Deliverable 2

2. Team Name: Lifesaver Engineers

3. Project Name: VitalTracker: Smart Location Tracking Device

4. Group Number: 10

5. Names and IDs: Patrik Prenga n01428752, Michael Carinci n01480052, Jason Macdonald n01246828, Nicholas Rafuse n01440073

6.

7 & 8.

NAME	ID	SIGNATURE	EFFORT
Patrik Prenga	n01428752	Patrik Prenga	100%
Michael Carinci	n01480052	Michael Carinci	100%
Jason Macdonald	n01246828	Jason Macdonald	100%
Nicholas Rafuse	n01440073	Nicholas Rafuse	100%

9.
Project Scope:
Development of the "Vital Tracker" Android application, designed primarily to aid users in monitoring vital statistics, tracking location, and detecting potential falls. The application integrates these core functionalities seamlessly to provide users with peace of mind regarding their safety and well-being.

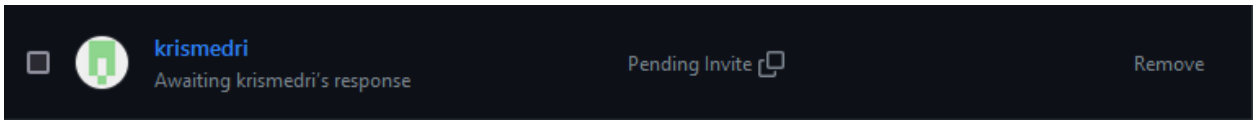
10.
https://github.com/MichaelCarinci0052/LifesaverEngineersVitalTracker.git

11. N/A

12.

- Setup:
  - Create a central GitHub repository.
  - Invite team members as collaborators.
- Branching:
  - Use master/main for production-ready code.
  - Create a development branch for integration.
- Workflow:
  - Always fetch and pull before starting work.
  - Commit frequently with clear messages.
- Code Reviews:
  - Always review and approve members' work before merging.
- Testing:
  - Conduct manual testing for major changes.
- Conflict Resolution:
  - Address and resolve merge conflicts by reviewing conflicting code.
- Releasing:
  - Merge development into master/main for releases.
- Documentation:
  - Maintain a comprehensive README.md.

13.



14. All group members have at least 5 commits.

15. N/A

16 & 17.

Story 1 :User Account Management

Task	Text	Owner	Due Date	Status
Task 1	Design and implement a user account screen that displays user details.		~~Oct 7~~	Done
Task 2	Implement functionality to change the username in the shared preferences.		~~Oct 8~~	Done
Task 3	Display the updated username in the HomeFragment.		~~Oct 8~~	Done
Task 4	Add validations for the password field to ensure the user enters a valid password		~~Oct 8~~	Done
Task 5	Test the user account settings screen for different edge cases.		~~Oct 10~~	Done
+ Add task				
			Oct 7 - 10	

Story 2: Vitals Monitoring

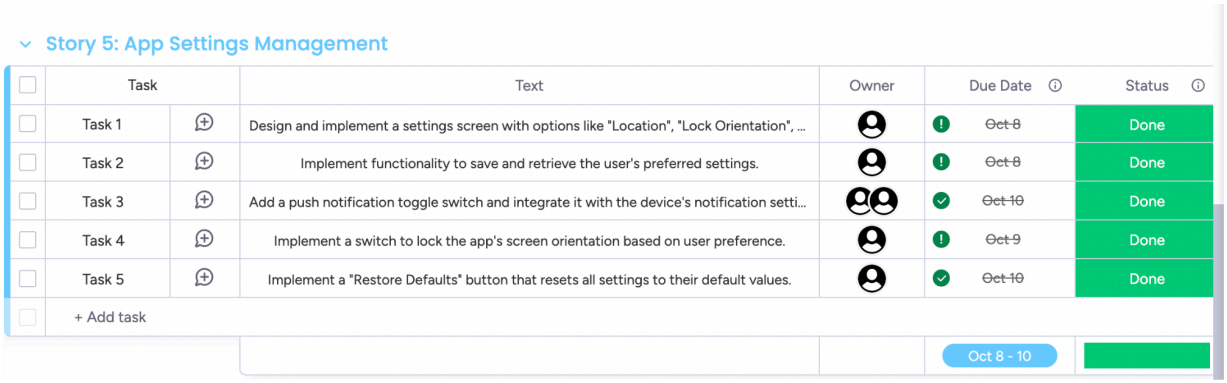
Task	Text	Owner	Due Date	Status
Task 1	Design the UI for the Vitals Fragment with fields for Heart Rate, Oxygen Level, and Body ...		~~Oct 9~~	Done
Task 2	Integrate sensors/APIs (simulated)		~~Oct 9~~	Done
Task 3	Display the fetched data in the HomeFragment.		~~Oct 9~~	Done
Task 4	Implement error handling for cases when the vitals data cannot be fetched.		~~Oct 9~~	Done
Task 5	Write unit tests to ensure the vitals data is accurately displayed.		~~Oct 9~~	Done
+ Add task				
			Oct 9	

Story 3: Device Management

Task	Text	Owner	Due Date	Status
Task 1	Design the UI for the DeviceFragment with a button to toggle the device state and a fiel...		~~Oct 10~~	Done
Task 2	Implement the functionality to toggle the device state (On/Off).		~~Oct 10~~	Done
Task 3	Fetch and display the current battery life of the connected device.(simulated)		~~Oct 10~~	Done
Task 4	Implement error handling for cases when the device is not connected or battery informa...		~~Oct 10~~	Done
Task 5	Provide user feedback, such as a toast message or a dialog, when the device is successf...		~~Oct 10~~	Done
+ Add task				
			Oct 10	

Story 4: Location Tracking

Task	Text	Owner	Due Date	Status
Task 1	Design the UI for the GPS Fragment to display the current location.		~~Oct 8~~	Done
Task 2	Integrate the device's GPS functionality to fetch real-time location data.		~~Oct 8~~	Done
Task 3	Display the fetched location data in the HomeFragment.		~~Oct 9~~	Done
Task 4	Implement error handling for cases when GPS is turned off or location cannot be determ...		~~Oct 9~~	Done
Task 5	Provide user feedback, such as a toast message or a dialog for permissions		~~Oct 9~~	Done
+ Add task				
			Oct 8 - 9	



Story 5: App Settings Management

	Task		Text	Owner	Due Date	Status
	Task 1		Design and implement a settings screen with options like "Location", "Lock Orientation", ...		~~Oct 8~~	Done
	Task 2		Implement functionality to save and retrieve the user's preferred settings.		~~Oct 8~~	Done
	Task 3		Add a push notification toggle switch and integrate it with the device's notification setti...		~~Oct 10~~	Done
	Task 4		Implement a switch to lock the app's screen orientation based on user preference.		~~Oct 9~~	Done
	Task 5		Implement a "Restore Defaults" button that resets all settings to their default values.		~~Oct 10~~	Done
	+ Add task					
					Oct 8 - 10	

19. For each task, we've ensured that the requirements are fully met, the integration is seamless, and the user experience is enhanced.

20.

Code Quality & Standards

- Code is written clearly and comprehensively .
- Code is properly commented.
- Code is checked into the version control system.

Testing

- Tests are passed successfully.
- Integration tests are conducted, and all major functionalities are tested.
- Application works without errors on target devices.
- All identified bugs and issues have been addressed and resolved.

User Experience

- User interface matches the design specifications..
- The user experience is smooth..
- Feedback mechanisms, like Toast messages, are integrated and provide appropriate responses to user actions.

Functional Completeness

- All features and user stories for the increment are fully implemented.
- Vital tracking functionalities (Heart Rate, Oxygen Level, Temperature) are operational.
- Device connectivity features, including turning the device on/off and displaying battery life, are functional.
- User settings, including location updates and screen orientation lock, work as expected.

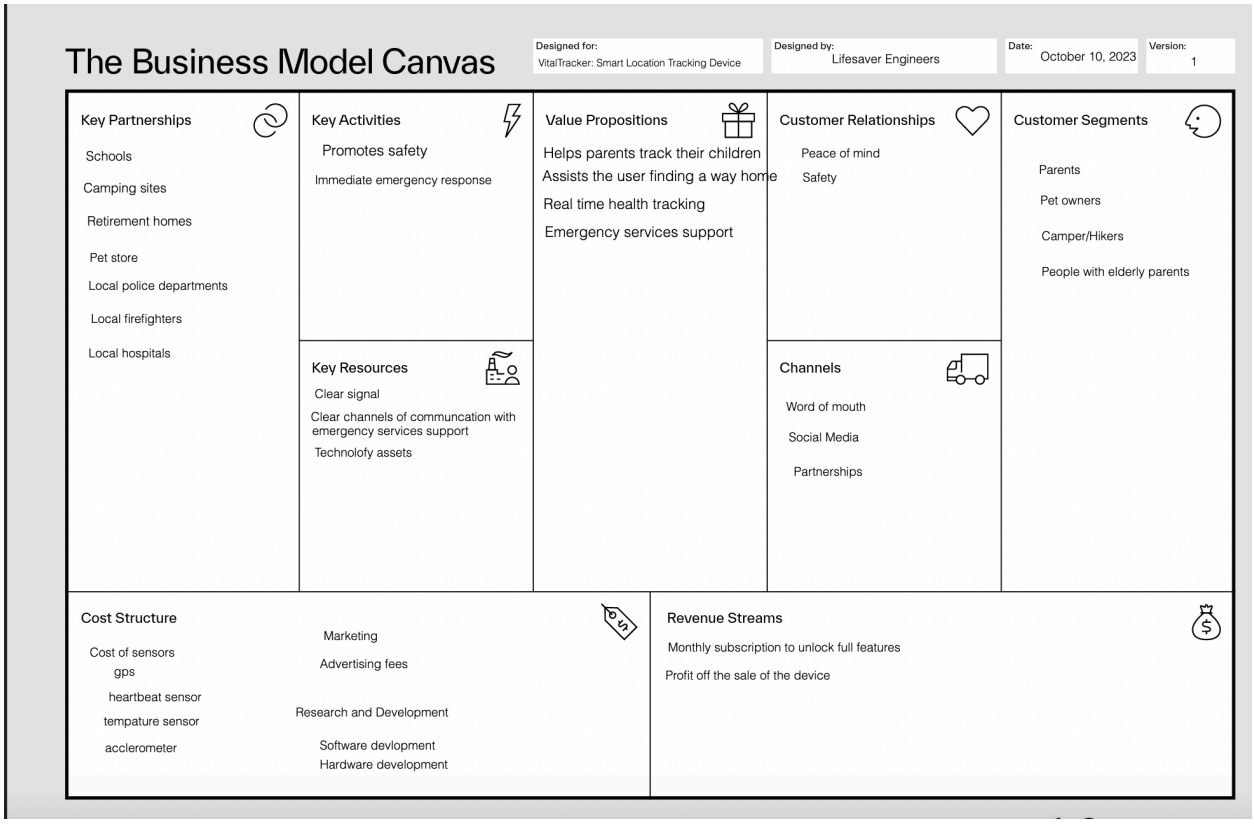
Deployment & Integration

- The application is deployable to the target environment without errors.
- configurations and environment setups are documented and reproducible.

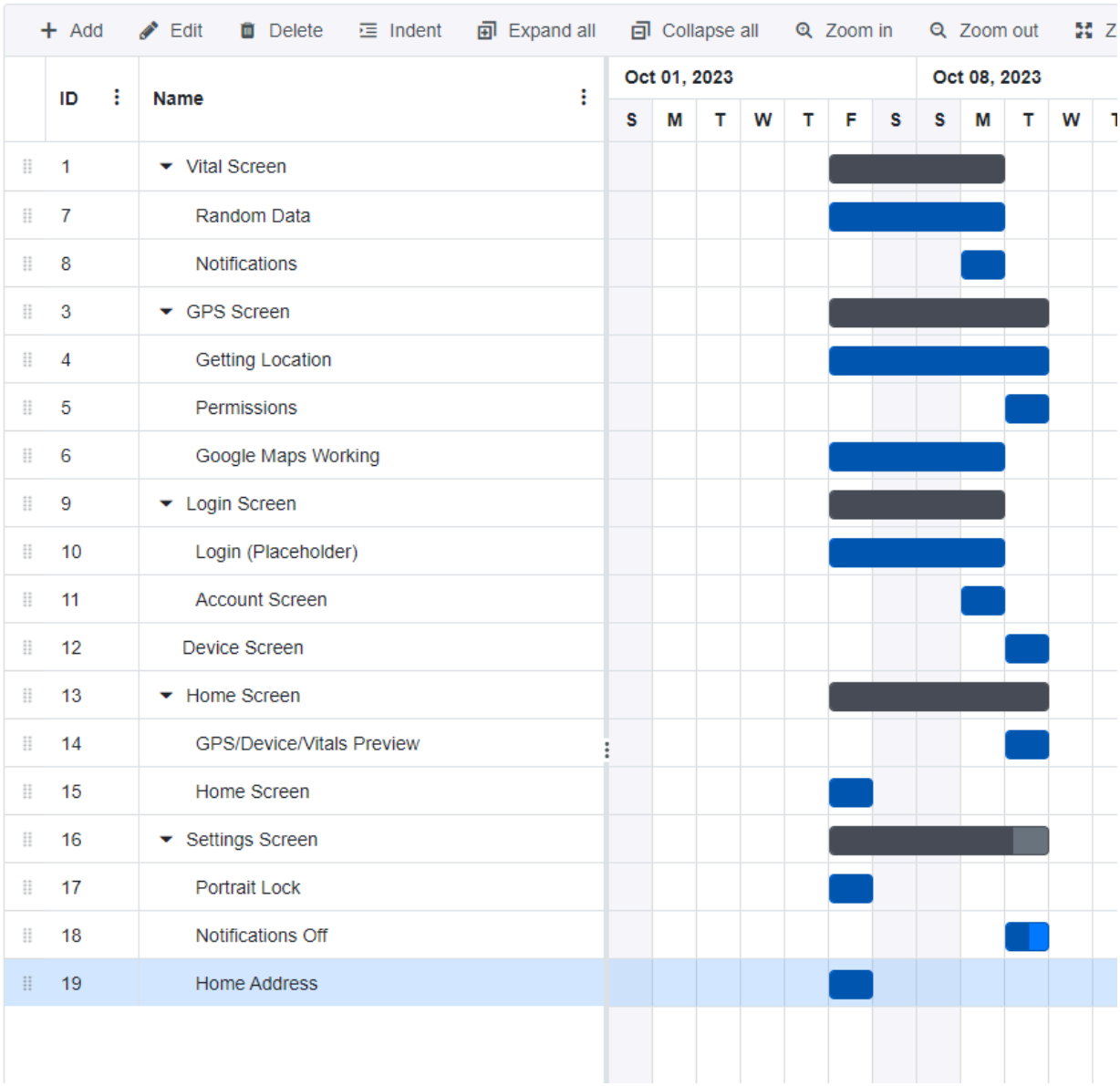
Backup & Recovery

- Proper backup mechanisms are in place(GitHub)

21.


The Business Model Canvas
Designed for:
VitalTracker: Smart Location Tracking Device
Designed by:
Lifesaver Engineers
Date:
October 10, 2023
Version:
1
Key Partnerships
Schools
Camping sites
Retirement homes
Pet store
Local police departments
Local firefighters
Local hospitals
Key Activities
Promotes safety
Immediate emergency response
Key Resources
Clear signal
Clear channels of communcation with emergency services support
Technolofy assets
Value Propositions
Helps parents track their children
Assists the user finding a way home
Real time health tracking
Emergency services support
Customer Relationships
Peace of mind
Safety
Channels
Word of mouth
Social Media
Partnerships
Customer Segments
Parents
Pet owners
Camper/Hikers
People with elderly parents
Cost Structure
Cost of sensors
gps
heartbeat sensor
tempature sensor
acclerometer
Marketing
Advertising fees
Research and Development
Software devlopment
Hardware development
Revenue Streams
Monthly subscription to unlock full features
Profit off the sale of the device

22.


Add
Edit
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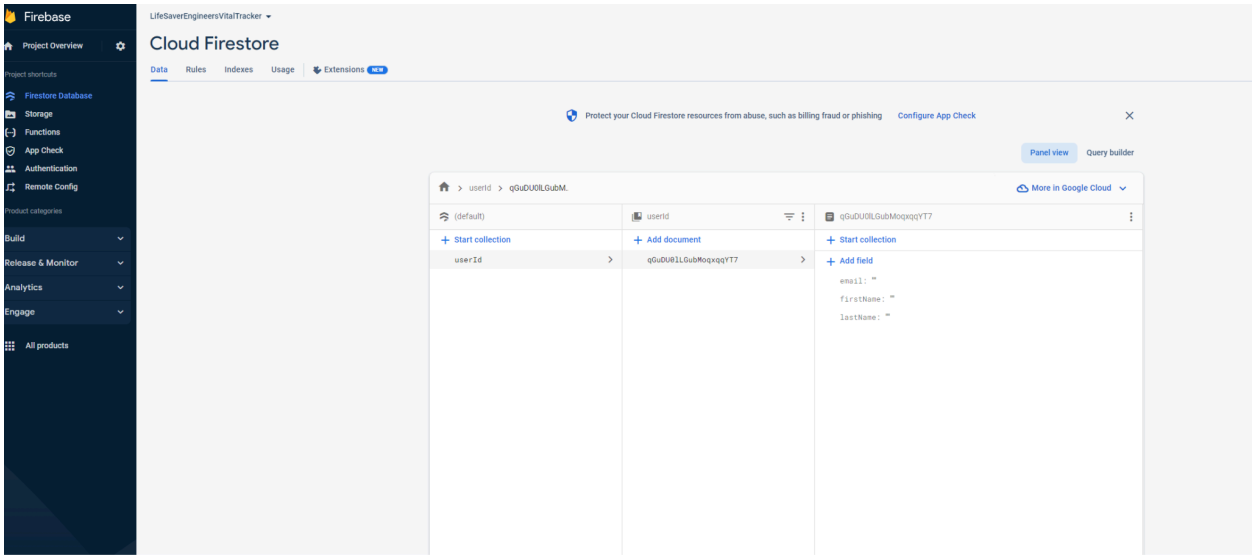
Expand all
Collapse all
Zoom in
Zoom out
ID
Name
Oct 01, 2023
Oct 08, 2023
S M T W T F S S M T W
1 Vital Screen
7 Random Data
8 Notifications
3 GPS Screen
4 Getting Location
5 Permissions
6 Google Maps Working
9 Login Screen
10 Login (Placeholder)
11 Account Screen
12 Device Screen
13 Home Screen
14 GPS/Device/Vitals Preview
15 Home Screen
16 Settings Screen
17 Portrait Lock
18 Notifications Off
19 Home Address

24.Firebase db



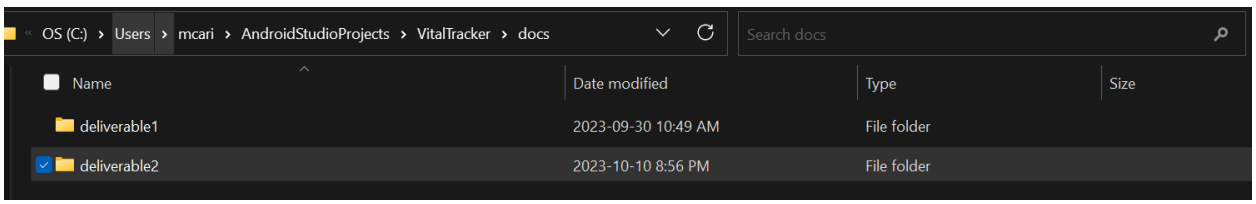
The DB we are using consists of the cloud firestore which uses collections and documents, making it easier to organize and query data. As well we are using firebase real time DB for real time data synchronization.

25. The database will store location and vital information (ie. heart rate, oxygen levels, etc) recorded from the device. This information will be stored in the database along with a timestamp. The app will then pull the information from the database so the user can view said information.

26. We swapped from a navigation drawer to bottom navigation, as we felt it fit the project better. We added dummy functionality to the GPS and vitals screens. The GPS screen has a functional map, asks for location permissions, and displays the phone's current location for the time being, but will display the device in the future. The vital screen displays randomly generated vital stats, and gives notification warnings when they cross a certain threshold (ie low heart rate, etc). The settings screen has options to lock screen rotation, turn off notifications, change home address, and reset options to defaults. Currently only the screen lock is implemented fully. There is now a login screen, directly after the splash screen. The main screen shows the login name, a preview of the device, vitals and GPS screens.

27.

Daily Stand-Up	Topic	Date
	User Interface and Experience Enhancements	Oct 8,2023

	• Home Fragment Updates: Discuss the latest changes to the home fragment, particularly the display of the user's name and the integration of GPS, Vitals, and Device fragments. • Settings Fragment: Share progress on the implementation of the settings, including location updates and screen orientation lock. • Feedback Mechanisms: Talk about the integration of user feedback tools, like Toast messages, when certain actions are performed (like turning the device on/off).	
	Progress on Vital Tracking Features • Heart Rate Monitoring: Discuss any updates or issues related to the real-time tracking, display, and storage of heart rate data. • Oxygen Level Monitoring: Share advancements or challenges in capturing and displaying oxygen level data. • Temperature Monitoring: Talk about the progress in tracking and displaying body temperature data.	Oct 9,2023
	Device Connectivity and Control • Device On/Off Status: Discuss the current status of the functionality that allows users to turn the device on or off. Any challenges faced or testing results. • Battery Life Display: Share updates on how the device's battery life is being tracked and displayed to the user. No need for functionality yet • Device Connection: Talk about how the device will be connected in the future	Oct 10,2023

28.