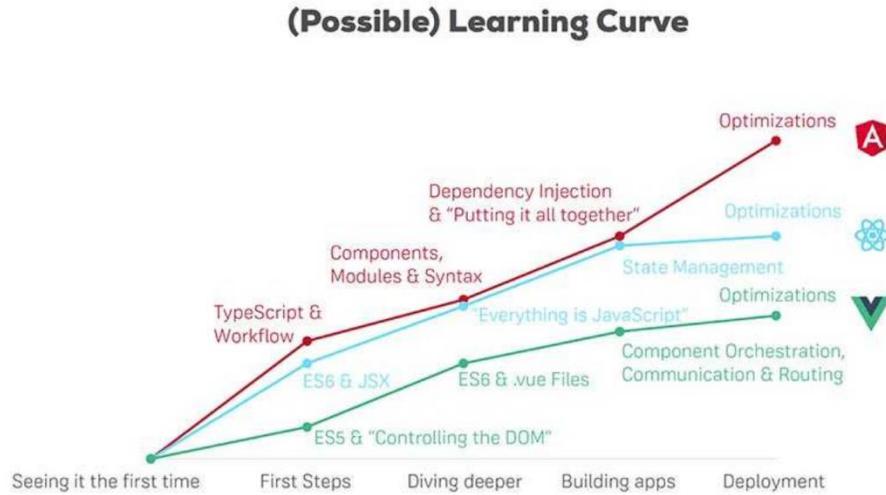


Figure 13.- Learning Curve - React, Angular and Vue

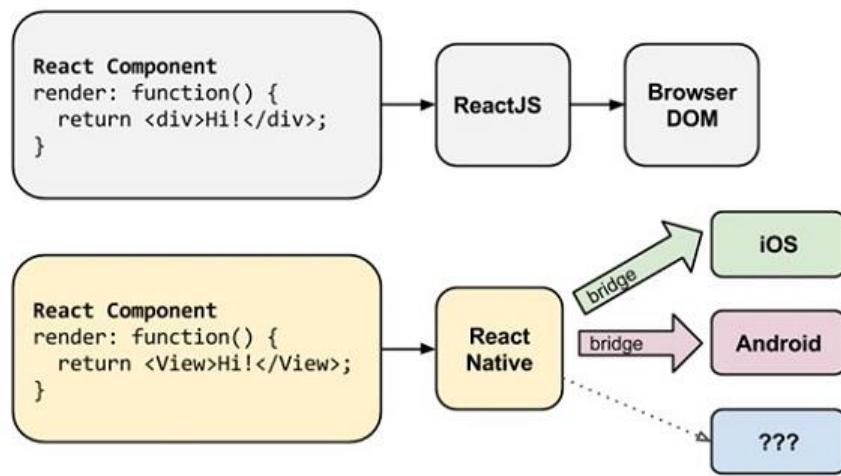


Figure 14.- Code Sharing between ReactJS and React Native

6.3. React Hook

The Scrum team decided to use the React API to implement the Hooking technique in the project.

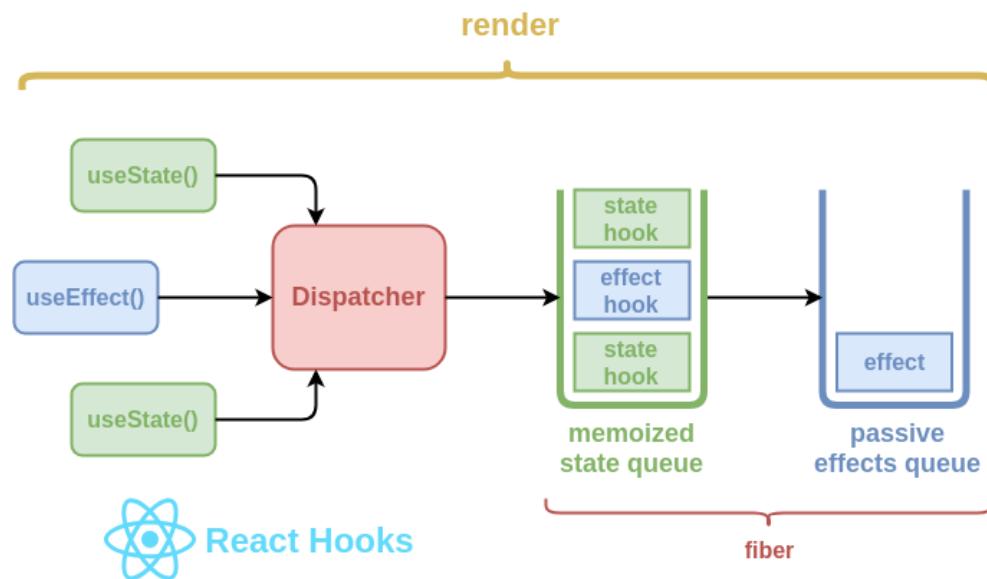


Figure 15. React Hooks

6.4. GraphQL

The Scrum team decided to have **GraphQL** as the query language in the Client Side. GraphQL provides a complete and understandable description of the data.

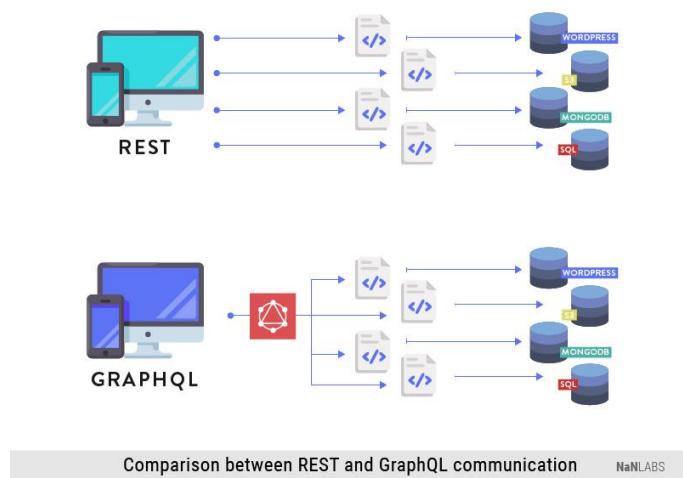


Figure 16. Comparison of Rest and GraphQL communication.

6.5. Django

The Scrum team decided to have **Django** as the web framework on the server-side. The main reason for the decision to choose Django and ReactJS is to reduce the learning time and facilitate the development thanks to the team's previous experience using Python and Django. Django follows the model-template-view (MVC) architectural pattern.

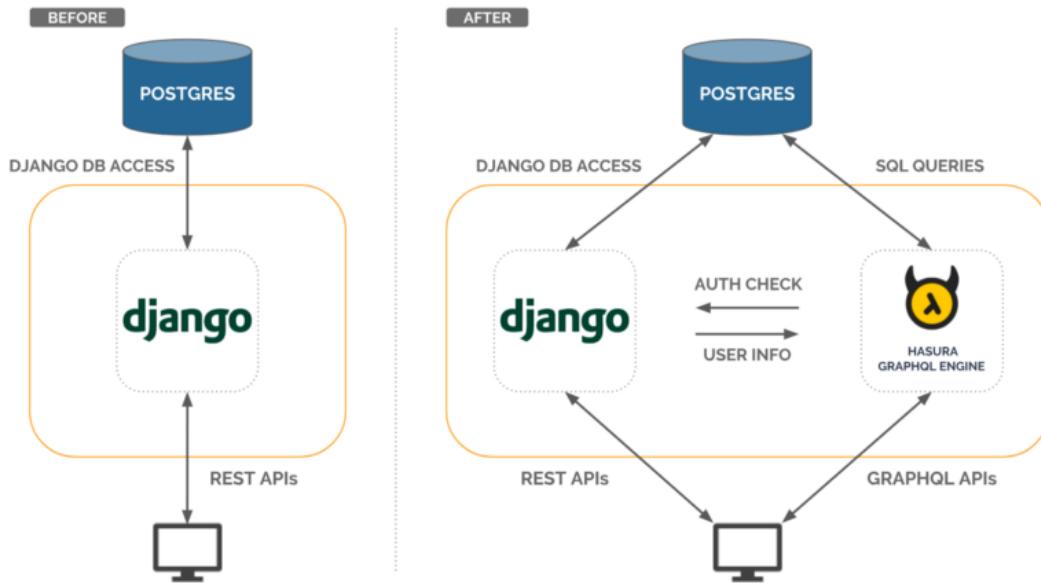


Figure 17. GraphQL and Django communication

6.6. Django Graphene

The Scrum team decided to have **Django Graphene** as GraphQL functionality in the Django Project.



Figure 18. Django and Graphene

6.7. Grommet

The Scrum team decided to have **Grommet** as the React-based framework that provides accessibility, modularity, responsiveness, and theming in a tidy package. And the grommet designer to make the views.

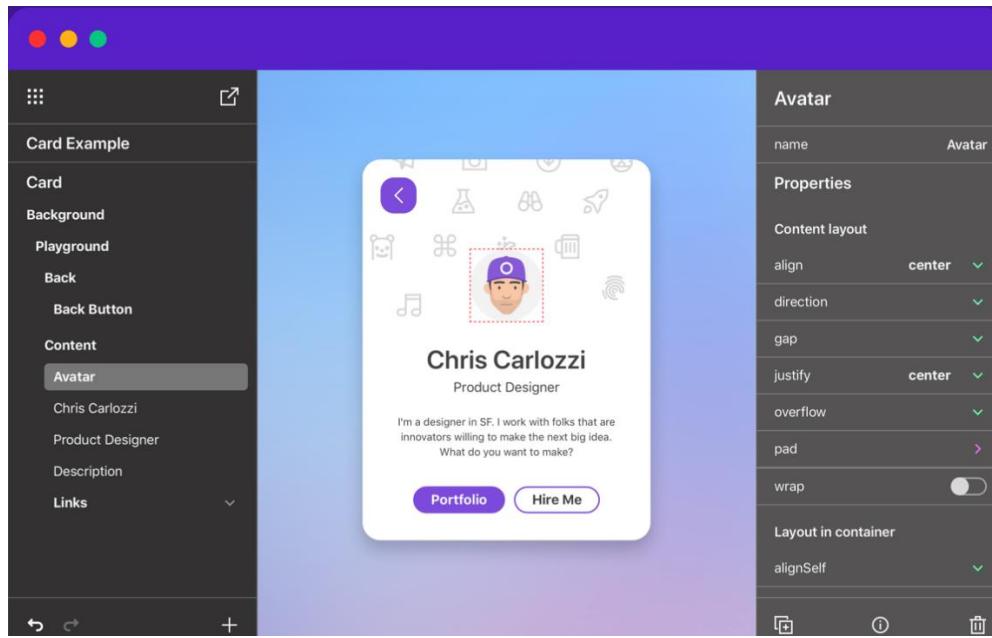


Figure 19. Grommet Designer

6.8. EsLint

The Scrum team decided to have **EsLint** as the tools for Enforcing coding standards and Preemptive Error Detection. The main reason to choose this tool is the facility of use.

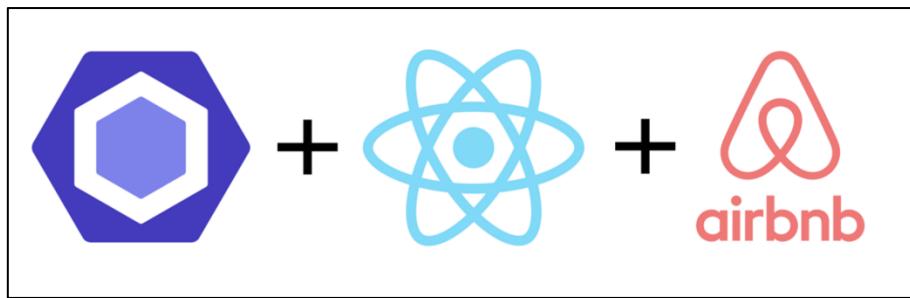


Figure 20. EsLint, React and Airbnb

The screenshot shows a code editor window with a dark theme. The file is named 'App.js'. A tooltip is displayed over line 16, highlighting a red underline under the href attribute of an anchor tag. The tooltip text reads: '[eslint] Component should be written as a pure function (react/prefer-stateless-function) [eslint] JSX not allowed in files with extension '.js' (react/jsx-filename-extension)'. The code editor interface includes various icons for file operations, search, and help. The status bar at the bottom shows 'Ln 29, Col 1 Spaces: 2 UTF-8 LF JavaScript Prettier: ✓'.

```
You, an hour ago | 1 author (You)
1 import React, { Component } from 'react';
2 import logo from './logo.svg';
3 import './App.css';
4
5 You, an hour ago | 1 author (You)
6 class App extends Component {
7   render() {
8     return (
9       <div className="App">
10      <header className="App-header">
11        Option + click to follow link
12        [eslint] Component should be written as a pure function (react/prefer-stateless-function)
13        [eslint] JSX not allowed in files with extension '.js' (react/jsx-filename-extension)
14        <a href="https://reactjs.org/" target="_blank" rel="noopener noreferrer">
15          Learn React
16        </a>
17      </header>
18    </div>
19  );
20}
21
22export default App;
23
24
25
26
27
28
29
```

Figure 21. EsLint example

6.9. Airbnb Style Guide

The Scrum team decided to have **Airbnb Style Guide** as the React style guide in the project. This style guide is mostly based on the standards that are currently prevalent in JavaScript, although some conventions (i.e async/await or static class fields) may still be included or prohibited on a case-by-case basis. Currently, anything prior to stage 3 is not included nor recommended in this guide.

Read the full guide in: <https://github.com/airbnb/javascript/tree/master/react>

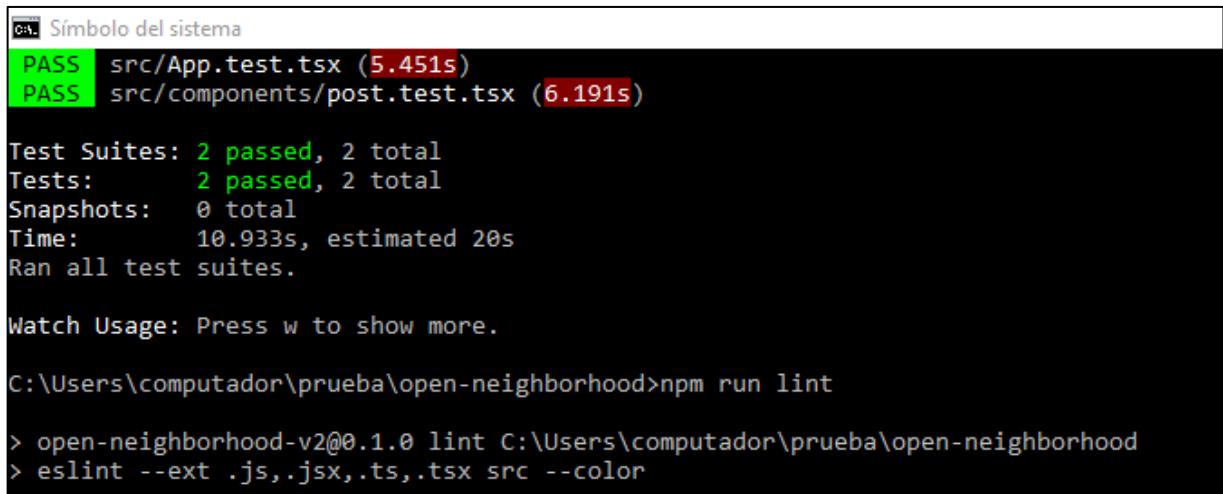
Style Guide points:

- Basic Rules
- Class vs React.createClass vs stateless
- Mixins
- Naming
- Declaration
- Alignment
- Quotes
- Spacing
- Props
- Refs

- Parentheses
- Tags
- Methods
- Ordering
- isMounted

6.10. Jest

The Scrum team decided to have **Jest** as JavaScript testing framework. It works with projects using: Babel, TypeScript, Node.js, React, Angular and Vue.js. It aims to work out of the box and config free.



```

C:\ Símbolo del sistema
PASS  src/App.test.tsx (5.451s)
PASS  src/components/post.test.tsx (6.191s)

Test Suites: 2 passed, 2 total
Tests:       2 passed, 2 total
Snapshots:   0 total
Time:        10.933s, estimated 20s
Ran all test suites.

Watch Usage: Press w to show more.

C:\Users\computador\prueba\open-neighborhood>npm run lint
> open-neighborhood-v2@0.1.0 lint C:\Users\computador\prueba\open-neighborhood
> eslint --ext .js,.jsx,.ts,.tsx src --color

```

Figure 22. EsLint test

6.11. Chrome DevTools

The Scrum team decided to have **Chrome DevTools** as a Web app profiler. Is the easiest and the documentation is extensive.

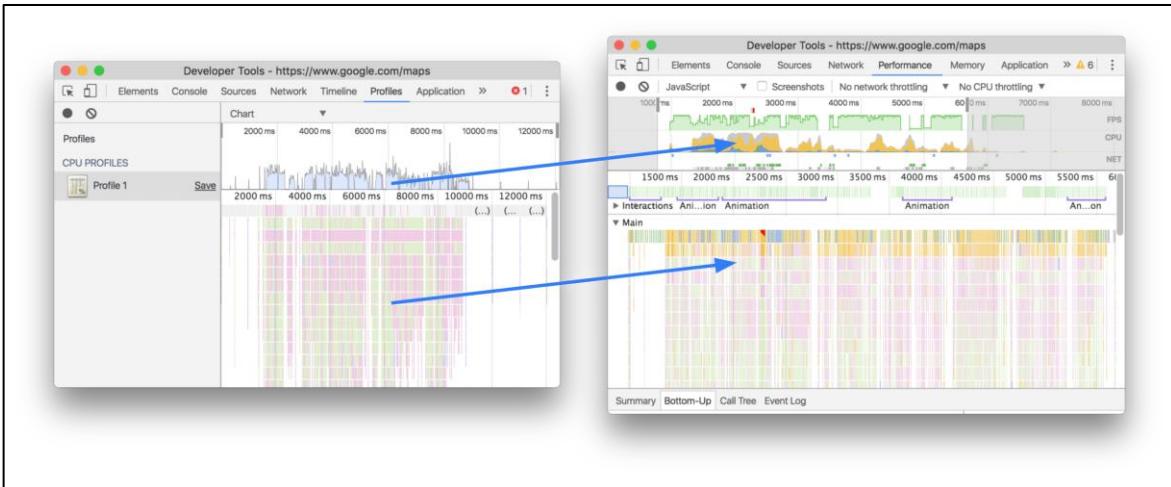


Figure 23. Chrome WebTools profiler

6.12. Android Profiler

The Scrum team decided to have **Android Profiler** as a Mobile app profiler. Is the easiest and the documentation is extensive.

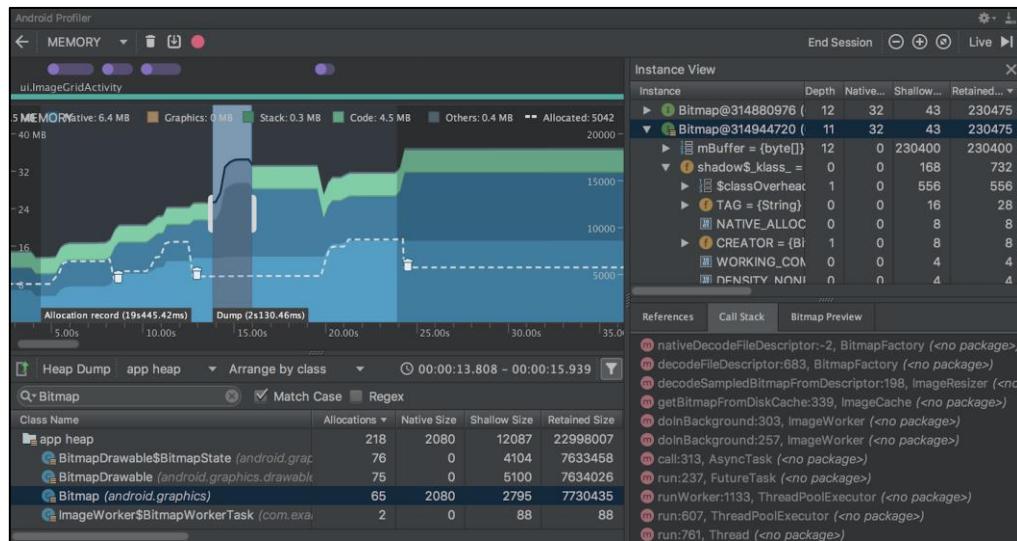


Figure 24. Android Profiler

6.13. Django Roles and GraphQL-JWT

The Scrum team decided to have **Django Roles** as the Roles Control tool and **GraphQL-JWT** as the Authentication tool.

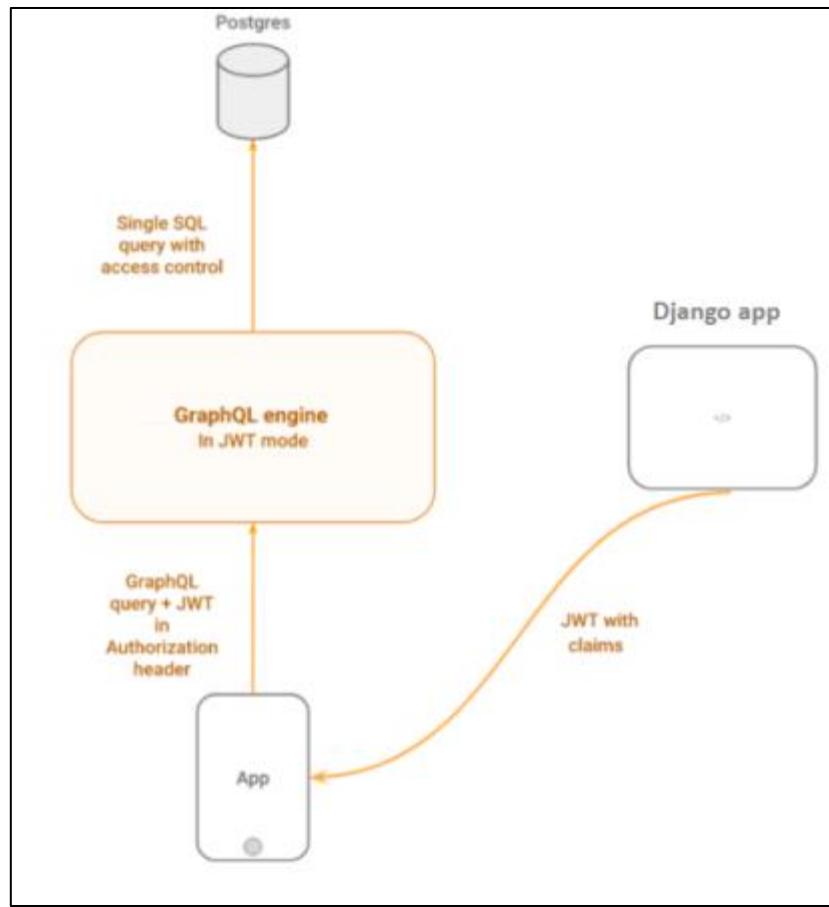


Figure 25. GraphQL JWT and Django

6.14. Windows Server 2003

The Client has **Windows Server 2003** as the operating system in the server.

6.15. PostgreSQL

The Client indicated the change of the database engine from SQL Server to **PostgreSQL**.

7.

CODE	DETAIL	TEST
AL-00	As a client (Alameda), I want residents and security staff to have mobile applications controlled by a web application for the administrator with persistence of data in a BD.	The client (Alameda) can controlled the residents and security staff.
AD-FU-01	As an administrator, I want to be able to enter the web control module with my username and password.	Login with wrong and right password.
AD-FU-02	As an administrator, I want to be able to see all the options offered by the application and the main page.	Login to main page.
AD-FU-03	As an administrator, I want to be able to consult my registered information.	Consult information.
AD-FU-04	As an administrator, I want to be able to edit my registered information.	Change any field.
AD-FU-05	As an administrator, I want to be able to generate a new item to be collected for all residences.	Generate a new item for all residences.
AD-FU-06	As an administrator, I want to be able to generate a new item to be charged per villa,	Generate a new item per villa.
AD-FU-07	As an administrator, I want to be able to change the status of an item of a villa to "PAID / CANCELED" or "DEBT" with its respective value.	Change state of any item for any villa.
AD-FU-08	As an administrator, I want to be able to see the general balance of debts of each residence.	Show the general balance of the residents.
AD-FU-09	As an administrator, I want to see the current debts of the resident.	Show the current debts of the resident.
AD-FU-10	As an administrator, I want to see the payment history of a residence.	Show the payment history of a resident
AD-FU-11	As an administrator, I want to see all the payments items created.	Show the payments items created.

AD-FU-12	As an administrator, I want to see the information of a specific payment item.	Show the information of a specific payment item
AD-FU-13	As an administrator, I want to see the general balance of the payment status of the payment item.	Show the general balance of the payment status of the payment item.
AD-FU-14	As an administrator, I want to see a list of the villas missing to cancel the payment item.	Show a list of the villas missing to cancel the payment item.
AD-FU-15	As an administrator, I want to edit the information of an existing payment item.	Change information of an existing payment item.
AD-FU-16	As an administrator, I want to delete a created payment item.	Delete a created payment item.
AD-FU-17	As an administrator, I want to see the history of visits by villa.	Show the history of visits by villa.
AD-FU-18	As an administrator, I want to see the visit history of Alameda.	Show the visit history of Alameda.
AD-FU-19	As an administrator, I want to receive daily reports of visits in the urbanization.	Send daily reports of visits in the urbanization
AD-FU-20	As an administrator, I want to receive daily reports on the status of the items and debts in the urbanization.	Send daily reports on the status of the items and debts in the urbanization.
AD-FU-21	As an administrator, I want to see comments and suggestions from residents.	Show comments and suggestions from residents.

AD-FU-22	As an administrator, I want to respond to these comments and suggestions.	Respond to these comments and suggestions.
AD-FU-23	As an administrator, I want to receive daily reports of comments and suggestions.	Send receive daily reports of comments and suggestions.
AD-FU-24	As an administrator, I want to be able to mark or categorize the comments and suggestions that I receive.	Categorize the comments and suggestions.
AD-FU-25	As an administrator, I want to be able to log out of the web system.	Log out of the web system.
AD-MC-01	As an administrator, I want to be able to register residents in the app.	Register a resident in the app.
AD-MC-02	As an administrator, I want to be able to register security staff in the application.	Register security staff in the application.
AD-MC-03	As an administrator, I want to be able to consult the accounts of the residents.	Consult the accounts of the residents.
AD-MC-04	As an administrator, I want to be able to consult the accounts of the security staff.	Consult the accounts of the security staff.
AD-MC-05	As an administrator, I want to be able to edit the profile fields of the residents' accounts.	Change the profile fields of the residents' accounts.
AD-MC-06	As an administrator, I want to be able to edit the profile fields of the security person's accounts.	Change the profile fields of the security person's accounts
AD-MC-07	As an administrator, I want to be able to cancel the account associated with a resident.	Cancel the account associated with a resident.
AD-MC-08	As an administrator, I want to be able to cancel the account associated with a member of the security staff.	Cancel the account associated with a member of the security staff.

RE-FU-01	As a resident, I want to be able to enter the mobile application with my username and password.	Enter the mobile application with my username and password.
RE-FU-02	As a resident, I want I want to be able to see all the options offered by the application and the main page.	Show all the options offered by the application and the main page.
RE-FU-03	As a resident, I want to be able to consult my personal information.	Consult my personal information.
RE-FU-04	As a resident, I want to be able to edit my allowed information.	Edit my allowed information.
RE-FU-05	As a resident, I want to see the current items pending payment.	Show current items pending payment.
RE-FU-06	As a resident, I want to see the history of my payment's items.	Show the history of payment's items.
RE-FU-07	As a resident, I want to see my active visitor invitations.	Show active visitor invitations.
RE-FU-08	As a resident, I want to generate new invitations	Generate new invitations
RE-FU-09	As a resident, I want to edit active invitations.	Edit active invitations
RE-FU-10	As a resident, I want to cancel active invitations.	Cancel active invitations
RE-FU-11	As a resident, I want to see my visitor list.	Show visitor list
RE-FU-12	As a resident, I want to add a new visitor.	Add a new visitor.
RE-FU-13	As a resident, I want to see the detail of the visitors.	Show the detail of the visitors.
RE-FU-14	As a resident, I want to edit the detail of the visitors.	Edit the detail of the visitors.
RE-FU-15	As a resident, I want to remove a visitor from my list.	Remove a visitor from my list.

RE-FU-16	As a resident, I want to be notified when the visitor shows up at the sentry box of the urbanization.	Send notification to resident when the visitor shows up at the sentry box of the urbanization.
RE-FU-17	As a resident, I want to be able to accept the visitor's income once it arrives.	Accept the visitor's income once it arrives.
RE-FU-18	As a resident, I want to have a communication channel with sentry box.	Send message to sentry box.
RE-FU-19	As a resident, I want to see my comments and suggestions sent.	Show comments and suggestions sent.
RE-FU-20	As a resident, I want to be able to send new comments and suggestions.	Send comments and suggestions.
RE-FU-21	As a resident, I want to be able to see the administrator's response to my comments or suggestions.	Show administrator's response to comments or suggestions.
RE-FU-22	As a resident, I want to be able to log out.	Log out of the app.
PS-FU-01	As a Security Staff, I want to be able to enter the mobile application with my username and password.	Enter the mobile application with username and password.
PS-FU-02	As a security staff, I want to be able to see all the options offered by the application and the main page.	Normal
PS-FU-03	As a security staff, I want to see the list of villas.	Show the list of villas.
PS-FU-04	As a security staff, I want to see the basic information of the villa.	Show the basic information of the villa.

PS-FU-05	As a security staff, I want to see the villas that are in “mora”.	Show the villas that are in “mora”.
PS-FU-06	As a security staff, I want to see the active visits of the day.	Show the active visits of the day.
PS-FU-07	As a security staff, I want to be able to enter the invitation code and verify the data	Enter the invitation code and verify the data
PS-FU-08	As a security staff, I want to inform the resident of the arrival of the visit to the sentry box.	Send notification to the resident of the arrival of the visit to the sentry box.
PS-FU-09	As a security staff, I want to mark the entrance of the visit.	Mark the entrance of the visit.
PS-FU-10	As a security staff, I want to mark the departure of the visit.	Mark the departure of the visit.
PS-FU-11	As a security staff, I want to have a communication channel with the villas/residents.	Send messages to the villas/residents
PS-FU-12	As a security staff, I want to log out.	Log out to the app.
PS-FU-13	As a Security Staff, I want to be able to see the residents per villa on a map so I can give directions to visitors.	Show the residents per villa on a map.

8. Deployment

The initial scope includes a physical server deployment but for Covid and quarantine reasons, the team and the client according a partial deployment in Heroku: <https://alamedaec.herokuapp.com/graphQL/.>



Figure 26.- Heroku

9. Pre-Sprint

9.1. Meetings

MEETING	DATE-TIME	TYPE
Asana migration	23/06/2020 09:33 PM	Optional
Teacher Guide 1	24/06/2020 02:45 PM	Feedback
Scrum Poker	26/06/2020 11:00 AM	Obligatory

Table 6.- Pre Sprint-Meetings

9.2. Considerations

- The meeting minutes are in Teams and Click-up.
- The first evidence of these meetings was in Asana but a time later the team migrate to Click-up.
- Redefinition, creation, and estimations of stories were in this period.

10. Sprint 1

10.1. Week 1

- Start of AL-00 story.
- Hard week, the team presents a lot of problems with the platforms and languages.
- Bad estimation of AL-00 story, the configuration, and the familiarization with the languages, frameworks, and tools require more time.
- Click up Migration.
- Define tools, frameworks and technology.
- Define Coding Standards.
- Start report of first partial.

10.2. Week 2

- End of AL-00 story.
- Check pull request of Web environment.
- Check pull request of Resident Mobile App environment.
- Check pull request of the Security Staff App environment.
- Definition of Profiling Tool.
- Continues report of first partial.

10.3. Week 3

- Continues report of first partial.
- Configuration of the user in the web server. (14/07/2020)
- Configuration of the web server.
- Learn Grommet.
- Start AD-FU-01, AD-FU-02.
- Add PostgreSQL to the project.
- First Partial Report.
- Github Documentation Repo.
- Early Sprint 1 Acceptance Act.

11. Sprint 2

11.1. Week 1

- Continues developing.
- Slow week.
- Other subjects homeworks, tests and partial evaluation.

11.2. Week 2

- Define technologies and acceptance tests.
- Continues developing.

- Sprint delayed.

11.3. Week 3

- Continues developing.
- Problems in mobile app.
- Bugs in web app.

12. Sprint 3

12.1. Week 1

- Web bugs finded.
- Login bugs identified.
- Scrum master find a solution.

12.2. Week 2

- Continue developing.
- Scrum master find solution.
- Login repair.

12.3. Week 3

- Continue developing.
- Add Login Auth.
- Mobile app login fixed.
- Video structure.
- Record video

12.4. Extra Weeks

- Continue developing.
- Register users
- Admin functionalities
- List resident and staff
- Aliquots control.
- Document.
- Acceptance Test
- Heroku deployment: <https://alamedaec.herokuapp.com/graphql/>
- Video correction
- Apps new repo
- Apps Development
- Apps Control
- Apps Deployment

12.5. Meetings

MEETING	DATE-TIME	TYPE
Daily Scrum 1	29/06/2020 07:30 PM	Scrum
Daily Scrum 2	30/06/2020 07:30 PM	Scrum
Teacher Guide 2	01/07/2020 03:42 PM	Feedback
Daily Scrum 3	01/07/2020 07:30 PM	Scrum
Daily Scrum 4	02/07/2020 07:30 PM	Scrum
Daily Scrum 5	03/07/2020 07:30 PM	Scrum
Technology Meeting 1	04/07/2020 12:30 PM	Optional
Daily Scrum 6	04/07/2020 07:30 PM	Scrum
Daily Scrum 7	06/07/2020 07:30 PM	Scrum
Daily Scrum 9	08/07/2020 07:30 PM	Scrum
Daily Scrum 10	-	Scrum
Daily Scrum 11	-	Scrum
Daily Scrum 12	08/07/2020 07:30 PM	Scrum
Daily Scrum 13	13/07/2020 07:30 PM	Scrum
Daily Scrum 14	14/07/2020 07:30 PM	Scrum
Daily Scrum 15	15/07/2020 08:30 PM	Scrum

Table 7.- Sprint 1 Meetings

12.6. Screenshots

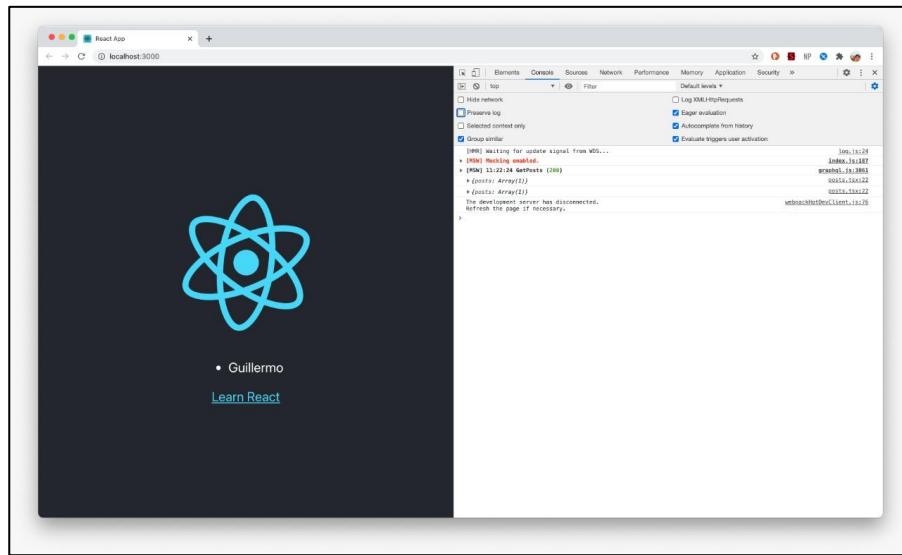


Figure 27.- Web Administrator - React init

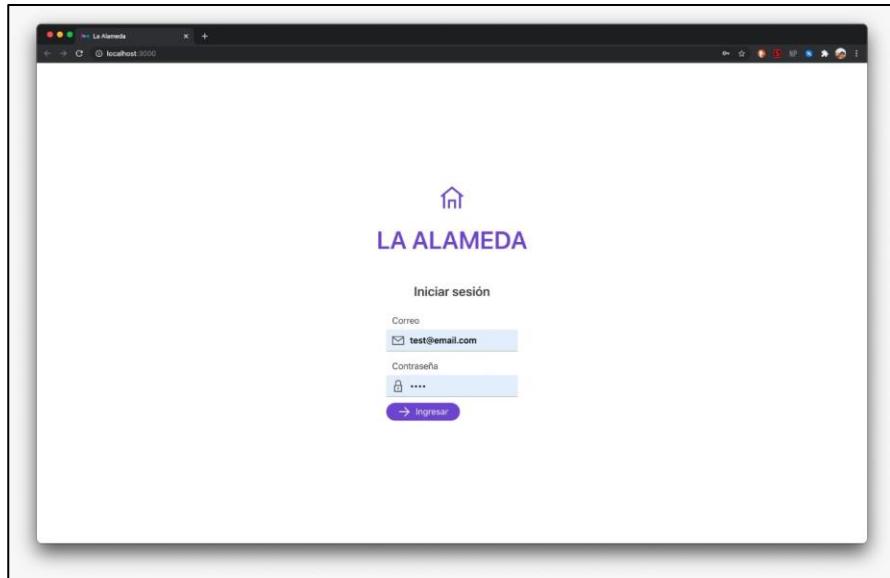


Figure 28.- Web Administrator - Log-in

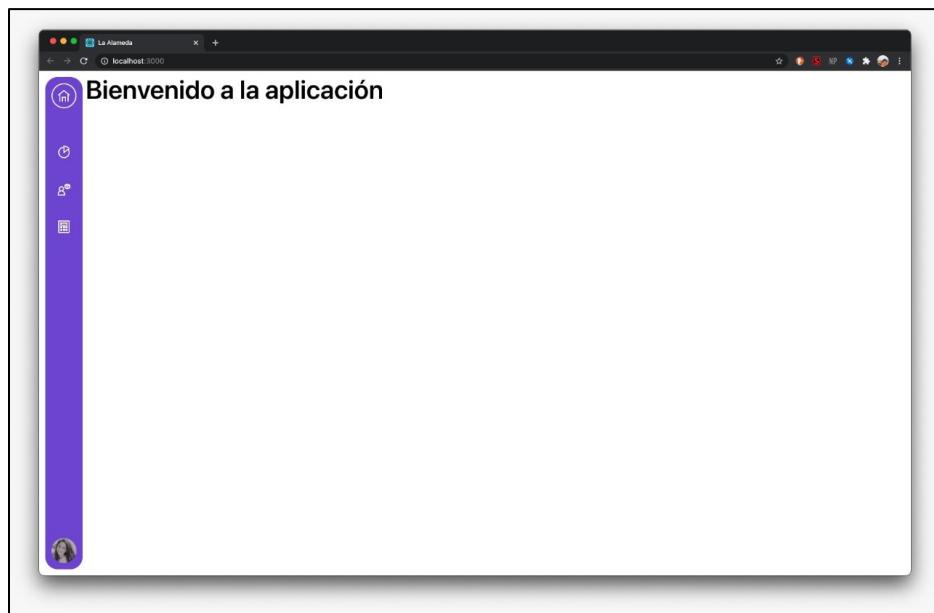


Figure 29.- Web Administrator – Home

The screenshot shows a web browser window with the URL `localhost:8000/graph.../La Alameda`. The page title is "Urbanización La alameda". On the left, there is a vertical sidebar with icons for home, clock, users, calendar, and lock. The main content area is titled "Pago Alicuota" and contains two input fields, both containing the value "0001", and a purple "Pagar" button.

Figure 30.- Web Administrator – Register Payment

The screenshot shows a web browser window with the URL `localhost:8000/graph.../La Alameda`. The page title is "Urbanización La alameda". On the left, there is a vertical sidebar with icons for home, clock, users, calendar, and lock. The main content area is titled "Residentes" and displays a table of resident information. A "añadir" button is located in the top right corner. The table includes columns for Name, location, Date, Percent Complete (represented by a green progress bar), and Paid.

Name	location	Date	Percent Complete	Paid
Alan				\$0.00
Bryan	Mz8968-V8	6/9/2018	<div style="width: 10%;"> </div>	\$12.34
Chris	Mz8968-V8	6/8/2018	<div style="width: 20%;"> </div>	\$23.45
Eric	Mz8968-V8	6/10/2018	<div style="width: 50%;"> </div>	\$34.56
Doug	Mz8968-V8	6/9/2018	<div style="width: 40%;"> </div>	\$12.34
Jet	Mz8968-V8	6/8/2018	<div style="width: 30%;"> </div>	\$34.56
Michael	Mz8968-V8	6/10/2018	<div style="width: 45%;"> </div>	\$12.34
Tracy	Mz8968-V8	6/9/2018	<div style="width: 5%;"> </div>	\$23.45
Total			<div style="width: 100%;"> </div>	\$153.04

Figure 31.- Web Administrator – Residents

Urbanización La alameda

Residents

Name	Lastname	location
Alan	Alan	
Bryan	Alan	Mz8968-V8
Chris	Alan	Mz8968-V8
Eric	Alan	Mz8968-V8
Doug	Alan	Mz8968-V8
Jet	Alan	Mz8968-V8
Michael	Alan	Mz8968-V8
Tracy	Alan	Mz8968-V8
Total	Total	

Figure 32.- Web Administrator - Resident List

Urbanización La alameda

Registro Residente

Cédula

Nombre

Fecha de nacimiento
8/30/2020

Correo

Contraseña

→ Registrar

Figure 33.- Web Administrator - Resident Register

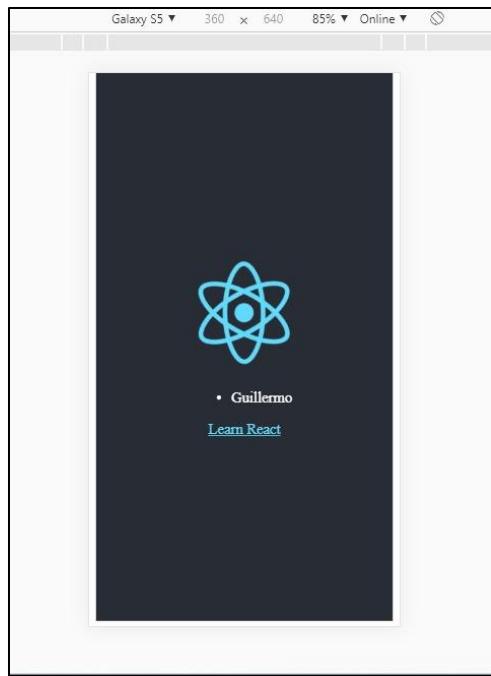


Figure 34.- Mobile App - React Native init

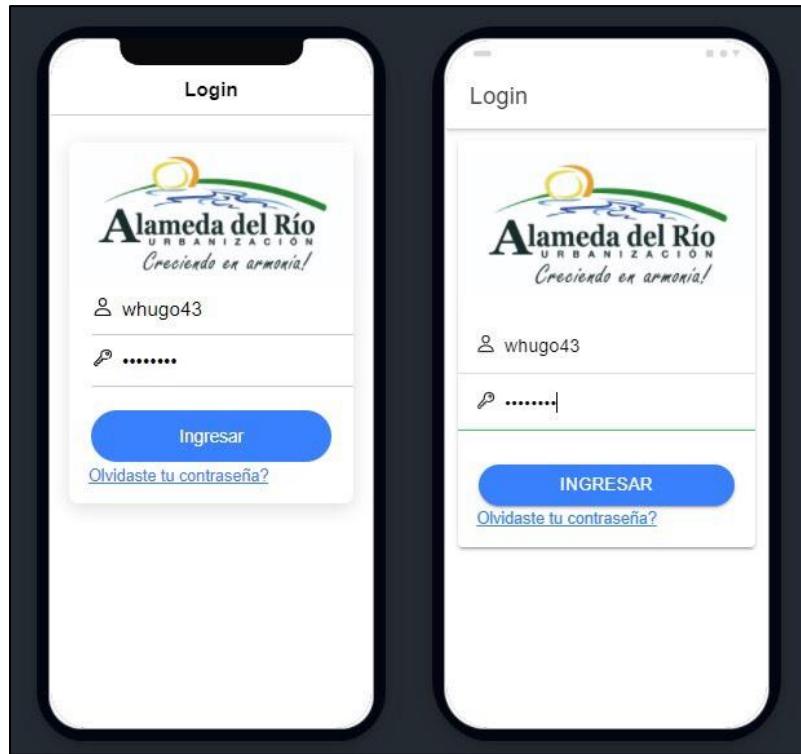


Figure 35.- Mobile App – Login

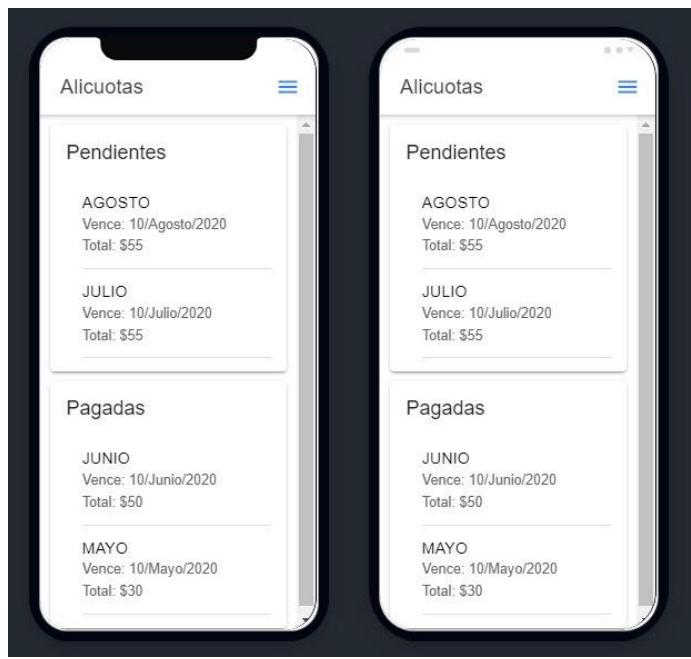


Figure 36.- Mobile App - Aliquots Info



Figure 37.- Mobile App – Visit

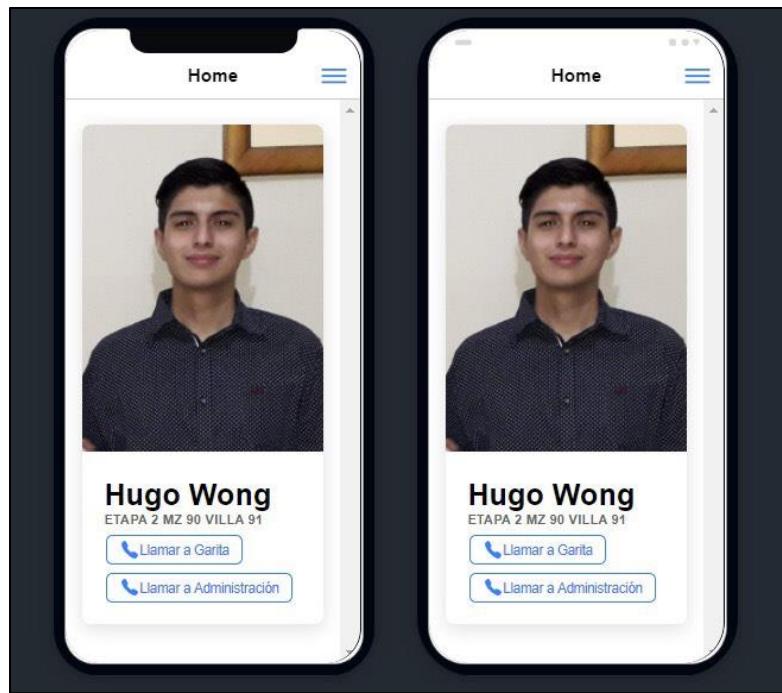


Figure 38.- Mobile App - Resident Info

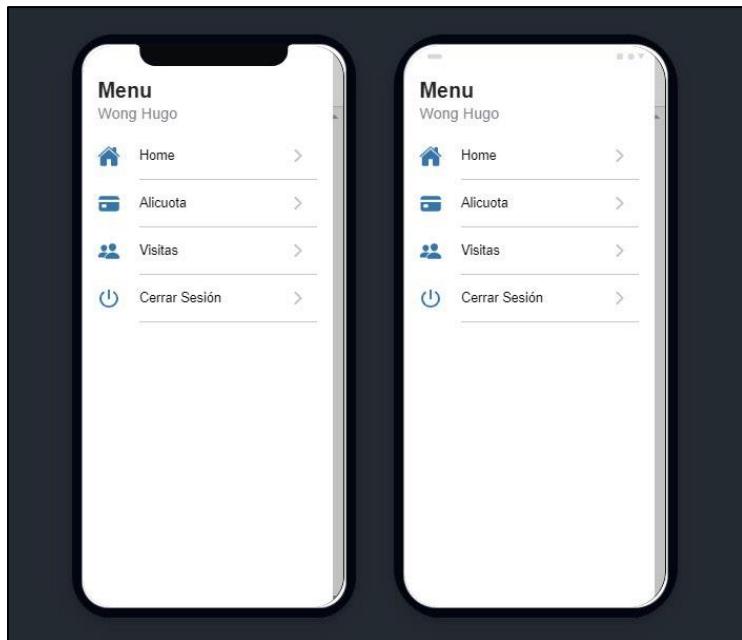


Figure 39.- Mobile App – Menu

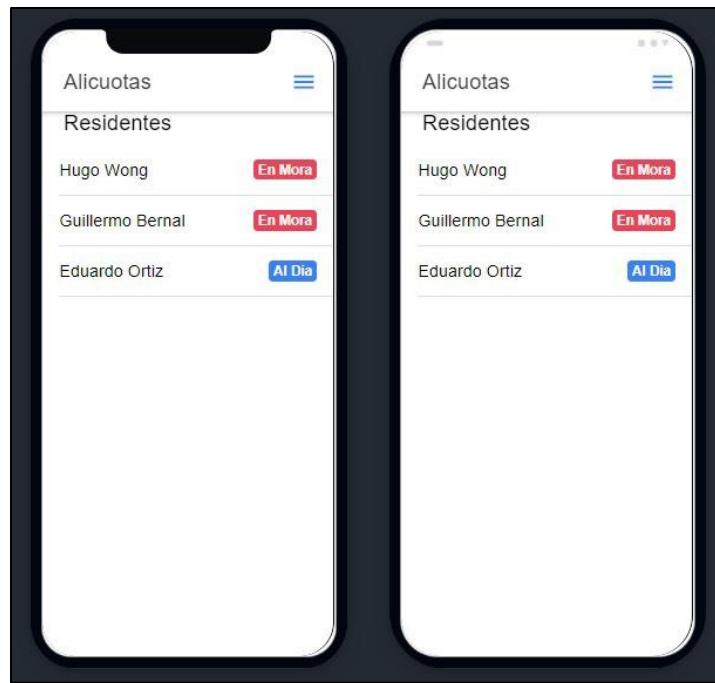


Figure 40.- Mobile App – Aliquots

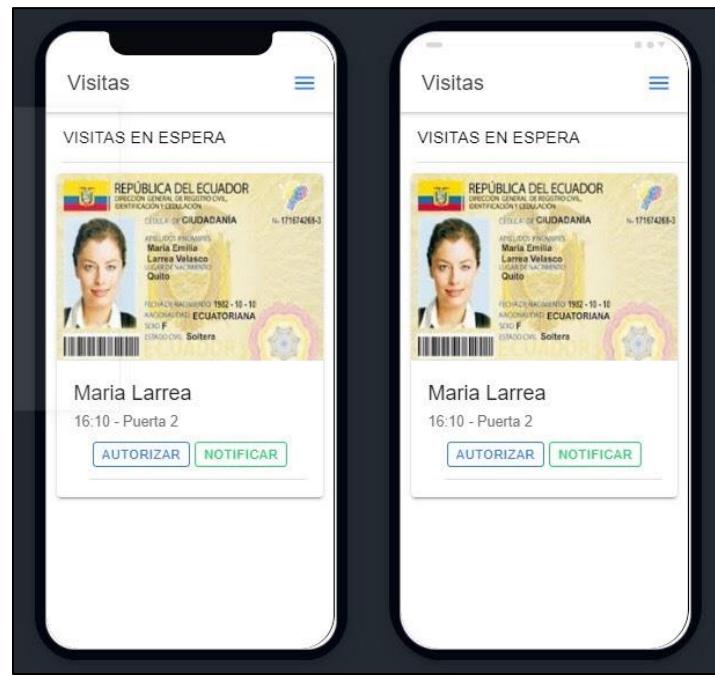


Figure 41.- Mobile App - Security Staff see visit

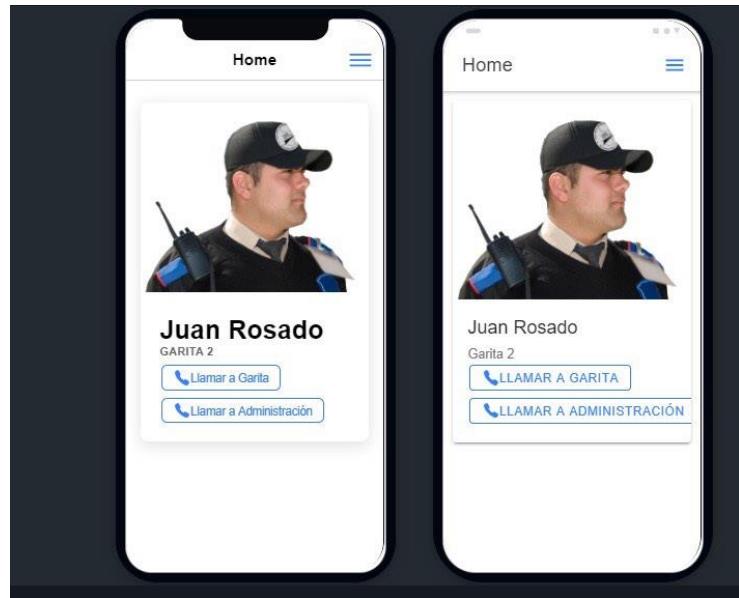


Figure 42.- Mobile App - Security Staff

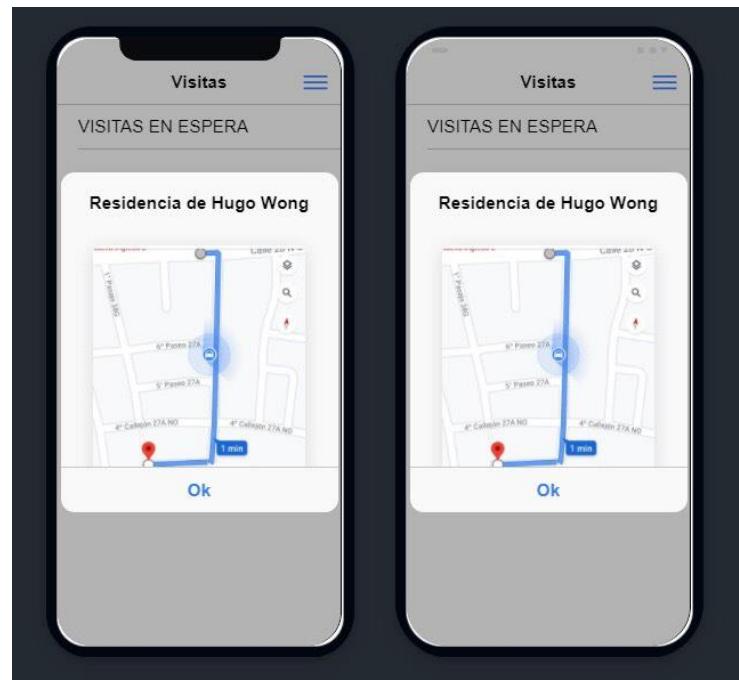


Figure 43.- Mobile App - Resident Map

12.7. Client Acceptance – First Partial

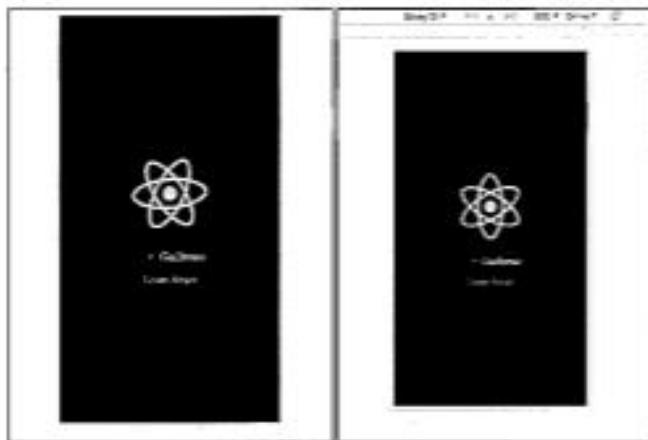
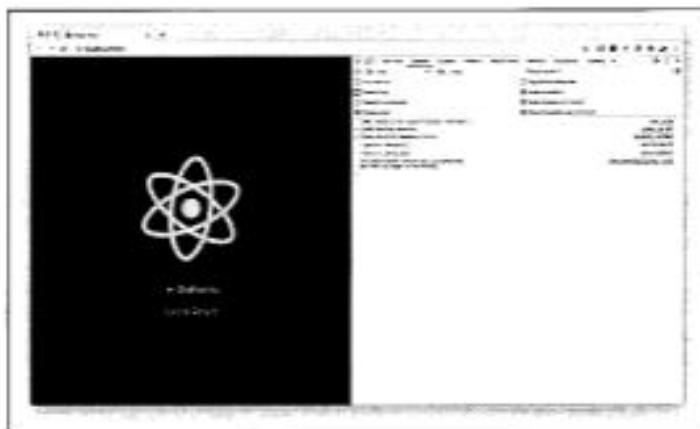
ACCEPTATION ACT	
DATE:	Wednesday, July 15, 2020.
CONTACT METHOD:	Mail
TITLE:	Early Sprint 1 - Acceptation Act,
ATTENDANCE	
NAME	ROLE
Eng. Pedro Xavier Gavilanez Chiriboga	Client
Guillermo Enrique Bernal Moreira	Scrum Master
Karen Monserrat Bermudez Moreria	Product Owner
ACT POINTS:	
<ul style="list-style-type: none">Sprint 1 State until Wednesday July 15, 2020.Web server access credentials.Revision of the user histories in Asana Platform.Client FeedbackScheduling of the scrum review meeting on July 18, 2020.	
OBSERVATIONS/DECISIONS:	
<ul style="list-style-type: none">The Sprint 1 planning includes the stories.<ul style="list-style-type: none">Initialization of environments: [AL- 00]Web Page for Administrator: [AD-FU-01] Login, [AD-FU-02] Home and Navbar, [AD-FU-05] Create payment items, [AD-FU-11] Consult payments items, [AD-FU-19] Daily Reports of visits, [AD-FU-20] Daily Reports of payments items, [AD-FU-25] Logout, [AD-MC-01] Register of residents, [AD-MC-02] Register of security staff.Resident App: [RE-FU-01] Login, [RE-FU-02] Home and Navbar, [RE-FU-05] Consult Payment items, [RE-FU-16] Notification of visit, [RE-FU-22] Logout.Security Personal App: [PS-FU-01] Login, [PS-FU-02] Home and Navbar, [PS-FU-12] Logout.The web server access credentials were generated and delivered on Wednesday July 14 of 2020 together with the ESPOL. exam week, the learning time of the technology and the technical problems of two members hindered the development of the Sprint.The change of Database project motor from Sql-server to PostgreSQL affect the user history [AL-01] subtask assigned to Eduardo.The current state of the project is overdue, the current user histories complete are: [AL-00], [AD-FU-01], [AD-FU-02], [AD-FU-03], [RE-FU-01], [RE-FU-02], [RE-FU-22], [PS-FU-01], [PS-FU-02],[PS-FU-12].	



- The optimist Final Scrum state of user histories complete includes to: [AD-FU-5], [AD-FU-11], [AD-MC-01], [AD-MC-02].
- The sprint deployment will be the Saturday 18 of July of 2020.
- The sprint review meeting will be in the night of the Saturday 18 of July of 2020.

DEVELOPMENT EVIDENCE:

- Initialization of Environments:

A handwritten signature in black ink, appearing to read "A. B." or a similar initials.

- Django Administrator:

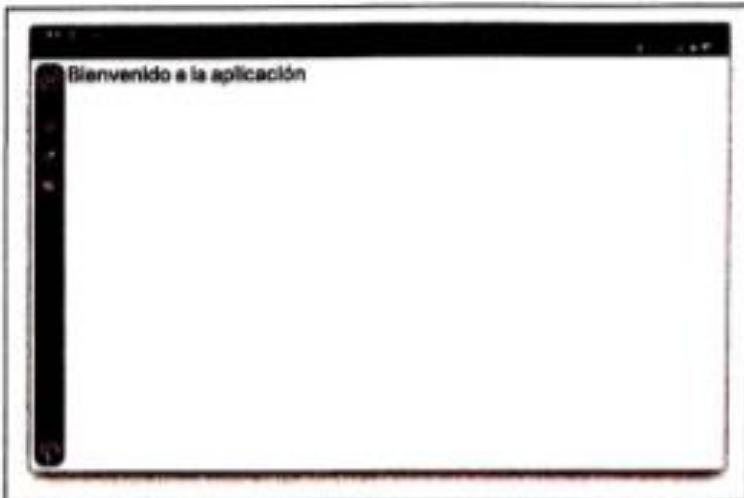


- Admin web login:



A handwritten signature in black ink, appearing to read 'Ricardo' or a similar name.

- Admin web home:



ACCEPTATION ACT:

The urbanization "Alameda del Rio" will declare on behalf of Eng. Pedro Xavier Gavilanez C. that it has been made aware of the points mentioned in the previous section, as well as the veracity of them both in content and dates.

I emphasize the support for the development team and understand the problems that arose during the execution of the sprint. Finally, I accept the content of the Early Acceptation Act and the dates of the scrum review.

GUILLEMO
ENRIQUE BERNAL
MOREIRA

Scrum Master


Karen Bermudez M.
Product Owner

Guillermo Bernal M.
Scrum Master


Eng. Pedro Gavilanez C.
Alameda President

12.8. Client Acceptance – Final

ACCEPTATION ACT	
DATE:	Wednesday, Sept 8, 2020.
CONTACT METHOD:	Mail
TITLE:	Early Sprint 1 - Acceptation Act,

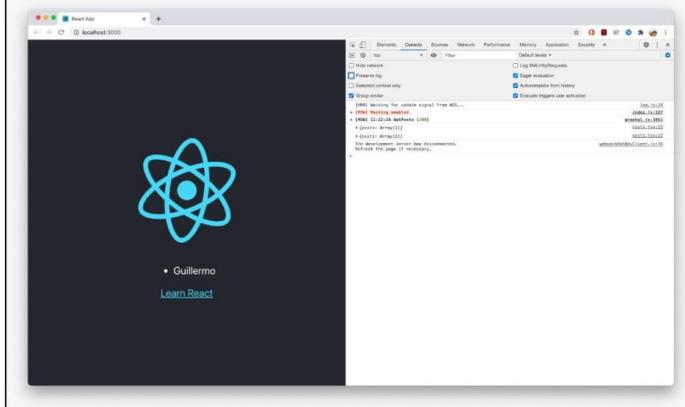
ATTENDANCE	
NAME	ROLE
Eng. Pedro Xavier Gavilanez Chiriboga	Client
Guillermo Enrique Bernal Moreira	Scrum Master
Karen Monserrat Bermudez Moreria	Product Owner

ACT POINTS:

- Final State until Wednesday Sept 8, 2020.
- Deployment Status.

OBSERVATIONS/DECISIONS:

- Deployment in Heroku.
- Final Status with these pages and screens:
-



The screenshot shows a browser window with the title 'React App' and the URL 'localhost:3001'. The main content area displays a dark-themed React application with a central atom icon and the text '• Guillermo' and 'Learn React'. To the right of the main content, the browser's developer tools are open, specifically the Network tab. This tab shows several requests made to the 'localhost:3001' endpoint, including 'GET /' (status 200), 'GET /static/js/main.js' (status 200), and 'GET /static/css/main.css' (status 200). Other requests listed include 'GET /favicon.ico' (status 200) and 'POST /api/submit' (status 200). The developer tools also show the 'Performance' tab and various network metrics like 'Latency' and 'Size' for each request.

Figure 1.- Web Administrator - React init

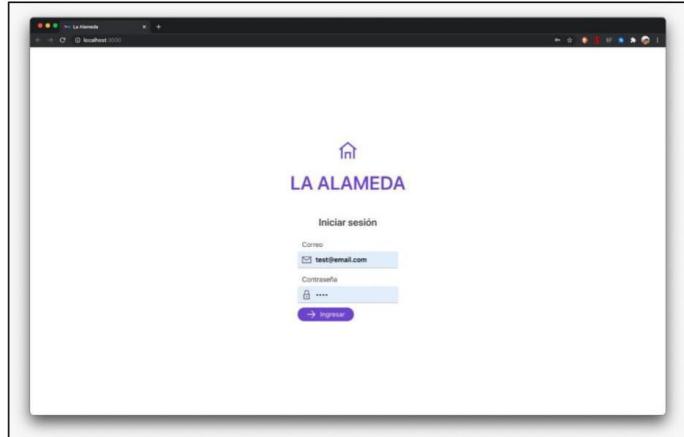


Figure 2.- Web Administrator - Log-in

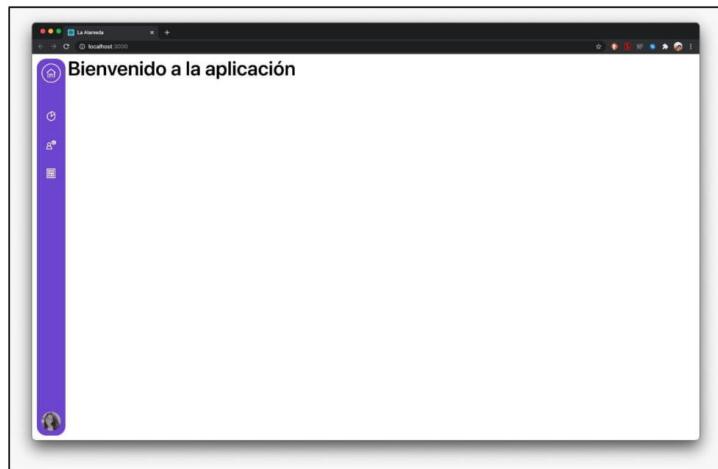
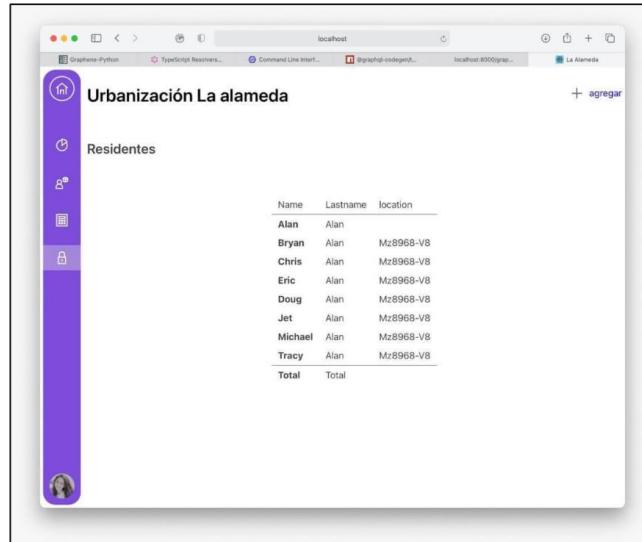


Figure 3.- Web Administrator - Home

Figure 4.- Web Administrator - Register Payment

Name	location	Date	Percent Complete	Paid
Alan				\$0.00
Bryan	Mz8968-V8	6/9/2018	<div style="width: 10%;"> </div>	\$12.34
Chris	Mz8968-V8	6/8/2018	<div style="width: 10%;"> </div>	\$23.45
Eric	Mz8968-V8	6/10/2018	<div style="width: 100%;"> </div>	\$34.56
Doug	Mz8968-V8	6/9/2018	<div style="width: 10%;"> </div>	\$12.34
Jet	Mz8968-V8	6/8/2018	<div style="width: 10%;"> </div>	\$34.56
Michael	Mz8968-V8	6/10/2018	<div style="width: 100%;"> </div>	\$12.34
Tracy	Mz8968-V8	6/9/2018	<div style="width: 5%;"> </div>	\$23.45
Total				\$153.04

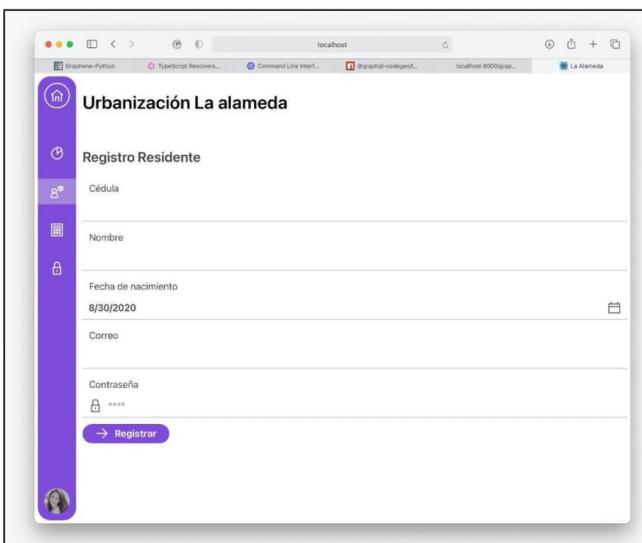
Figure 5.- Web Administrator - Residents



The screenshot shows a web application interface titled "Urbanización La alameda". On the left, there is a vertical sidebar with icons for home, refresh, users, calendar, and lock. The main content area is titled "Residentes". A table lists eight residents:

Name	Lastname	location
Alan	Alan	Mz8968-V8
Bryan	Alan	Mz8968-V8
Chris	Alan	Mz8968-V8
Eric	Alan	Mz8968-V8
Doug	Alan	Mz8968-V8
Jet	Alan	Mz8968-V8
Michael	Alan	Mz8968-V8
Tracy	Alan	Mz8968-V8
Total	Total	

Figure 6.- Web Administrator - Resident List



The screenshot shows a web application interface titled "Urbanización La alameda". On the left, there is a vertical sidebar with icons for home, refresh, users, calendar, and lock. The main content area is titled "Registro Residente". It contains the following form fields:

- Cédula
- Nombre
- Fecha de nacimiento
8/30/2020
- Correo
- Contraseña

A blue "Registrar" button is located at the bottom of the form.

Figure 7.- Web Administrator - Resident Register



Figure 8.- Mobile App - React Native init

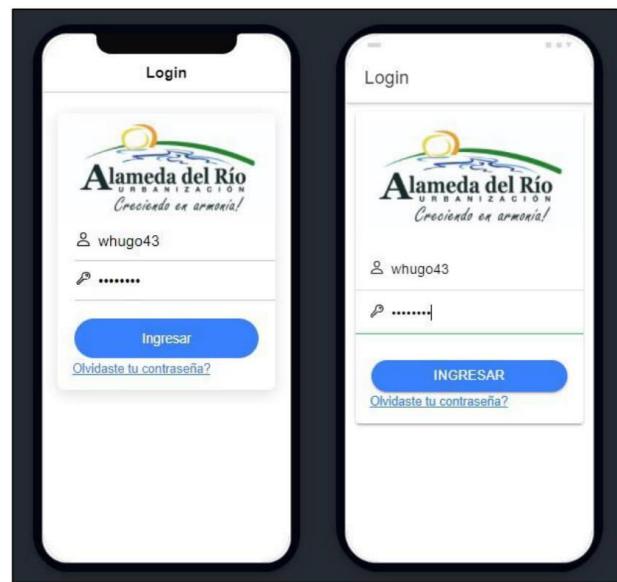


Figure 9.- Mobile App - Login

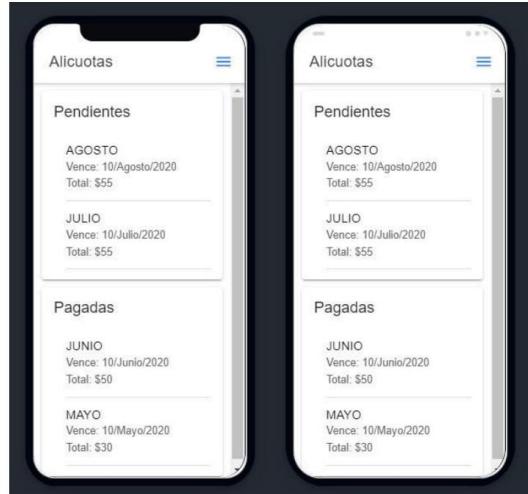


Figure 10.- Mobile App - Aliquots Info

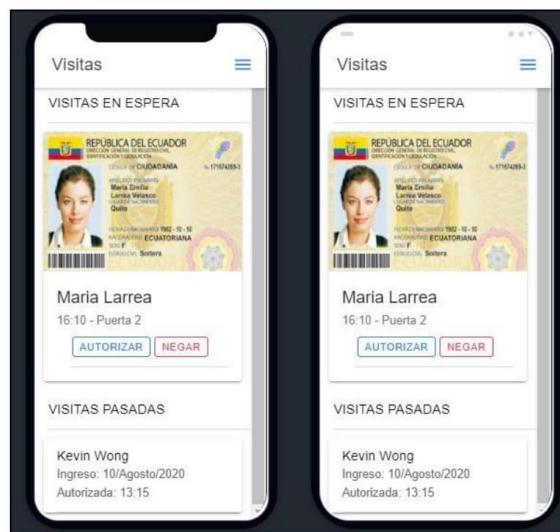


Figure 11.- Mobile App - Visit

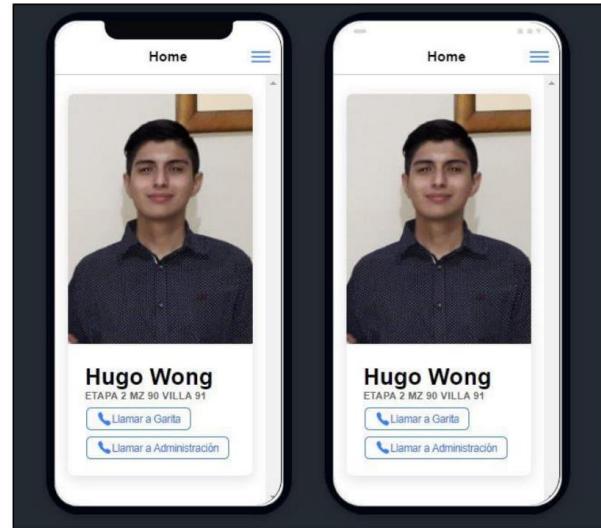


Figure 12.- Mobile App - Resident Info

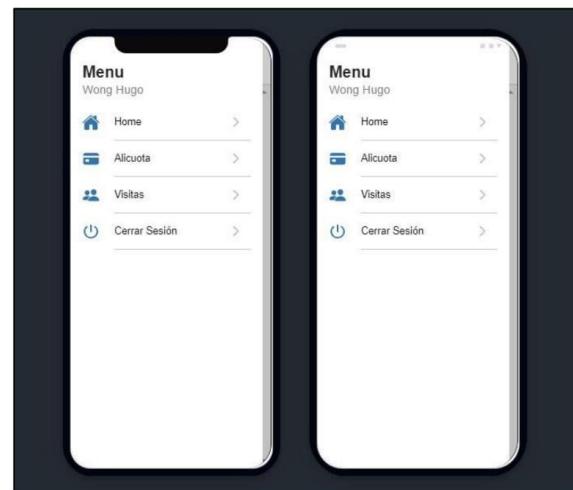


Figure 13.- Mobile App - Menu



Figure 14.- Mobile App - Aliquots



Figure 15.- Mobile App - Security Staff see visit

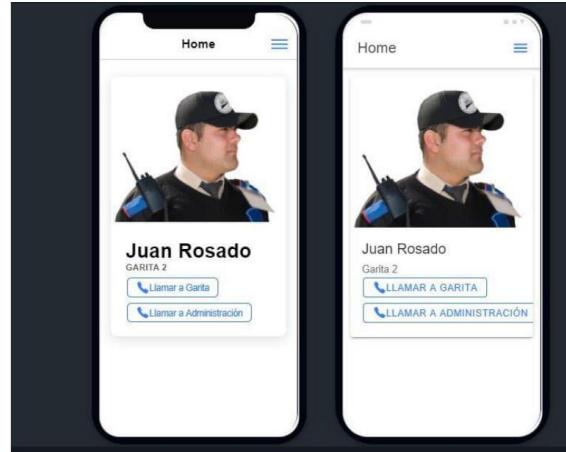


Figure 16.- Mobile App - Security Staff

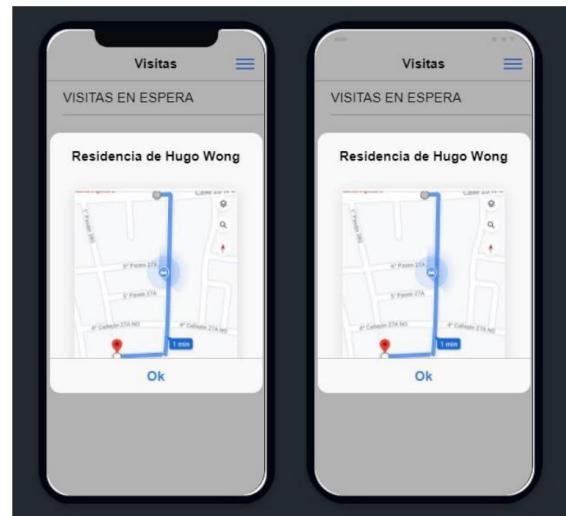


Figure 17.- Map

ACCEPTATION ACT:

The urbanization "Alameda del Río" will declare on behalf of Eng. Pedro Xavier Gavilanez C. that it has been made aware of the points mentioned in the previous section, as well as the veracity of them both in content and dates.

I emphasize the support for the development team and understand the problems that arose during the execution of the project. Finally, I accept the content of the Final Acceptation Act.

Acta Final de Aceptacion

1



Pedro Xavier Gavilanez Chiriboga <pedro_gavilan
es@hotmail.com>

Mar 08/09/2020 19:15

Para: Karen Monserrat Bermudez Moreira



Buenas noches estimada Karen,

Estamos de acuerdo lo descrito en el acta, procedo a enviar la respuesta vía correo, ya q al momento no cuento con impresora y escaner para poder enviarles el documento firmado.

Saludos cordiales

ING. Pedro Gavilanez

Obtener [Outlook para Android](#)

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Pedro Xavier Gavilanez Chiriboga

Buenas noches estimada Karen, Estamos de acuerdo. Saludos cordiales Ing. Pedr...

Mar 08/09/2020 19:11



Karen Monserrat Bermudez Moreira

Estimado Pedro, Adjunto el acta de aceptación final del proyecto, en la cual se d...

Mar 08/09/2020 19:04

Figure 44.- Mail Client Acceptance