

Technical Requirements – Heartbeat Sentinel

Challenge is accessible on Memberspot: <https://pl-coding.mymemberspot.io/library/jx3b7Qik9ip5qpNI8IF2/g98LzeMNxdeqdhGDiYMn/jsB77OF9L6NmAmL4QJ3g/details>

Scenario

This challenge simulates real-time monitoring of three stations. Each station emits a "heartbeat" signal at its own frequency. If a station goes silent for more than 2 seconds, it is considered offline — a status message is displayed and a snackbar appears. When the heartbeat resumes, the status returns to online and another snackbar is shown.

Figma Mockups

<https://www.figma.com/design/SAX4hR2rhXFUZgQjm1iZXF/Async-Adventures?node-id=11-445>

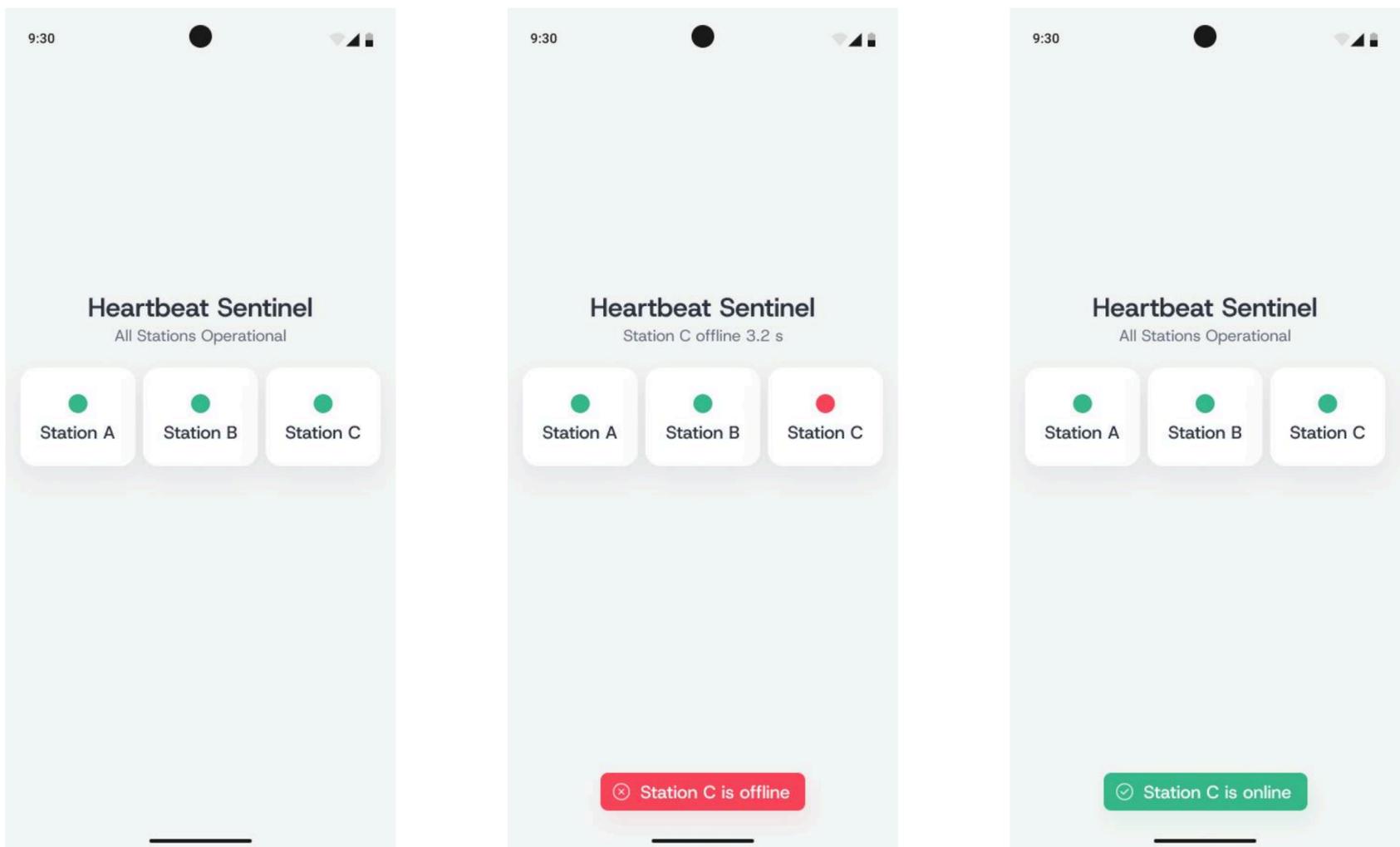
Feature Goal

Create a real-time interface to display the status of all three stations. Show a green indicator when the station is alive, and red when it has been silent for over 2 seconds. Display a snackbar when a station goes offline or comes back online.

Requirements

- The screen title must be **Heartbeat Sentinel**.
- The subtitle “**All Stations Operational**” is shown only when all stations are online.
- If at least one station is offline, the subtitle is replaced with a message like: “**Station C offline 3.2 s**” — showing the first station that went offline and how long it has been silent.
- There must be a visual status row with three stations:
 - Station A emits a heartbeat every **300 ms**
 - Station B every **700 ms**
 - Station C every **1 second**
 - The heartbeat animation for each station (blink timing and behavior) is shown in the Figma mockup
- Each station is displayed as a circle indicator (● or ●) with a label: Station A / B / C
- If a station goes silent for more than 2 seconds:
 - The indicator turns red (●)
 - A snackbar appears: “**Station X is offline**”

- When the signal resumes:
 - The indicator turns green (●)
 - A snackbar appears: “**Station X is online**”
- Snackbars disappear automatically after a few seconds.
- The blinking animation for each station must follow the Figma mockup.



🔪 Initial Test Scenarios

To verify correct behavior, implement the following steps:

- **Station C should go silent for about 4 seconds**
 - Its status must switch to **offline** (●)
 - **The subtitle** should display: “Station C offline 4.0 s”
 - **A snackbar** appears: “Station C is offline”
 - After a few seconds, the heartbeat **resumes**
 - Station C returns to green, **the subtitle** goes back to “All Stations Operational”
 - **A snackbar** appears: “Station C is online”
 - Let Station C run normally again for 3–5 seconds
- **Second phase**
 - Station C goes silent again for at least **8 seconds**
 - While it's silent, **send the app to the background**
 - After a few seconds, bring the app back to the foreground
 - **The subtitle** must still show that Station C is **offline**
 - The offline duration must be **preserved** and shown correctly (e.g., “Station C offline 6.2 s”)

🤔 What's Allowed?

- Standard Android/Jetpack libraries
- No 3rd party libraries are allowed or would be required to complete this challenge

⚠️ What's not important

- Responsiveness across every device size or orientation is not mandatory.

🏆 Submission & Rewards

- Successfully submitting this challenge via the `/submit-challenge` command on Discord grants you **200 XP**.
- Your submission must include:
 - a. A link to a Gist with your implementation
 - b. A screen recording (max 20 seconds) showing:
 - Initial app behavior with all stations online and blinking
 - How Station C goes offline and comes back online, with correct snackbars and subtitle updates
 - How, after sending the app to background while Station C is silent, the offline status and duration remain intact when the app returns to foreground