# SoundPalette Project Progress Report 1

### **Brock University**

Course: COSC 4P02 - Software Engineering II

Professor: Naser Ezzati-Jivan

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### **Our Mission:**

SoundPalette is a dedicated social media platform designed to revolutionize the way artists and musicians connect, collaborate, and grow. Traditional social media often fails to bring together creatives with complementary skills, leaving artists struggling to find the right collaborators who match their style and vision. SoundPalette solves this problem by providing a tailored networking experience where lyricists, musicians, producers, and visual artists can seamlessly discover and engage with like-minded creators. With tools to showcase work, connect based on artistic compatibility, and even monetize content through premium subscriptions and exclusive events, SoundPalette empowers artists to turn inspiration into reality. Our mission is to break down barriers, foster meaningful connections, and build a thriving creative community.

### **Team Structure:**

<b>Team Member</b>	Role
Parth Chauhan	Product Owner (Developer)
Victoria Danh	Scrum Master (Front End Developer)
Prab Khokhar	UX Designer (Front End Developer)
Kaija Sproxton	Documentation Specialist (Front End Developer)
William White	Development Lead (Full Stack Developer)
James Windjack	Assistant Developer (Full Stack Developer)

# **GitHub Repositories:**

The following GitHub repositories contain all pertaining code, assets and documents related to the project:

Main Repository: https://github.com/vd19qe/SoundPalette

API Server Repository: <a href="https://github.com/WilliamSEWhite/SoundPaletteApiServer">https://github.com/WilliamSEWhite/SoundPaletteApiServer</a>

UI Repository: <a href="https://github.com/WilliamSEWhite/SoundPaletteUI">https://github.com/WilliamSEWhite/SoundPaletteUI</a>

# **Timeline:**

The following is our tentative task schedule:

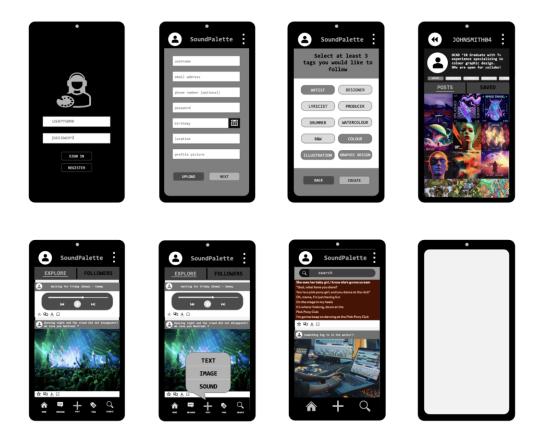
Dates	Task
Jan 6 <sup>th</sup> – Jan 12 <sup>th</sup>	<del>□ Create Group</del>
	☐ Create Project Proposal — Due Jan 12 <sup>th</sup>
Jan 13 <sup>th</sup> – Jan 19 <sup>th</sup>	☐ Create User Stories
	☐ Create Product Backlog
	☐ Create Sprint Backlog

	☐ Create Release Planning Doc Due Jan 19 <sup>th</sup>
Jan 20 <sup>th</sup> – Jan 25 <sup>th</sup>	□ Sprint 1
Jan 26 <sup>th</sup> – Feb 8 <sup>th</sup>	□ Sprint 2
	☐ Sprint 2 Retrospective Meeting
Feb 9 <sup>th</sup> – Feb 23 <sup>rd</sup>	□ Sprint 3
	☐—Sprint 3 Retrospective Meeting
	☐ Create Progress Report 1 Due Feb 23 <sup>rd</sup>
Feb 24 <sup>th</sup> – March 8 <sup>th</sup>	□ Sprint 4
	☐ Sprint 4 Retrospective Meeting
March 9 <sup>th</sup> – March 22 <sup>nd</sup>	□ Sprint 5
	☐ Sprint 5 Retrospective Meeting
	☐ Create Progress Report 2 – Due March 22 <sup>nd</sup>
March 23 <sup>rd</sup> – April 5th	□ Sprint 6
	☐ Sprint 6 Retrospective Meeting
April 6 <sup>th</sup> – April 11 <sup>th</sup>	□ Sprint 7
	☐ Sprint 7 Retrospective Meeting
April 12 <sup>th</sup> – April 25 <sup>th</sup>	☐ Sprint 8
	☐ Final Presentation
	☐ Submit Final Report

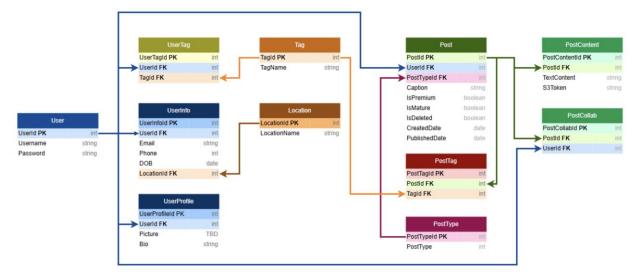
\*Note – Our Detailed Sprint Schedule and Backlogs can be found under the Project's tab of our Main GitHub Repository.

# **Current Progress:**

Our initial focus was on detailed planning to ensure we built an intuitive and functional platform. We designed the base UI together and had a meeting dedicated to how we wanted to structure our database. We came up with multiple UI designs and colour schemes before the initial coding phase. Below is just an example of one of the designs we came up with.



\*Note – Our Designs can be found in the Documentation folder under Designs in the Main GitHub repository.



\*Note – This is our Database Design that can be found in the Documentation folder under Designs in the Main GitHub repository.

Once we had our initial designs, the next step was figuring out the type of software we wanted to use and how we were going to implement our app. We decided on using:

#### > Android Studio:

We chose Android Studio as our IDE for the Android app development. The purpose is to help design and build the UI for our app.

#### > Rider:

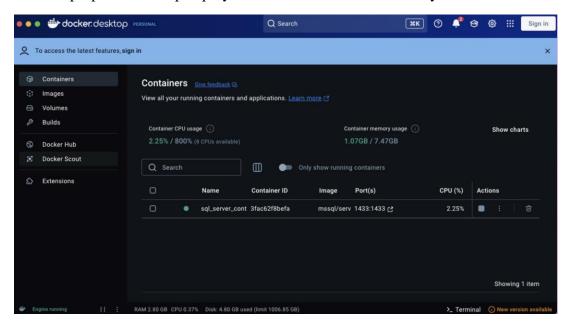
We chose Rider as a cross-platform IDE that is primarily used for C# and .NET development. The main purpose of this is to help manage the backend services.

#### **Postman:**

We chose Postman as a tool to help test APIs.

### > Docker:

We chose Docker as a container to help package our backend databases. The purpose is to help deploy our backend services efficiently.

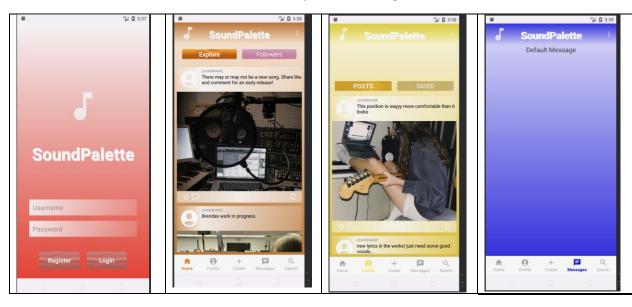


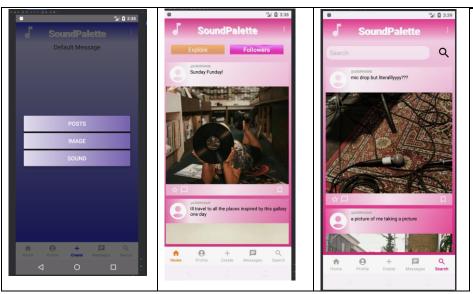
\*Note – The above is our Docker container

Once we set everybody up and had them all connected, we started our initial development. Below are some images our what our beginning and current UI implementations are as well as what our Database implementation looks like:

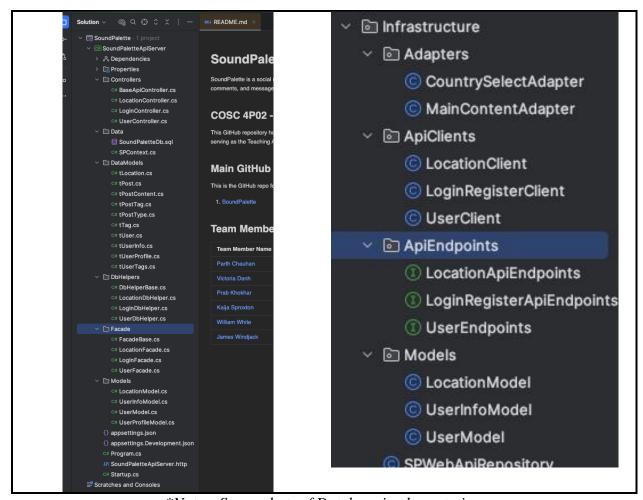


\*Note – Screenshots of Initial UI implementation





\*Note – Screenshots of Current UI implementation



\*Note – Screenshots of Database implementation

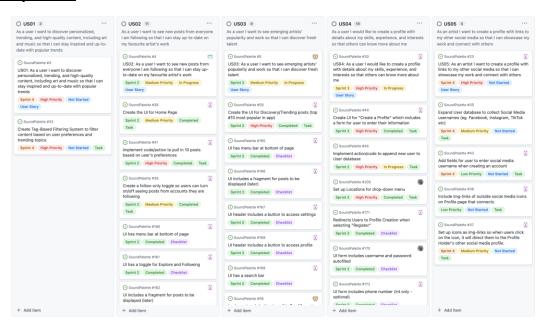
The backend infrastructure for the SoundPalette app has been established, with the core systems in place for smooth communication between the front-end and the server. The Kestrel API server has been developed to seamlessly integrate with the Android app, handling requests and data transfer. Retrofit has been implemented to enable communication between the UI and the API server, while the Microsoft Entity Framework connects the API server to the database.

The initial database version has been created, supporting key functionalities such as user registration, profile creation, and text post management. The backend services now allow users to register, create profiles, and log in, as well as add and retrieve posts from the database. Post creation and retrieval functionalities have been fully integrated, enabling users to create posts within the app, ensuring a smooth user experience for interaction with the app's core features.

# **Scrum Methodology:**

Our team follows the Scrum methodology to ensure an organized agile development process for SoundPalette. We use User Stories to define features and improvements from an enduser perspective, which are managed in our Product Backlog. Each sprint, we prioritize tasks into a Sprint Backlog and work through them systematically. We hold regular meetings twice a week to discuss progress, address challenges, and adjust priorities as needed. At the end of each sprint, we conduct a Sprint Retrospective meeting to reflect on what went well and identify areas for improvement. All our sprint planning, progress tracking, and task management are documented in GitHub Projects. Below are the screenshots from our GitHub projects that can be found under the Main GitHub repository.

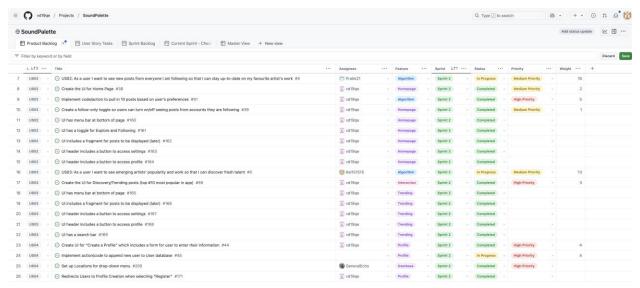
#### User Story Tasks:



Link: https://github.com/users/vd19qe/projects/5/views/5

There are 30 User Stories that we have created. Under each User Story are Tasks that are required to complete that User Story. Each Task has a Priority (Low, Medium, High), a Weight which indicates how much work that Task might take, and an assigned team member in charge of that Task.

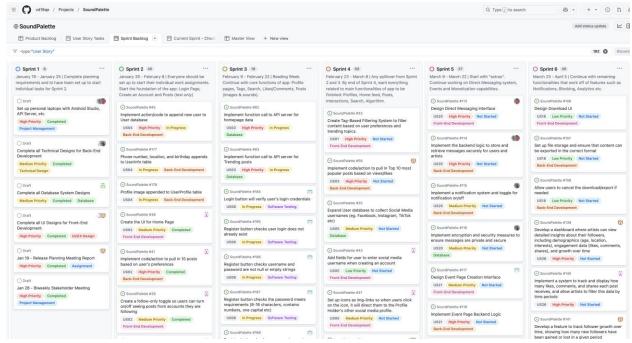
#### **Product Backlog:**



Link: <a href="https://github.com/users/vd19qe/projects/5/views/1?filterQuery="https://github.com/users/vd19qe/projects/5/views/projects

Our Product Backlog contains 163 items, these items are in the form of User Stories, Tasks, or important deadlines/meetings. Each item has an assigned team member, the app feature and sprint it belongs to as well as a status, priority, category, and weight that it consists of.

### **Sprint Backlog:**



Link: https://github.com/users/vd19qe/projects/5/views/9

Our Sprint Backlog details the total requirements of all of our 8 Sprints. Each Sprint consists of the User Stories, Tasks and important deadlines/meetings belonging to that Sprint.

We have also included a quick description of what the main goals of that sprint are as well as the timeline it falls under.

### **Challenges:**

One of the biggest challenges we encountered while developing SoundPalette was setting up the servers and development environment to work seamlessly for all team members. With a mix of Windows and macOS users in our team, finding software and tools that were compatible across all systems proved to be a significant hurdle. Ensuring that everyone could run the necessary services and collaborate efficiently required extensive troubleshooting and adjustments. James and William dedicated countless hours to resolving these issues, configuring the servers, and ensuring that our chosen tools could be used effectively by the entire team. The next challenge we face is ensuring our backend communicates smoothly to the frontend.

# **Team Contribution Summary:**

Parth Chauhan	<ul> <li>Refactored and cleaned up code to improve readability, maintainability, and scalability</li> <li>Implemented unit testing using JUnit and Mockito for user login, registration, and validation functions</li> <li>Managed dependencies and configurations to optimize performance and ensure compatibility with different Android versions</li> <li>Enhanced error handling and logging to improve debugging and app monitoring</li> <li>Added documentation and comments for cleaner codebase and README files with clear instructions</li> </ul>
Victoria Dahn	<ul> <li>Scrum Master Responsibilities:         <ul> <li>Organized and led weekly team meetings, including booking spaces, setting up invites, preparing objectives, and documenting key takeaways. Coordinated bi-weekly stakeholder meetings, prepared PowerPoint presentations and encouraged team participation</li> </ul> </li> <li>Database &amp; UI Design:         <ul> <li>Assisted in brainstorming and refining database and UI designs, and digitalized whiteboard sketches into structured mock-ups</li> </ul> </li> <li>GitHub Project Board Management:         <ul> <li>Worked alongside Kaija and Parth to structure and transfer user stories into GitHub, ensuring a well-organized project backlog</li> </ul> </li> <li>Android App Front-End Development:</li> </ul>

	o Implemented key front-end components, including button navigation menu, home page, profile page, trending page, and post display system. Also created placeholder data to structure pages and ensure smooth navigation.
Prab Khokhar	<ul> <li>GIF-Based Button Animations:</li> <li>Created new GIF assets for Explore, Follower, Posts, and Saved buttons, replacing static icons with looping animations for more engaging user interactions.</li> </ul>
	<ul> <li>Translucency Gradients:</li> <li>Developed a white translucency xml file to enhance the</li> <li>UI with layered transparency, creating a modern, glass-like effect.</li> </ul>
	<ul> <li>Rounded Corners &amp; Minimalism:         <ul> <li>Applied curved input fields to registration and search pages, balancing vibrant colors with subtle overlays for a clean user-friendly design.</li> </ul> </li> </ul>
	<ul> <li>Playful &amp; Cohesive UI:         <ul> <li>Maintained brand consistency across tabs by integrating transparent overlays and color-coded elements, ensuring unified visual style.</li> </ul> </li> </ul>
	<ul> <li>Asset Development:         <ul> <li>Experimented with gradient variations across multiple screens, ensuring layered effects blend smoothly.</li> </ul> </li> </ul>
Kaija Sproxton	<ul> <li>Documentation &amp; Reports:</li> <li>Solely responsible for writing the Proposal, Release Planning Document, and this report (Progress Report 1), handling all formal documentation.</li> </ul>
	<ul> <li>Color-Coded Navigation:         <ul> <li>Assigned distinctive hues for Home, Profile, Messages, and Search tabs, ensuring each section had a unique color identity</li> </ul> </li> </ul>
	<ul> <li>Text Animation:         <ul> <li>Designed a custom animated text effect for the brand's name, utilizing timed keyframes for smooth fade and scale transitions.</li> </ul> </li> </ul>
	<ul> <li>Login &amp; Register Color Transitions:</li> <li>Introduced a gradient effect for a welcoming and modern first impression, ensuring readability of input fields.</li> </ul>
	<ul> <li>Overall Design Direction:         <ul> <li>Ensured visual consistency across the UI, unifying elements like typography, colors, and animations to maintain a cohesive look.</li> </ul> </li> </ul>
William White	<ul> <li>Project Setup &amp; Infrastructure;</li> <li>Created the base Android project with a login page</li> </ul>

	<ul> <li>Developed basic Kestrel API server for seamless connection between front-end and backend</li> <li>Created Git repositories for both UI and API server.</li> <li>API &amp; Database Development:         <ul> <li>Integrated Microsoft Entity Framework tand created the initial database version with scripts to support user creation, profiles, and posts.</li> <li>Added services to the API server for user registration, profile creation, and login functionality.</li> <li>Developed functionality to add posts to the database with the API server, as well as create and retrieve posts from the API server.</li> </ul> </li> </ul>
James Windjack	Proposed the SoundPalette app idea
	<ul> <li>Set up Development Environments for Mac Users:</li> <li>Spent Significant time configuring C# API server and</li> </ul>
	MSSQL database using Docker, ensuring compatibility
	across Intel and Apple devices <ul><li>Assisted Team Members in Troubleshooting:</li></ul>
	<ul> <li>Assisted Team Members in Troubleshooting.</li> <li>Helped resolve issues related to Docker images and shell</li> </ul>
	command errors
	<ul><li>Created Initial UI mock-up:</li></ul>
	<ul> <li>Did this for the main screen providing a foundation for the UI team</li> </ul>
	Implemented Register Activity UI:
	<ul> <li>Added user profile fields and photo upload functionality</li> </ul>
	<ul> <li>Connecting App &amp; API Server:</li> </ul>
	Learned C# and Retrofit to ensure smooth
	communication between the app and server.  • Fixed API Server Issues:
	<ul> <li>Fixed API Server issues:</li> <li>Corrected code for retrieving location data and resolved</li> </ul>
	issues with saving user profiles to the database.

# **Team Contribution In-depth:**

#### Parth Chauhan:

Parth worked on refactoring and cleaning up the codebase to improve readability, maintainability, and scalability. He removed unused imports, optimized methods, and simplified logic in key areas such as user login and registration. Additionally, he focused on implementing unit testing using JUnit and Mockito to ensure the reliability of the logic. Parth created test cases for user registration, login logic, and validation rules, allowing the team to verify core functionality without relying on backend systems or UI components.

To maintain compatibility across different Android versions, Parth updated project dependencies and optimized build gradle files for better performance. He also enhanced error handling to ensure the app could gracefully handle API failures and unexpected user interactions. To support better monitoring and debugging, he integrated logging mechanisms to track user activity and app performance. Finally, Parth contributed significantly to documentation, adding detailed comments throughout the codebase and updating README files with clear setup instructions, test execution guidelines, and build processes, making it easier for future developers to work on the project. He also created an extensive list of regions by continent as well as many popular tags for posts.

#### Victoria Dahn:

As the Scrum Master, Victoria played a crucial role in organizing and leading weekly team meetings by booking meeting spaces, setting up calendar invites, and preparing structured objectives. She ensured meetings remained productive by facilitating discussions and documenting key takeaways for future reference. Additionally, she coordinated bi-weekly Stakeholder meetings, preparing PowerPoint presentations to showcase the team's progress. Victoria encouraged active team participation in these meetings, strengthening engagement with stakeholders and ensuring all contributions were acknowledged. All meeting records are available in our GitHub repositories.

Beyond her Scrum Master duties, Victoria contributed significantly to the UI and database design process, working closely with the team to brainstorm and refine initial concepts. She digitized whiteboard sketches into structured mock-ups, which were shared with the team and uploaded to GitHub for easy reference. She also played a key role in managing the GitHub project board, collaborating with Kaija and Parth to structure and transfer user stories effectively.

In addition to her leadership responsibilities, Victoria actively contributed to the development of the SoundPalette Android app. During Sprints 2 and 3, she implemented essential front-end components, including the button navigation menu, home page, profile page, trending page, and post display system. Thanks to James and Will who handled setting up the main activities and API connections, Victoria was able to structure the UI using placeholder data,

ensuring smooth navigation and interaction between screens. Her work provided a strong foundation for future database integration, allowing Prab and Kaija to refine the UI for an improved user experience.

#### Prab Khokhar:

Prab played a significant role in enhancing the visual and interactive elements of SoundPalette. One of his primary contributions was developing GIF-based button animations for key user interactions, including Explore, Follower, Posts, and Saved buttons. These animations replaced static icons, creating a more dynamic and engaging user experience. His goal was to introduce playful yet polished transitions that maintained the app's vibrant and modern aesthetic.

Additionally, Prab focused on implementing translucent gradient overlays across multiple screens, including Home and Profile pages. He developed white\_translucency\_gradient.xml and its variations to introduce 50–80% opacity overlays, ensuring a subtle, glass-like effect that allowed background colors to shine through. To unify the app's look, he applied rounded corners to input fields on the registration and search pages, reinforcing a minimal yet modern UI style.

Prab also played a key role in refining UI consistency across tabs by aligning transparent overlays with color-coded elements (orange, yellow, blue, pink). This approach ensured that while each page retained its distinct feel, it still adhered to the overall SoundPalette theme. Furthermore, he iterated on gradient assets, experimenting with different variations to ensure seamless layering and a luminous visual effect. His meticulous work helped establish a refined and cohesive interface, improving the app's user experience and aesthetic appeal.

#### Kaija Sproxton:

Kaija is the Documentation Specialist for the team, taking full responsibility for writing all project reports, including the Proposal, Release Planning Document, and Project Progress 1 Report. Her meticulous approach ensures that the team's work is well-organized and professionally documented, keeping the project on track and aligned with its goals.

Beyond her documentation role, Kaija played a central part in shaping SoundPalette's visual identity, leading efforts in color-coded navigation and gradient-based design elements. She assigned signature hues to key app sections, such as Home, Profile, Messages, and Search, ensuring that each area maintained a distinct yet cohesive color scheme. One of her major implementations was animated gradients, which introduced smooth color transitions on major screens, reinforcing SoundPalette's playful, energetic, and artistic aesthetic.

To further enhance the app's visual appeal, Kaija designed a custom SoundPalette text animation that appears on the splash and primary screens. Using timed keyframe effects, she created a fade-and-scale transition, giving the brand name a dynamic and memorable entrance.

She also applied color transitions to the Login and Register pages, blending white backgrounds into soft pastel hues to create a welcoming user experience that flows seamlessly from first login to everyday interactions.

#### **William White:**

William served as the foundational developer for the SoundPalette project, taking charge of both front-end and back-end setup. He began by creating the base Android project, including the initial file structure and a simple login page, providing a strong starting point for the development process. On the backend, he built the basic Kestrel API server, establishing the framework needed to connect the front-end and back-end systems seamlessly. This took a very long time, and he spent days trying to configure the systems so they would work seamlessly.

He also created both of the Git repositories for the UI and API server, ensuring effective version control throughout the project. He also implemented Retrofit, an HTTP client library, to enable smooth communication between the UI and API server. To further streamline the system, William incorporated Microsoft Entity Framework to connect the API server to the database, providing the necessary tools to handle data efficiently.

William created the initial version of the database, including the necessary scripts to support user creation, profiles, and posts. He then added essential services to the API server, allowing for user registration, profile creation, and login. Moreover, he integrated functionality for users to add posts to the database and retrieve them, setting up both text post creation and post retrieval systems via the API server. He ensured that users could create text posts within the UI, providing a seamless front-end experience.

### James Windjack:

James has played a crucial role in both the conceptualization and technical implementation of the SoundPalette app, contributing to a range of tasks from ideation to problem-solving. He was the one who initially proposed the idea for the app during the first group meeting, offering a solution for artists in the music industry to collaborate more effectively on their works. James brought personal experience and insights into the challenges of current social media platforms, laying the foundation for the app's purpose. He followed this by helping to define user stories and add significantly to the design process.

James also set up the development environment for the team's Mac users, dedicating significant time (days) to researching and troubleshooting configurations to ensure smooth operation for all team members. His research and troubleshooting proved crucial for the team to have a coherent setup. His perseverance and technical problem-solving led to a working setup on both Intel and Apple Silicon Macs, which he documented and shared with the team. He provided

hands-on assistance, helping team members troubleshoot and get their local development environments running.

In addition to his work on the environment setup, James contributed actively to the UI and database design meetings. He helped shape the UI flow and contributed to database design, working with the team to ensure data was represented correctly within the app. He took the initiative to create an initial UI mock-up for the main screen, which served as a framework for the team to build on. James also spent considerable time (days) learning C# and RetroFit, allowing him to bridge the gap between the Android app and the API server. He worked extensively to get the two systems to communicate, ensuring smooth data retrieval and updates between the app and database.

James made significant contributions to the Android app's user interface, implementing key features such as the user registration screen and profile picture upload functionality. He tackled a series of technical issues, such as resolving broken API connections after updates, fixing issues with retrieving location data from the API server, and ensuring user profile information was correctly saved and updated in the database.

# **GitHub Logs:**

I have provided the URLs to the Commits of each GitHub Repository so they can be viewed as there are quite a bit. Kaija, Prab, and Parth do not have too many commits as they have not pushed their current work yet but will be doing so very soon.

Main Repository:

https://github.com/vd19qe/SoundPalette/commits/main/

UI Repository:

https://github.com/WilliamSEWhite/SoundPaletteUI/commits/master/

API Server Repository:

https://github.com/WilliamSEWhite/SoundPaletteApiServer/commits/master/