Report Title : Sprint 1 Process for The Smart Living Community Project

Course Code: CSE 404

Course Title: Software Engineering and ISD Laboratory

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January 07, 2025

Contents

Chapter 1

Introduction

This report outlines the implementation of the **Sprint 1** process within our **Agile** development framework, describing the key activities, outcomes, and recommendations for future sprints. The primary focus was on establishing the foundational Scrum processes and delivering a working iteration of the project with integrated unit testing.
The adoption of Agile Scrum methodology aims to enhance our team's ability to respond to changing project requirements while maintaining consistent delivery of working software project. This report documents our first sprint implementation and its outcomes.This report also documents my personal involvement, tasks completed, and deliverables produced during the sprint.

Chapter 2

Sprint 1 Objectives

- To implement and experience the Scrum framework within a one-week Sprint.
- To establish clear roles, responsibilities, and workflows for the team.
- To create and maintain essential Scrum artifacts, including the project backlog and Sprint backlog.
- To conduct effective Sprint ceremonies, such as planning and daily Scrum meetings.
- To incorporate unit testing as part of the development process.
- To document team activities, progress, and challenges for future reference.

Chapter 3

Sprint 1 Planning

3.1 Sprint 1 Meeting Date

Date, Duration and Location: 24-OCTOBER-2024, 10:30 AM, 1 Hour 00 Minutes, CSE ROOM 203.

3.2 Sprint 1 Attendees

There are six attendess present in the meeting:

- Solaimi Hamid (SH)
- Shanjida Alam (SA)
- Irtifa Haider (IH)
- Hasneen Tamanna (HT)
- Md. Tanvir Hossain Saon (TH)
- Jubaer Ahmad Khan (JK)

3.3 Scrum Roles

- **Scrum Master:** Jubaer Ahmad Khan (JK)
- **Product Owners:** Shanjida Alam (SA)
- **Scrum Team Member:** Solaimi Hamid (SH), Irtifa Haider (IH), Hasneen Tamanna (HT), Md. Tanvir Hossain Saon (TH)

3.4 Sprint 1 Goal

- Gain a solid understanding of Android components and their features, focusing on navigation (between activities and fragments).
- Learn how to connect XML UI components with Java classes.
- Build a simple note-taking app following the MVVM architecture pattern integrated with Room Database.

3.5 Product Backlog

The Product Backlog is created by the Product Owner. It is a prioritized list of all the key features and functionalities that the team will work on during the product's life cycle. These features are not necessarily executed within a single sprint, but rather serve as a road map for the entire product development process.In the given below I provide the product backlog:

- Registration
- Login
- Manage Profile
- Access Dashboard
- Manage Service Request
- Create Event
- Create Bill
- Submit Complaints
- Create Parking Request
- Create Security Log
- Manage Directory
- Create Community Bulletin Board

3.6 Sprint 1 Backlog

The Scrum Master selected six features that were completed during Sprint 1. They are:

- Registration done by Hasneen Tamanna (HT)

- Login done by Jubaer Ahmad Khan (JK)
- Manage Profile done by Shanjida Alam (SA)
- Access Dashboard done by Md. Tanvir Hossain Saon (TH)
- Manage Service Request done by Solaimi Hamid (SH)
- Create event done by Irtifa Haider (IH)

3.7 Tools Used

- **Trello:** Task Management.
- **Discord:** Daily scrum meeting and communication with each other during Sprint 1.
- **Toggle:** Time management.

Chapter 4

Sprint 1 Execution

4.1 Daily Scrum Meeting

- **Daily Scrum Meeting 1:**

What we did yesterday?	What problems faced?	What will do today?
Created the resident profile interface, set up a new branch and started planning upcoming feature development	Flow of navigation graph	Update SRS

Here I only mention my part of the daily scrum meeting.

- **Daily Scrum Meeting 2:**

What we did yesterday?	What problems faced?	What will do today?
Updated SRS, Modified the Resident Profile UI Page	None	Will create Secretary Profile page, create Manager profile page

Here I only mention my part of the daily scrum meeting.

- **Daily Scrum Meeting 3:**

What we did yesterday?	What problems faced?	What will do today?
Created Secretary Profile Page,Created Manager Profile Page,Connected to Firebase	None	Will attempt to fetch data from the database

Here I only mention my part of the daily scrum meeting.

- **Daily Scrum Meeting 4:**

What we did yesterday?	What problems faced?	What will do today?
Successfully fetched data from the database and displayed it in the user interface, implemented the manage profile feature within the navigation component,generated documentation for the manage profile feature.	Encountered challenges while fetching data from the database, faced difficulties in updating data within the database.	Conduct unit testing to ensure the functionality is working as expected,separate the profile interface based on user roles.

Here I only mention my part of the daily scrum meeting.

4.2 My Contribution during This Sprint 1

During Sprint 1, I worked on the Manage Profile feature. I began by creating the XML layout for the user interface. Once completed, I shared this layout in the Discord channel with my teammates to gather valuable feedback on this initial component.Here I include attachment about that,

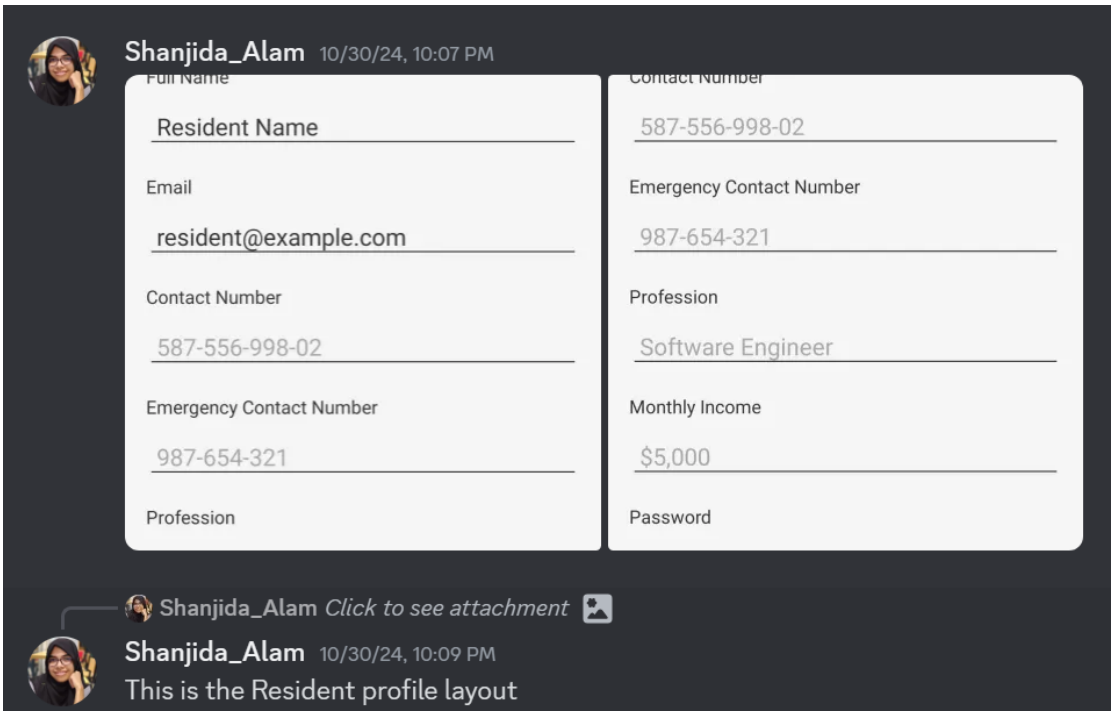


Figure 4.1: This is screenshot of my document.

After finalizing the UI design, I proceeded with the backend implementation, ensuring the codebase is well-structured and maintainable. To achieve this, I implemented the **Model-View-ViewModel (MVVM)** architectural pattern. The project's file architecture is provided for reference.

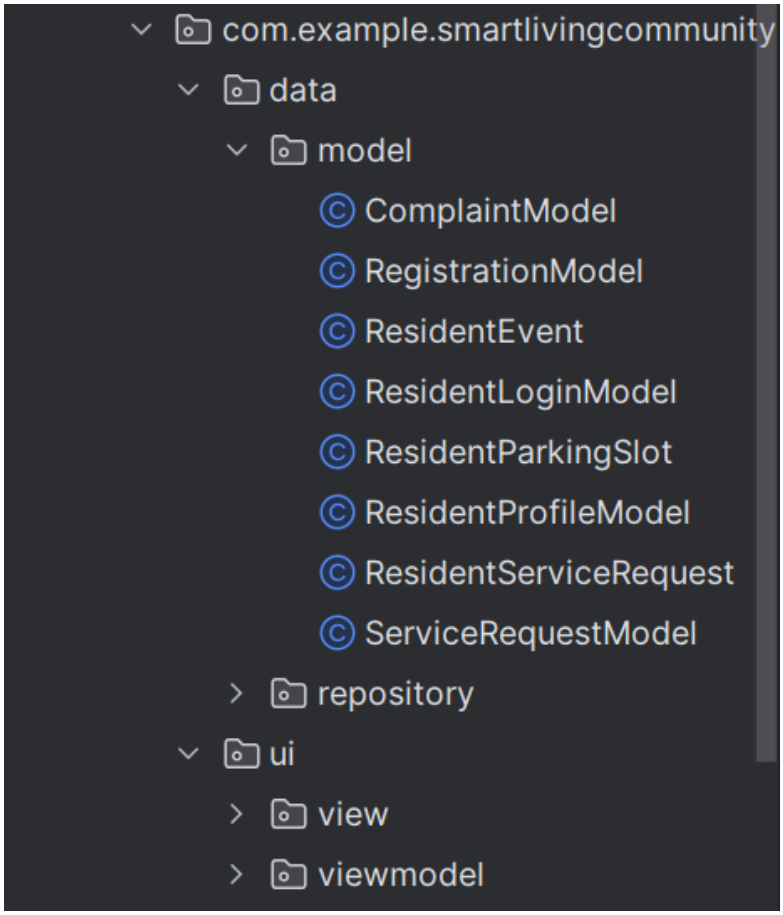
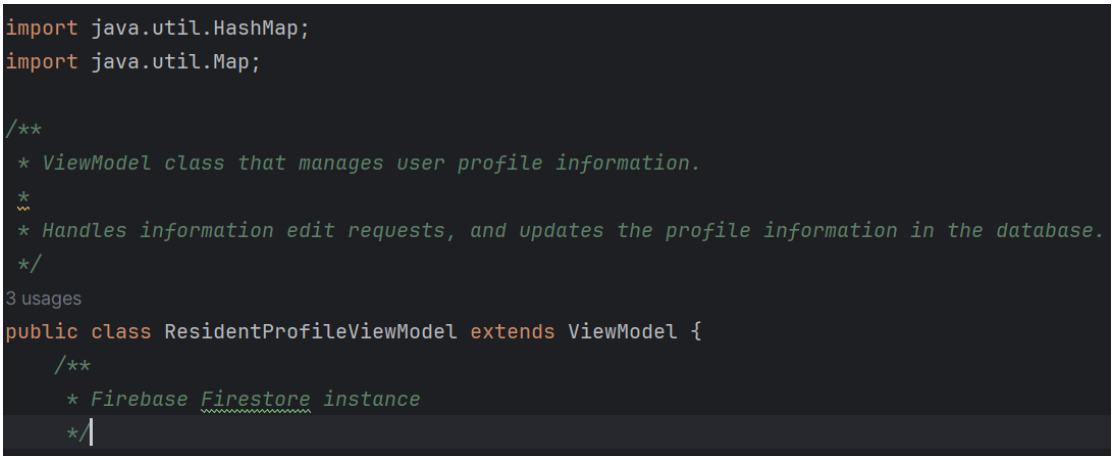


Figure 4.2: This is screenshot of MVVM architecture layout. Here, **model** contains the data and business logic, **view** displays the data and provides user interaction and binds to the **viewmodel**,**ViewModel** is an abstraction of the View, holding the logic for the View.

Next, I integrated the code with the Firebase Datastore to enable data retrieval and storage from the database. For your reference, I've attached the relevant code snippet.



```
import java.util.HashMap;
import java.util.Map;

/**
 * ViewModel class that manages user profile information.
 *
 * Handles information edit requests, and updates the profile information in the database.
 */
3 usages
public class ResidentProfileViewModel extends ViewModel {
    /**
     * Firebase Firestore instance
     */
```

Figure 4.3: This is the screenshot of the connection of the firebase datastore.

I dedicated significant effort to ensure the full implementation was completed within the deadline. To give a clear picture of my progress and time management, I've attached screenshots of my Git Bash activity along with my Toggl Track time entries. These provide an overview of the work done and the time invested in the project.

4.3 Visual Aspect of Git Bash Activity for Manage Profile

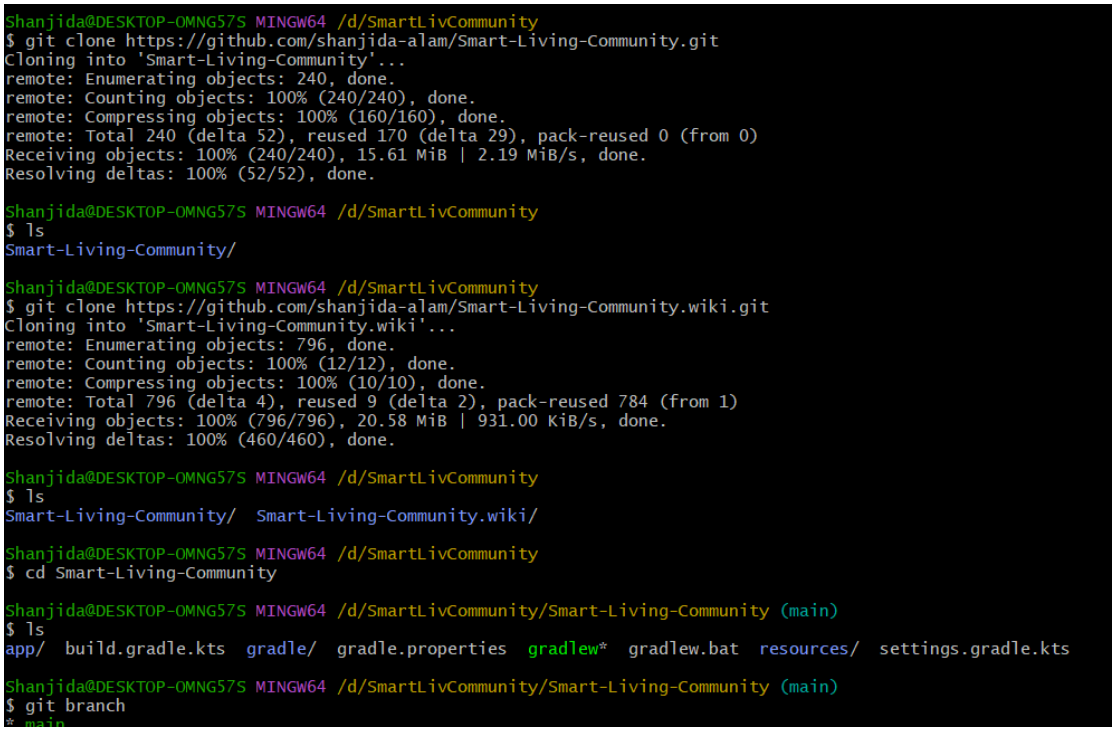


Figure 4.4: This is the screenshot of cloning the **'Smart-Living-Community'** into the local machine.

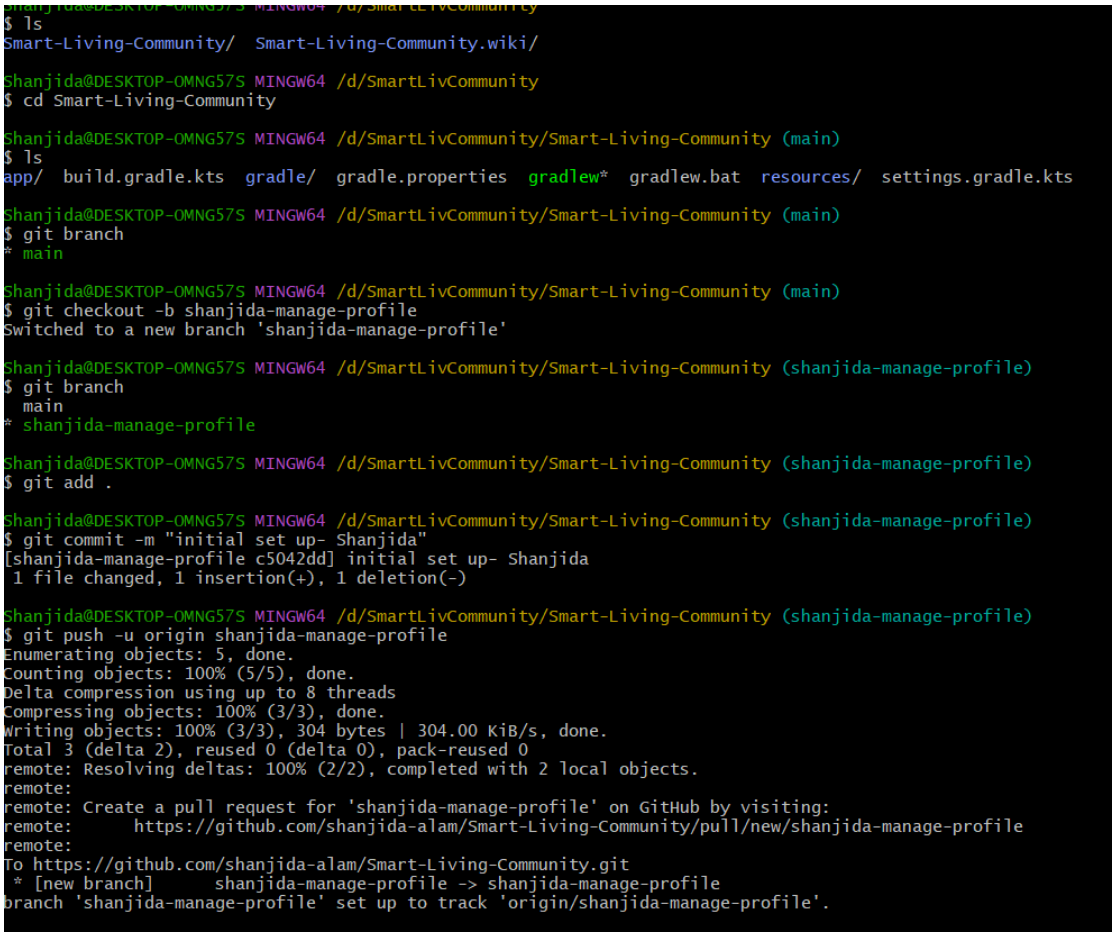


Figure 4.5: The screenshot describes the initial steps in my development workflow for the **Manage Profile** feature. It represents the creation of a new branch named **'shanjida-manage-profile'** on GitHub. Sequentially, I set up the local development environment and pushed the initial codebase to this newly created branch.

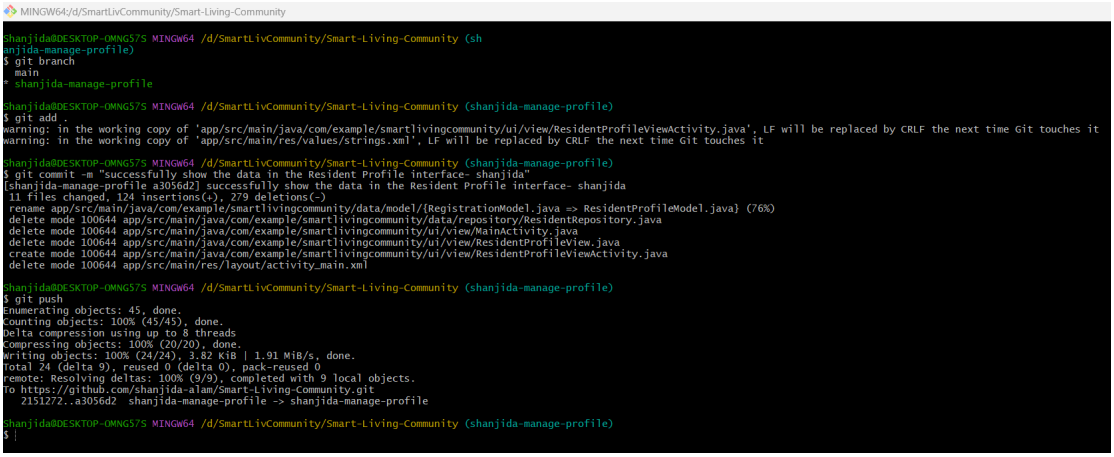


Figure 4.6: This screenshot illustrates the successful push of the code that displays resident profile data in the user interface.

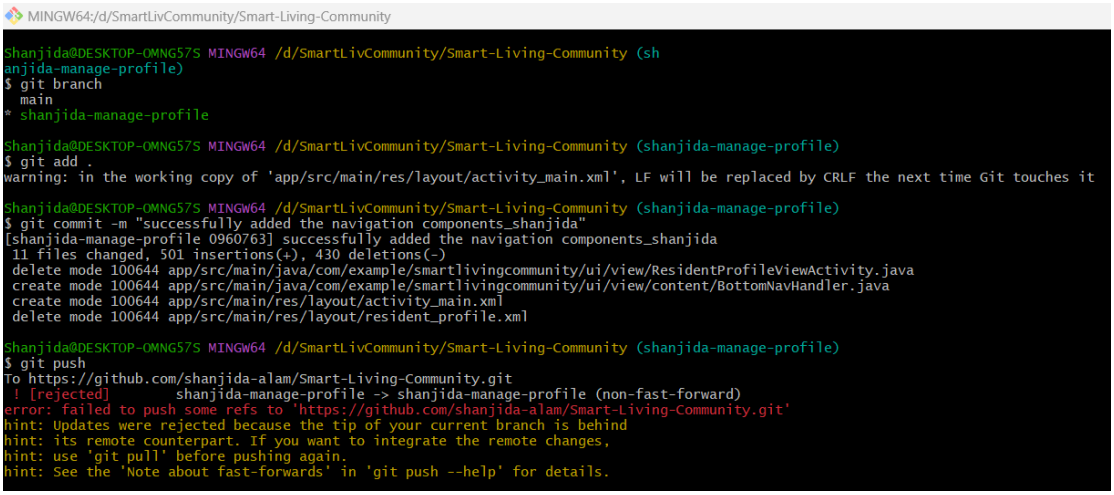


Figure 4.7: This screenshot illustrates the successful push of the code that added the navigation components. However, during the push, a merge conflict arose, which I successfully resolved.

Figure 4.8: This screenshot shows the merge conflict that occurred during the push.

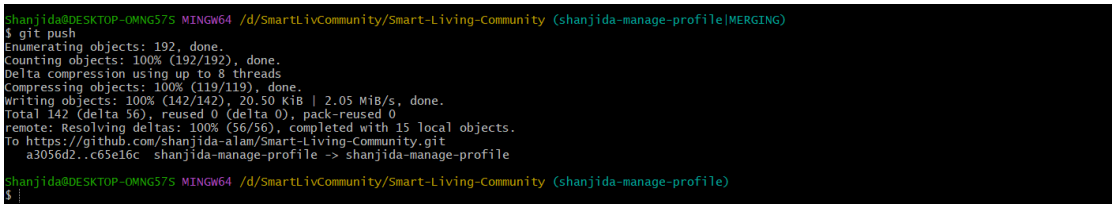


Figure 4.9: This screenshot shows that I successfully resolve the conflict.

Figure 4.10: This screenshot describes the successful push of the code that check the after logging the app is redirected the dashboard and other components.

```
Shanjida@DESKTOP-OMNG57S MINGW64 /d/SmartLivCommunity/Smart-Living-Community (shanjida-manage-profile)
$ git add .

Shanjida@DESKTOP-OMNG57S MINGW64 /d/SmartLivCommunity/Smart-Living-Community (shanjida-manage-profile)
$ git commit -m "remove the resident_profile.xml file_shanjida"
[shanjida-manage-profile 62d38d5] remove the resident_profile.xml file_shanjida
 1 file changed, 288 deletions(-)
 delete mode 100644 app/src/main/res/layout/resident_profile.xml

Shanjida@DESKTOP-OMNG57S MINGW64 /d/SmartLivCommunity/Smart-Living-Community (shanjida-manage-profile)
$ git push
Enumerating objects: 13, done.
Counting objects: 100% (13/13), done.
Delta compression using up to 8 threads
Compressing objects: 100% (7/7), done.
Writing objects: 100% (7/7), 590 bytes | 590.00 KiB/s, done.
Total 7 (delta 5), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (5/5), completed with 5 local objects.
To https://github.com/shanjida-alam/Smart-Living-Community.git
   0ab9859..62d38d5  shanjida-manage-profile -> shanjida-manage-profile
```

Figure 4.11: This screenshot describes the successful push of the code that remove the `resident_profile.xml` for the coding purpose.

```
MINGW64:/d/SmartLivCommunity/Smart-Living-Community

Shanjida@DESKTOP-OMNG57S MINGW64 /d/SmartLivCommunity/Smart-Living-Community (sh
anjida-manage-profile)
$ git branch
  main
* shanjida-manage-profile

Shanjida@DESKTOP-OMNG57S MINGW64 /d/SmartLivCommunity/Smart-Living-Community (shanjida-manage-profile)
$ git add .

Shanjida@DESKTOP-OMNG57S MINGW64 /d/SmartLivCommunity/Smart-Living-Community (shanjida-manage-profile)
$ git commit -m "generated documentation_shanjida"
[shanjida-manage-profile 6cf91b4] generated documentation_shanjida
 6 files changed, 234 insertions(+), 26 deletions(-)

Shanjida@DESKTOP-OMNG57S MINGW64 /d/SmartLivCommunity/Smart-Living-Community (shanjida-manage-profile)
$ git push
Enumerating objects: 111, done.
Counting objects: 100% (106/106), done.
Delta compression using up to 8 threads
Compressing objects: 100% (37/37), done.
Writing objects: 100% (43/43), 6.60 KiB | 232.00 KiB/s, done.
Total 43 (delta 20), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (20/20), completed with 14 local objects.
To https://github.com/shanjida-alam/Smart-Living-Community.git
   62d38d5..6cf91b4  shanjida-manage-profile -> shanjida-manage-profile

Shanjida@DESKTOP-OMNG57S MINGW64 /d/SmartLivCommunity/Smart-Living-Community (shanjida-manage-profile)
$
```

Figure 4.12: This screenshot shows the successful push of the code responsible for generating the project documentation.

4.4 Visual Aspect of Toggl Track for Manage Profile

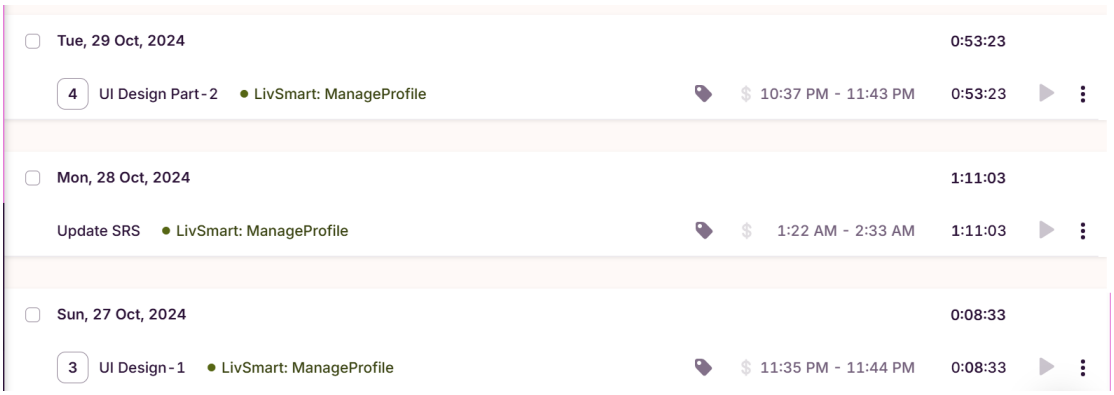


Figure 4.13: This image shows the time-tracking data for the **Manage Profile** feature. It displays three different work sessions across consecutive days in October 2024. The total duration of these three sessions is 2 hours 12 minutes and 59 seconds.

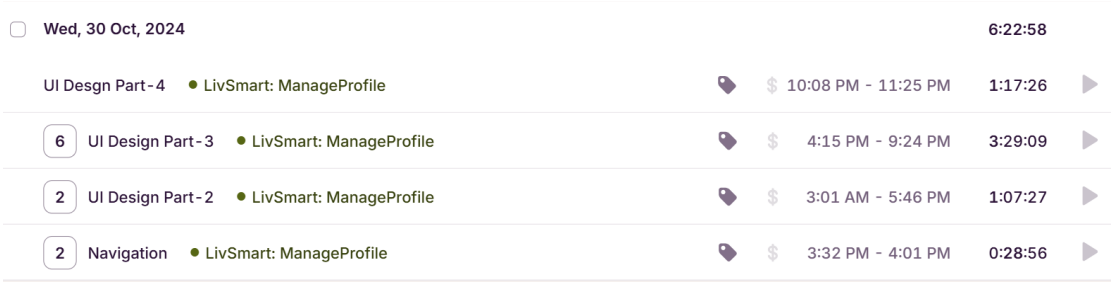


Figure 4.14: This image displays time-tracking data for the **Manage Profile** feature. It shows four different work sessions completed on Wednesday, 30th October 2024. The sessions are labeled as **UI Design Part-4, UI Design Part-3, UI Design Part-2** and **Navigation** with respective durations of 1 hour 17 minutes and 26 seconds, 3 hours 29 minutes and 9 seconds, 1 hour 7 minutes and 27 seconds and 28 minutes and 56 seconds. The total time spent on this day is 6 hours 22 minutes and 58 seconds.

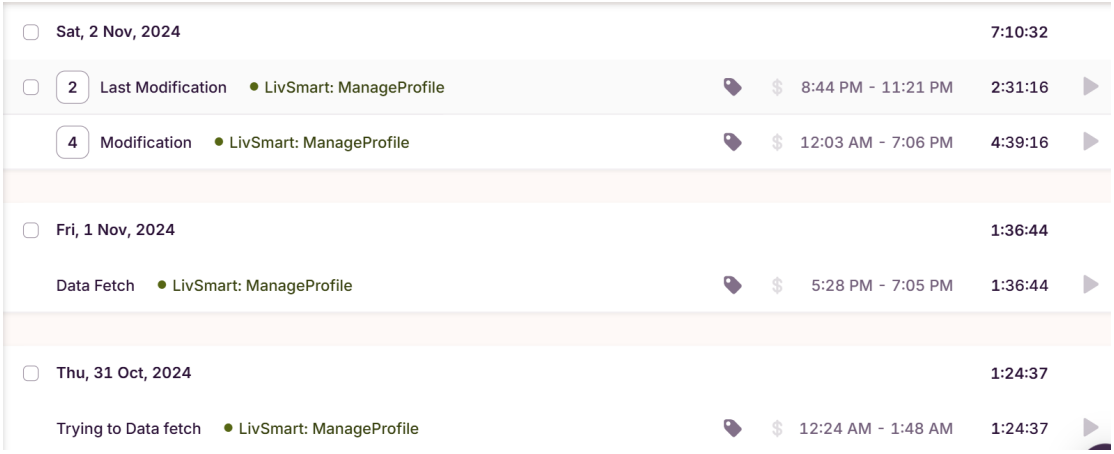


Figure 4.15: This image displays detailed time-tracking data for the **Manage Profile** feature across three consecutive days: 31st October 2024, 1st November 2024 and 2nd November 2024.The total duration of these three days is 10 hours 11 minutes and 53 seconds.

I spent a total of 18 hours 47 minutes and 50 seconds completing the **Manage Profile** feature.This valuable tool helped me track how much time I spent on the project and provided clear data about my contribution to it.

Chapter 5

Conclusion

Sprint 1 provided valuable insights into the Scrum process, emphasizing collaboration, adaptability, and delivering a working product within a constrained timeline. The lessons learned will inform improvements for future Sprints.The implementation of Sprint 1 has established a foundation for Agile development practices within the team.Upon successful execution of Sprint 1, the Manage Profile feature was delivered.