

RT_SLAM_AVOC - Design Document

Author: Abhishek Chauhan

List of Figures

- Figure 1: Architecture.png
- Figure 2: CSS.png
- Figure 3: Component architecture.png
- Figure 4: Components.drawio.png
- Figure 5: Data Streaming.png
- Figure 6: Mock api request flow.png
- Figure 7: Project Orchestration.png
- Figure 8: React App Entry Point - index.js.png
- Figure 9: Request flow .drawio.png
- Figure 10: SLAM System Architecture.png
- Figure 11: build process flow.png
- Figure 12: container setup.png
- Figure 13: disconnect websocket.png
- Figure 14: global css structure.png
- Figure 15: multi stage build.png
- Figure 16: package.json.png
- Figure 17: polling & rendering.png
- Figure 18: rendering flow.png
- Figure 19: reportWebVitals.js - Sequence Flow.png
- Figure 20: sequence flow.png
- Figure 21: structure app.js.png
- Figure 22: structure(1).png
- Figure 23: structure(2).png
- Figure 24: structure(3).png
- Figure 25: structure.png
- Figure 26: vehicle_pose.png

Pose Subscriber Node - Architecture

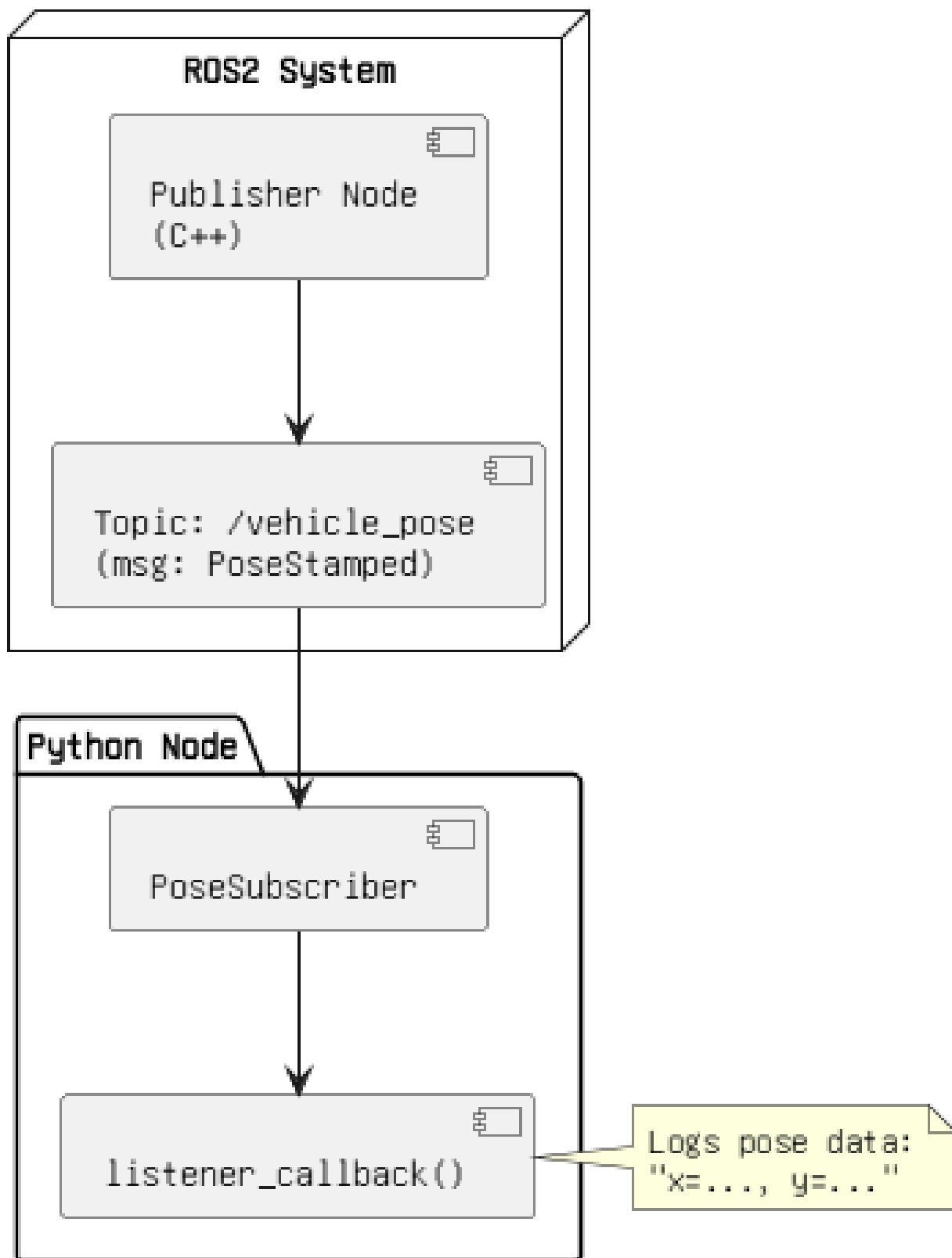


Figure 1: Architecture.png

Stylesheet Structure (CSS)

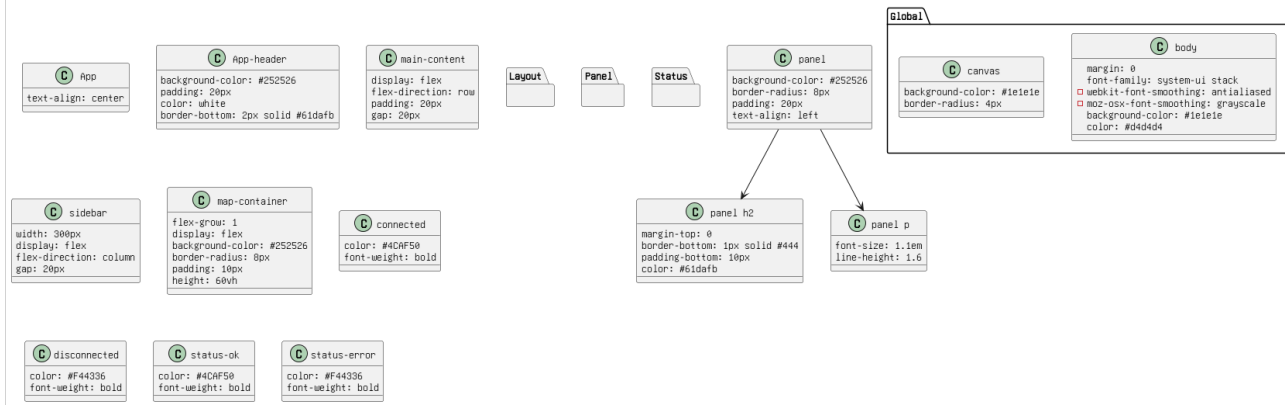


Figure 2: CSS.png

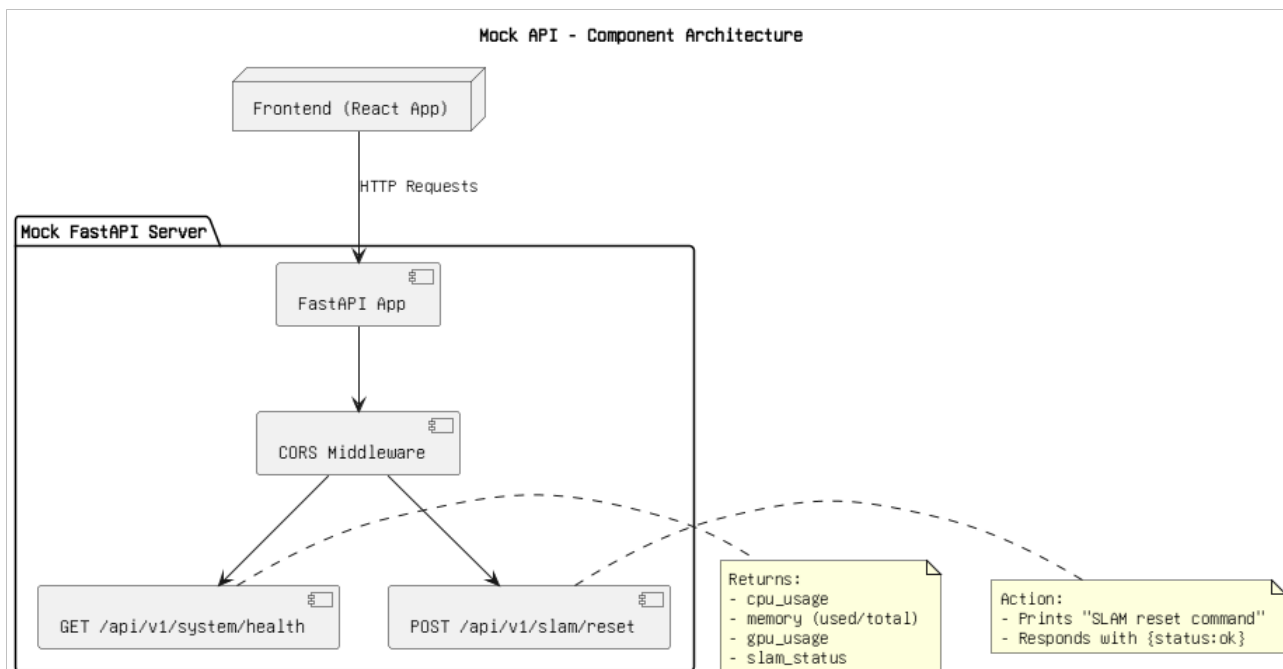


Figure 3: Component architecture.png

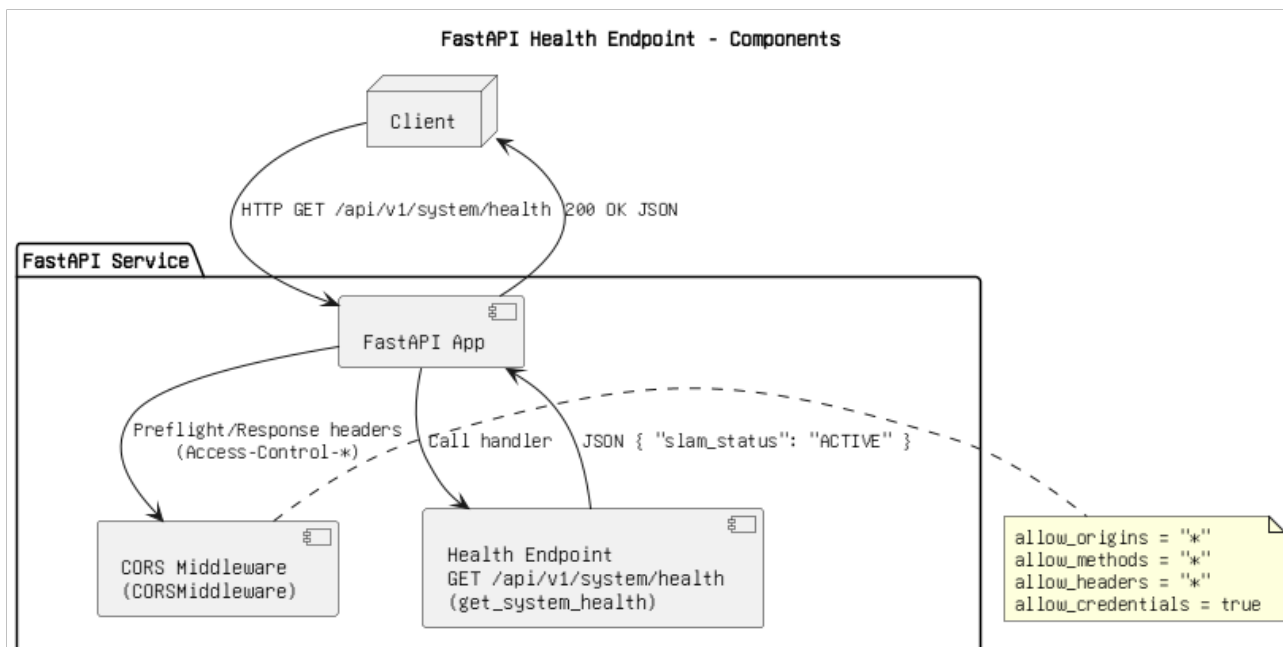


Figure 4: Components.drawio.png

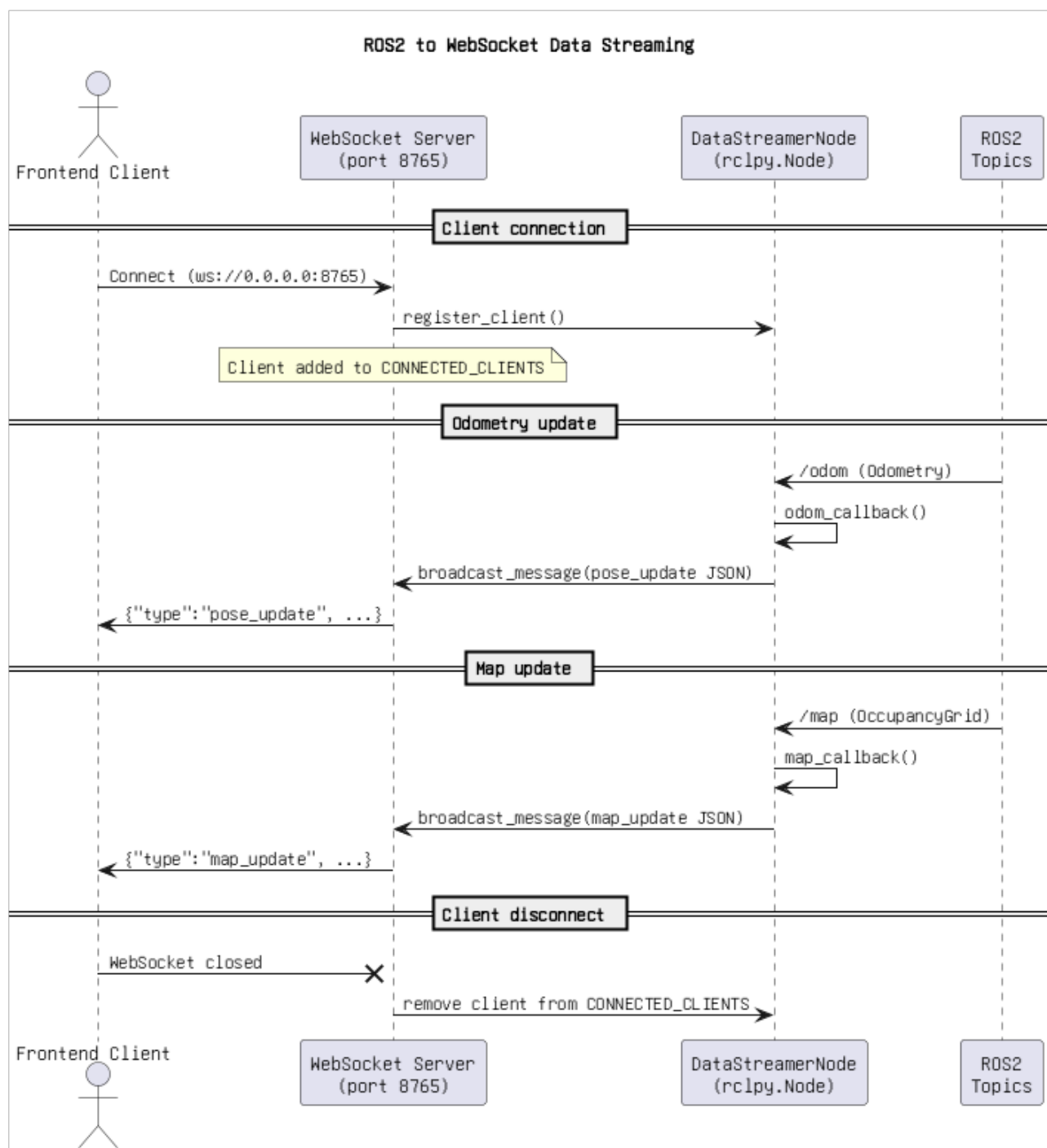


Figure 5: Data Streaming.png

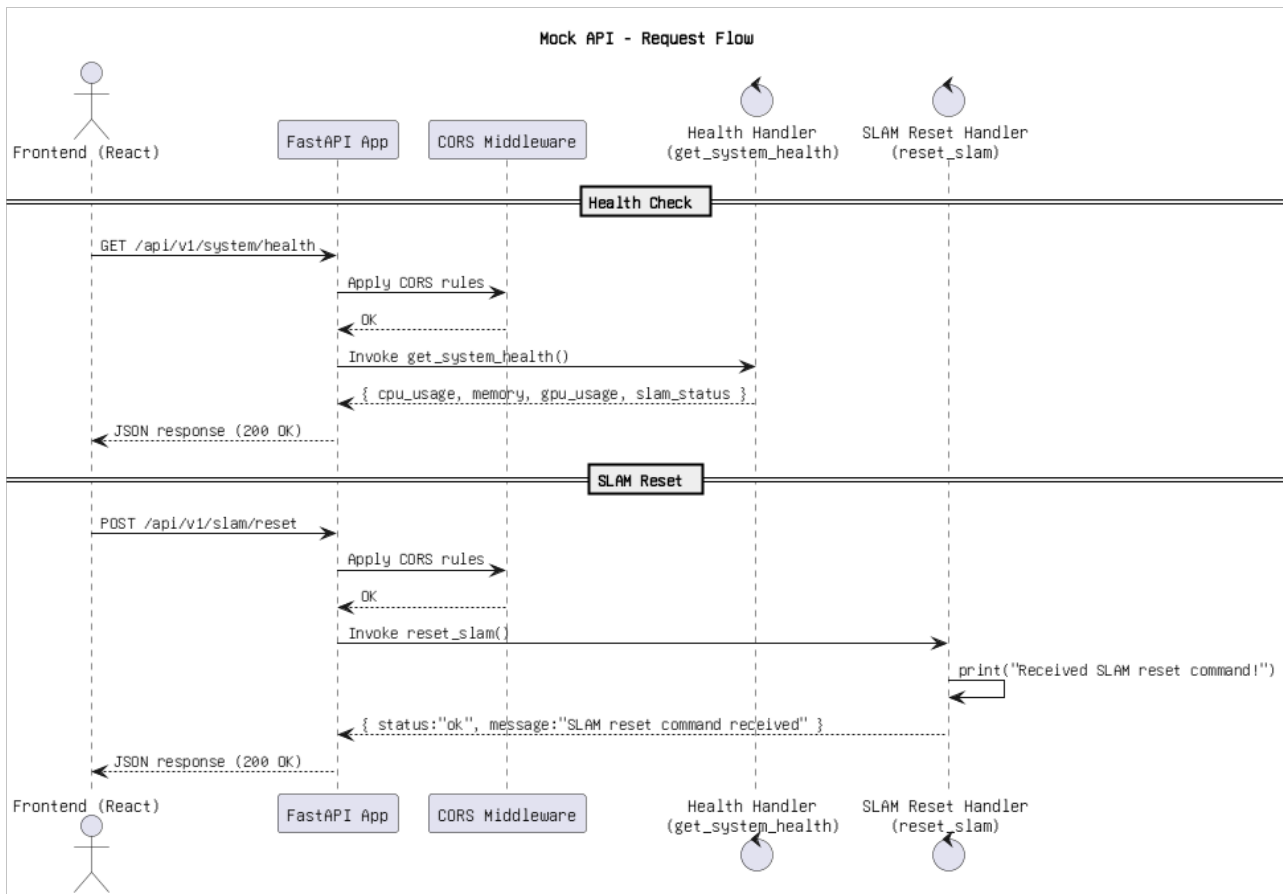


Figure 6: Mock api request flow.png

Makefile - Project Orchestration

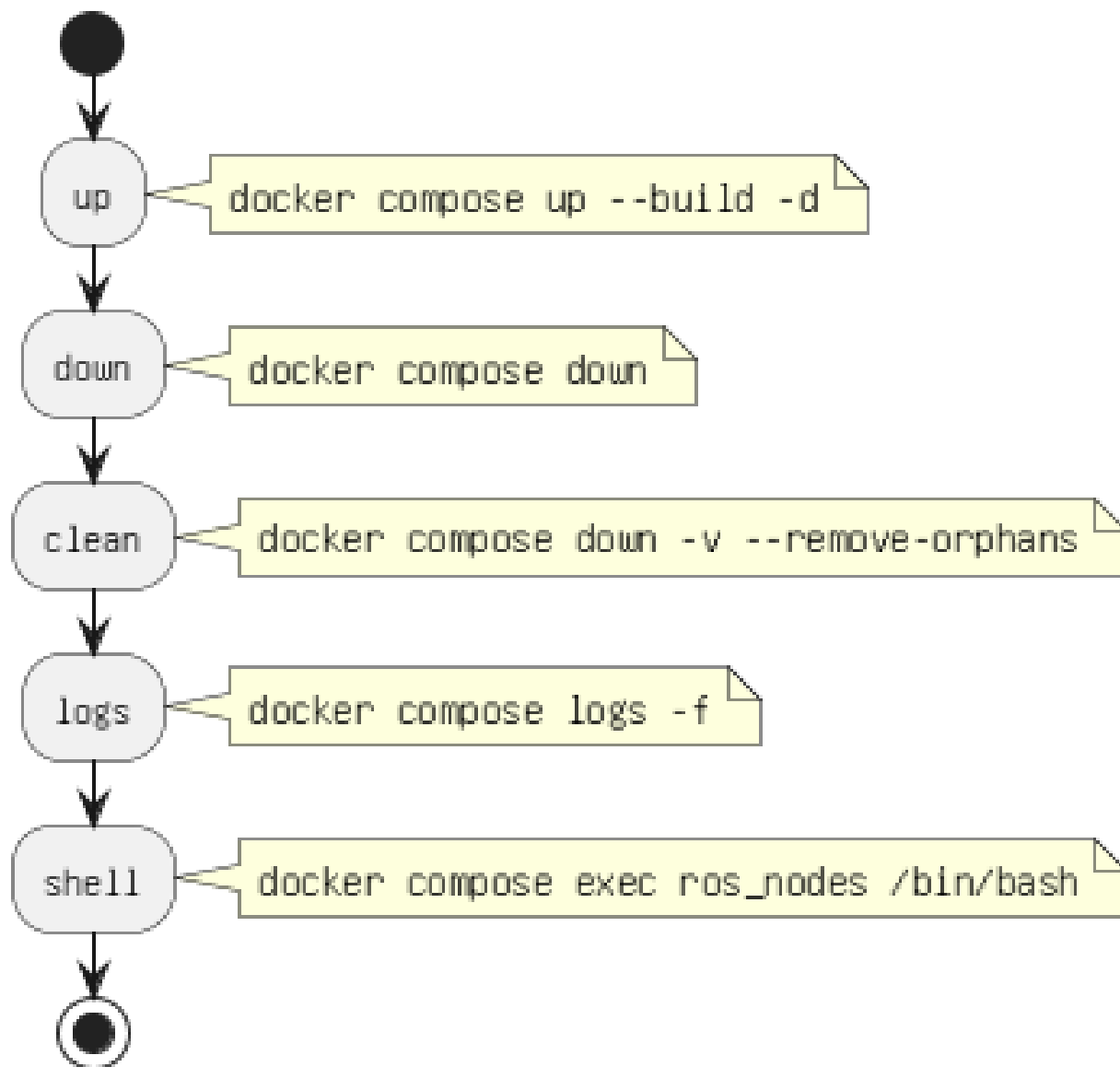


Figure 7: Project Orchestration.png

React App Entry Point - index.js

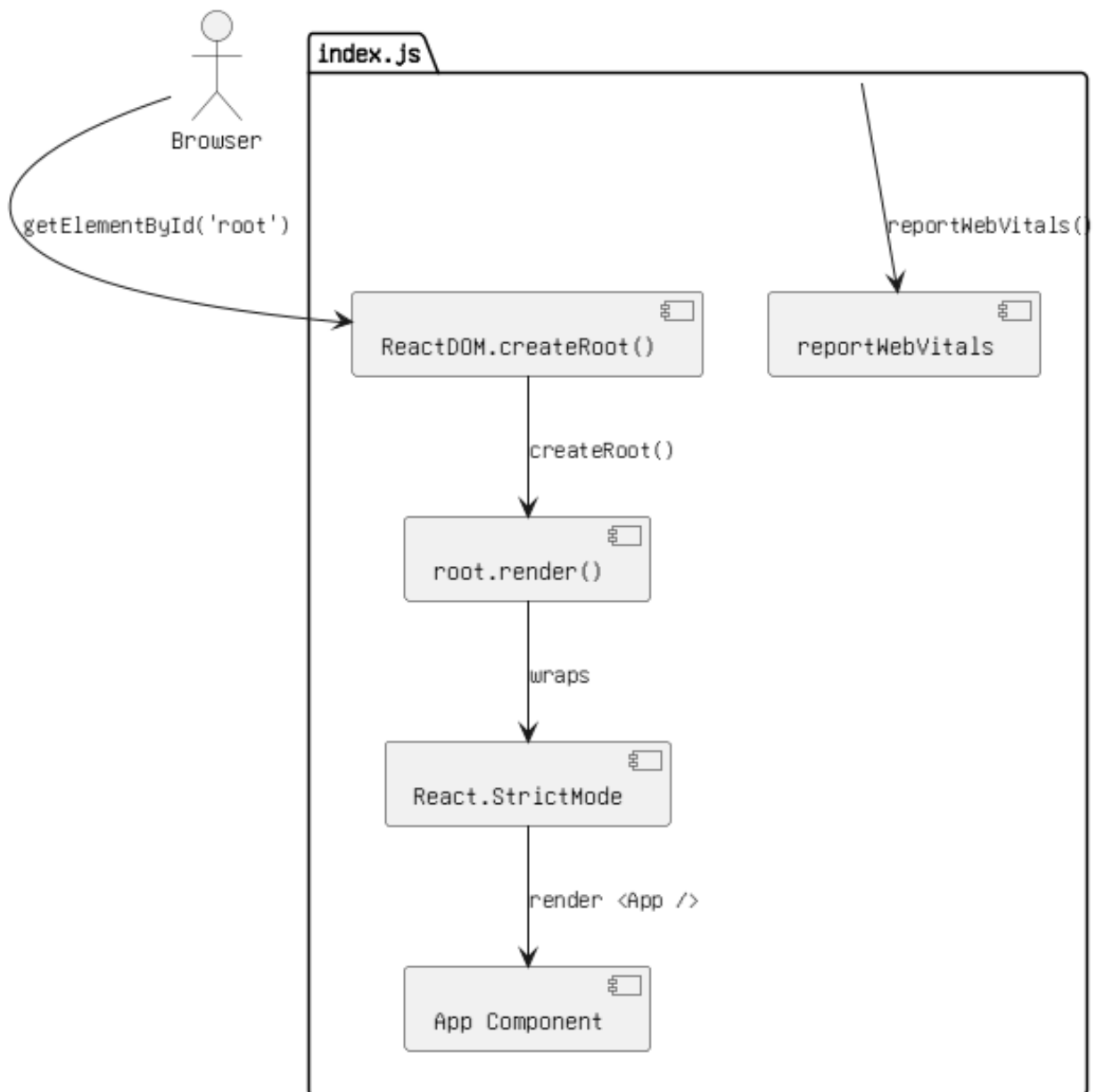


Figure 8: React App Entry Point - index.js.png

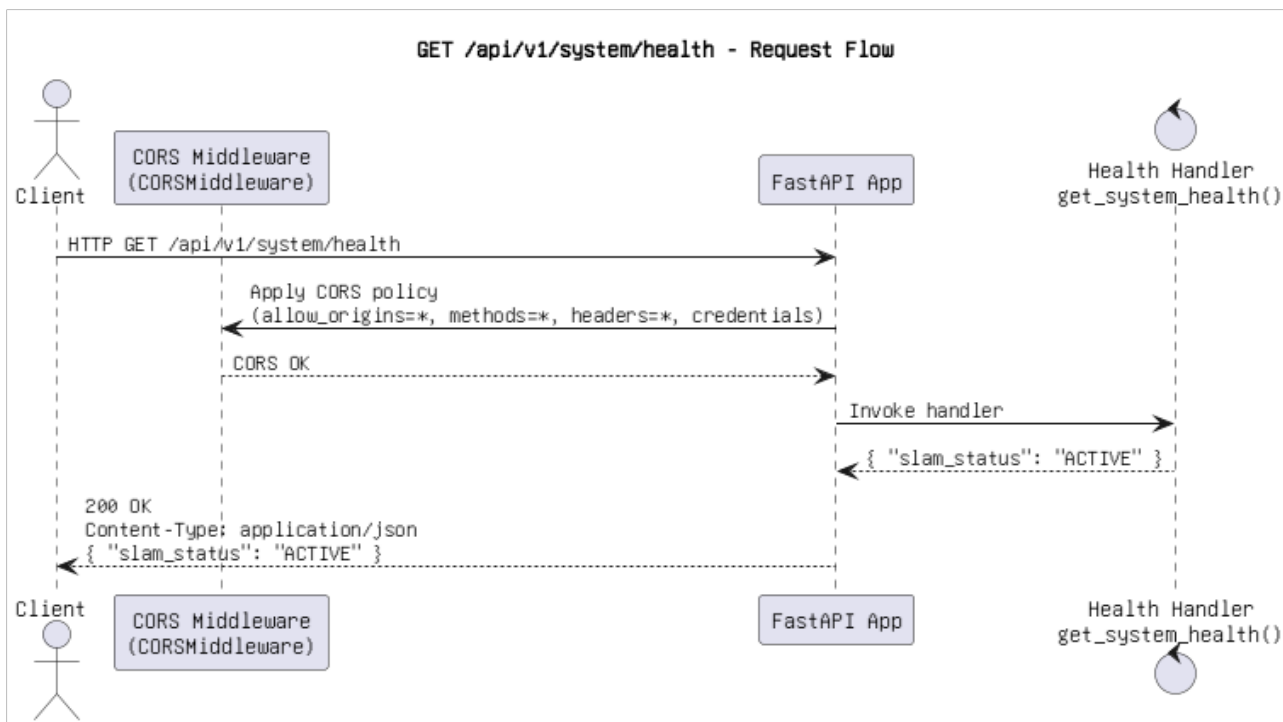


Figure 9: Request flow .drawio.png

Docker Compose - SLAM System Architecture

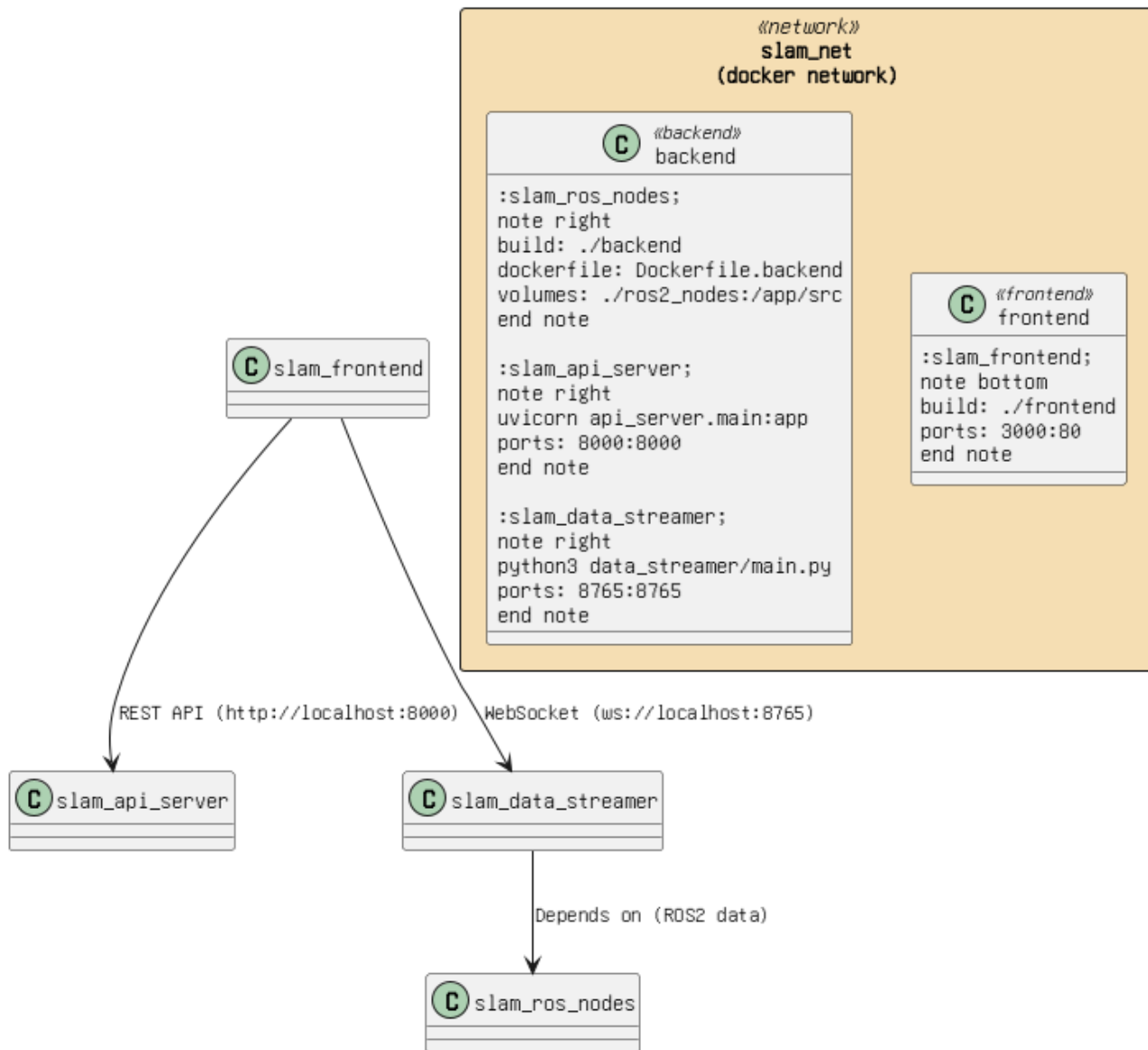


Figure 10: SLAM System Architecture.png

Dockerfile Build Process

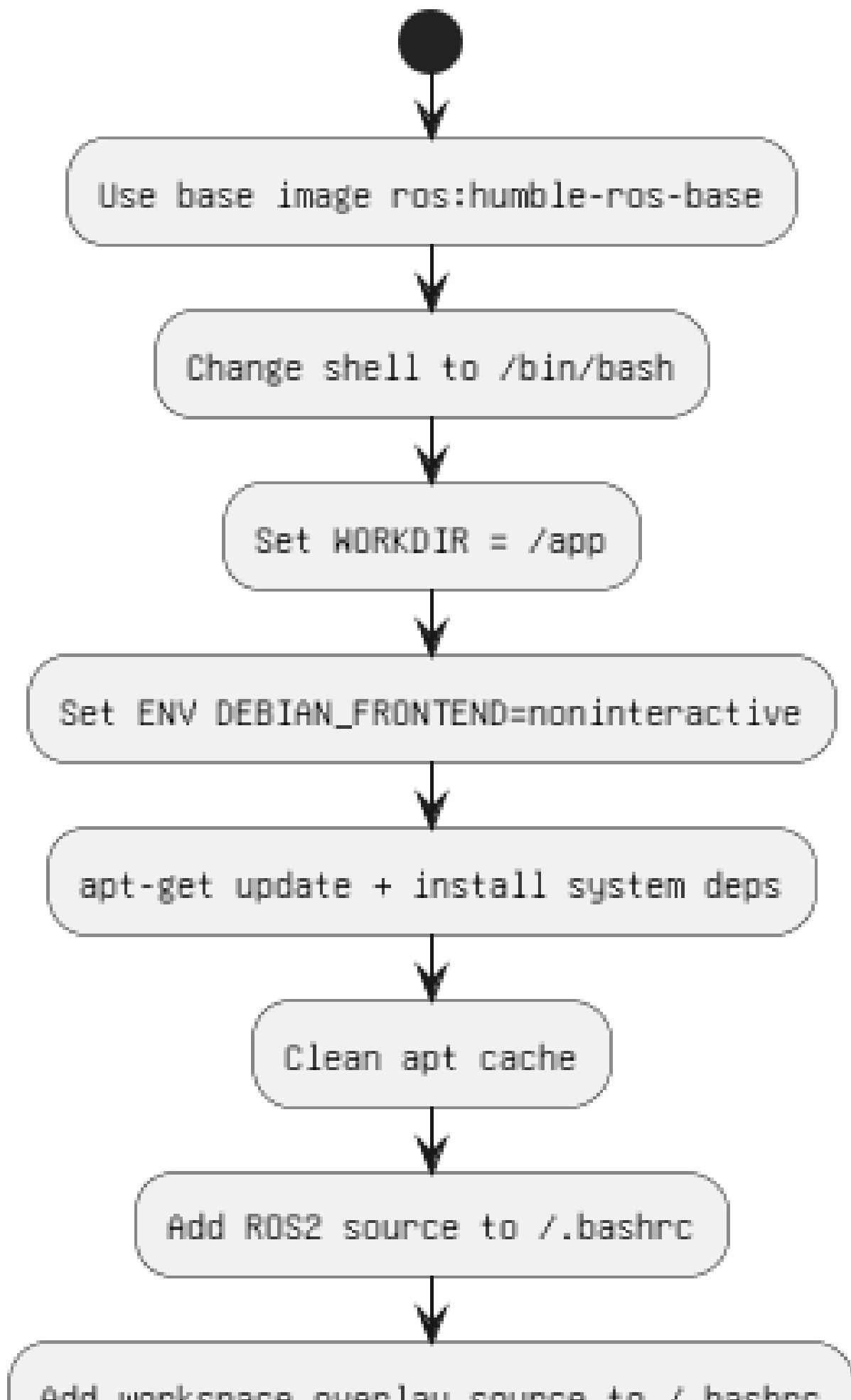


Figure 11: build process flow.png

ROS2 Docker Image - Deployment

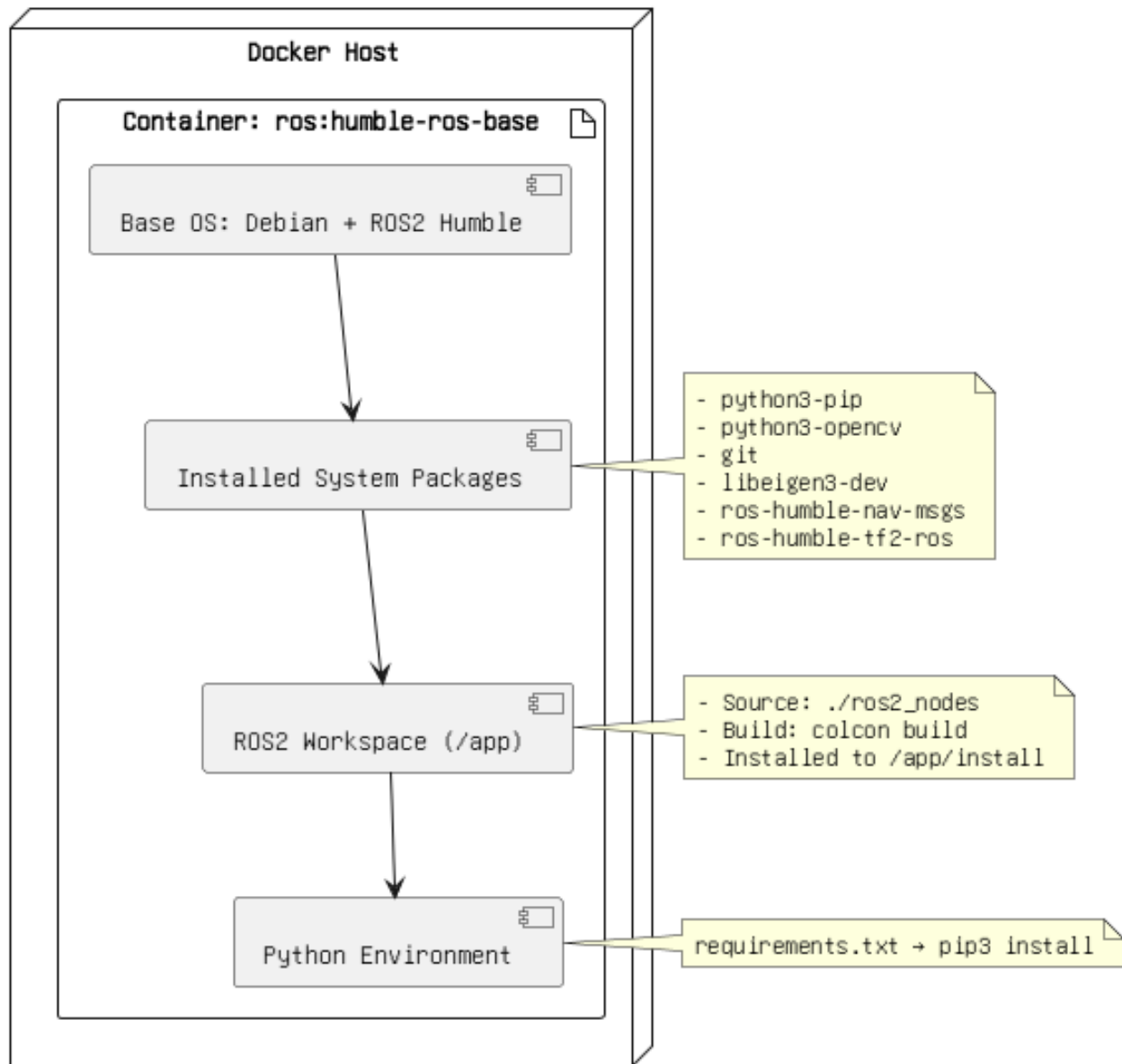


Figure 12: container setup.png

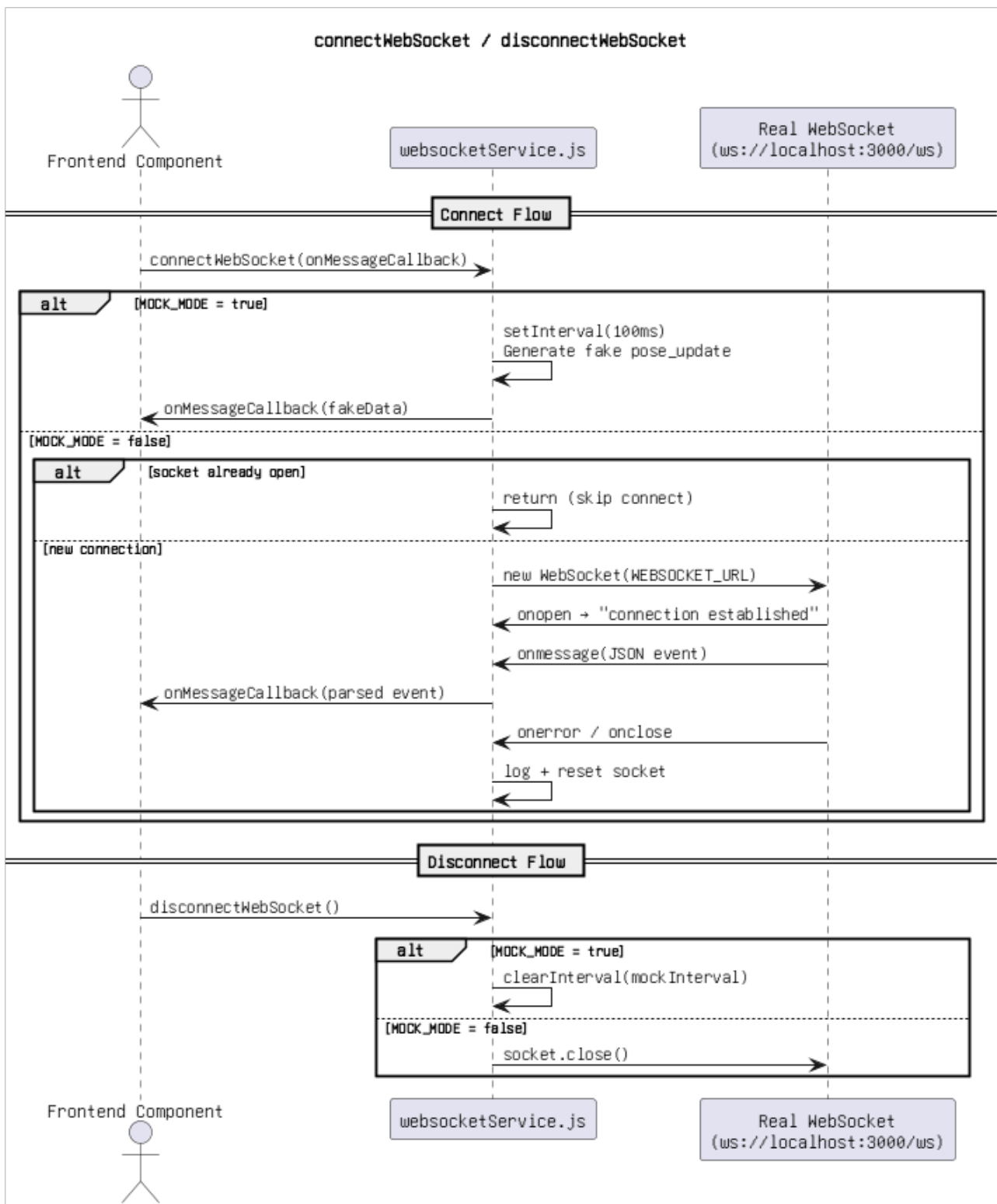


Figure 13: disconnect websocket.png

Global CSS Structure

Global Styles (body)

body

```
margin = 0
font-family = "apple-system, BlinkMacSystemFont, Segoe UI, Roboto, Oxygen, Ubuntu, Cantarell, Fira Sans, Droid Sans, Helvetica Neue, sans-serif"
webkit-font-smoothing = antialiased
moz-osx-font-smoothing = grayscale
```

Code Styles

code

```
font-family = "source-code-pro, Menlo, Monaco, Consolas, Courier New, monospace"
```

Figure 14: global css structure.png

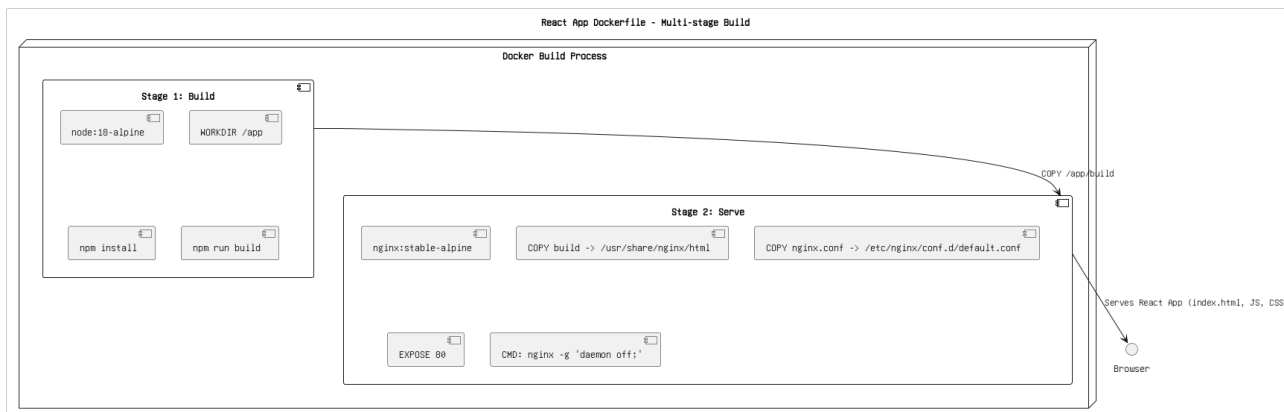


Figure 15: multi stage build.png

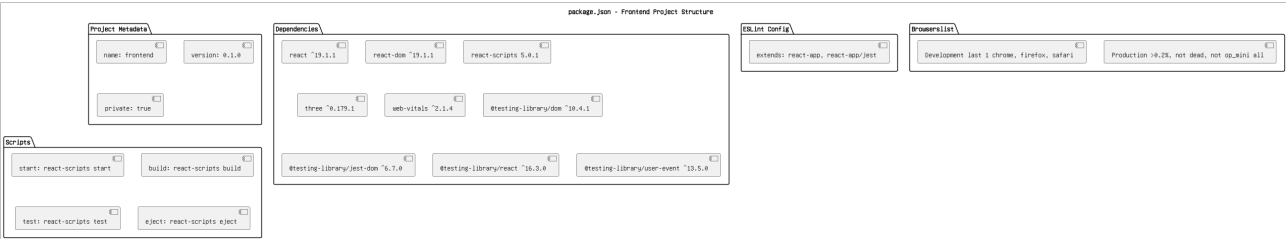


Figure 16: package.json.png

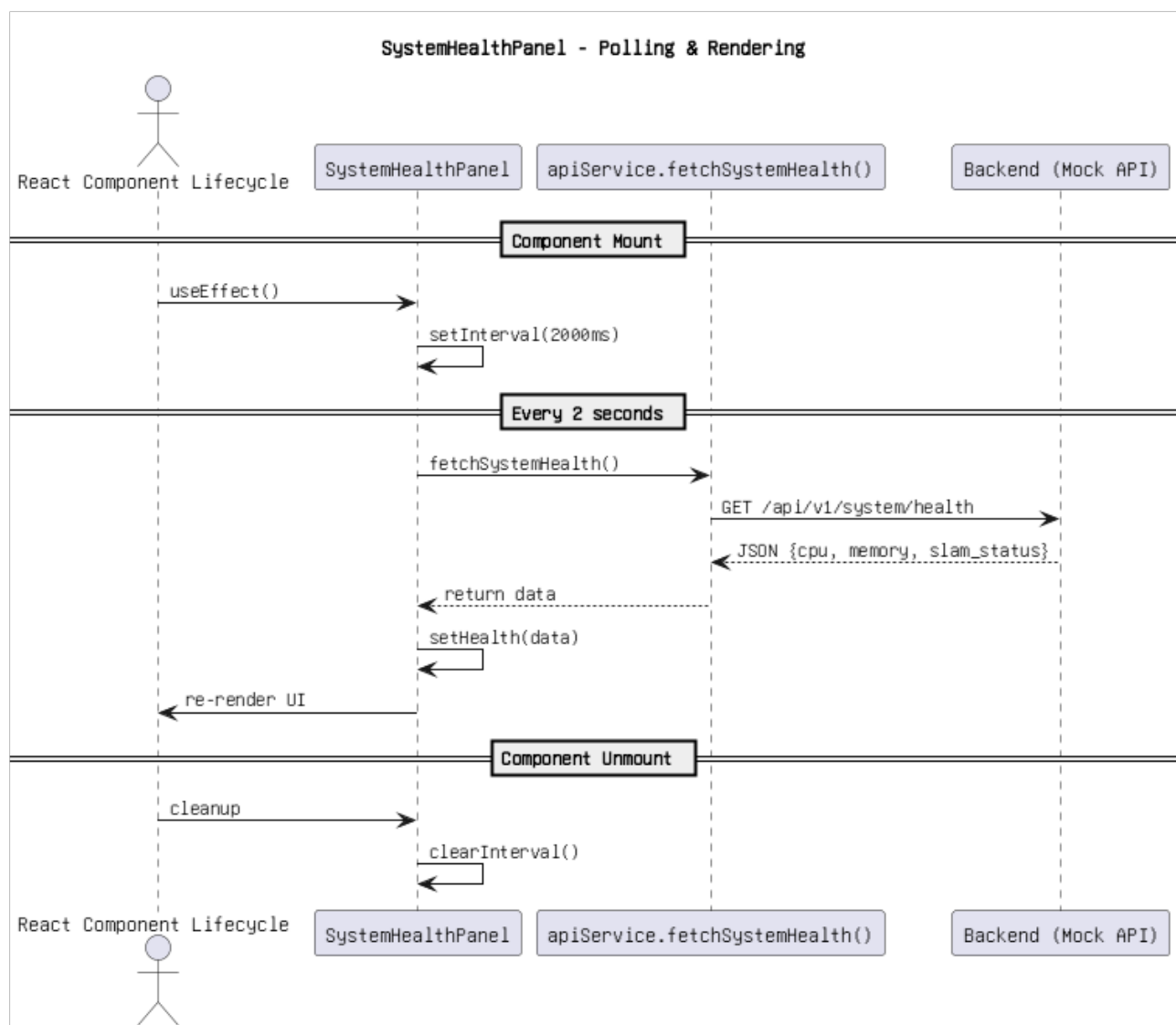


Figure 17: polling & rendering.png

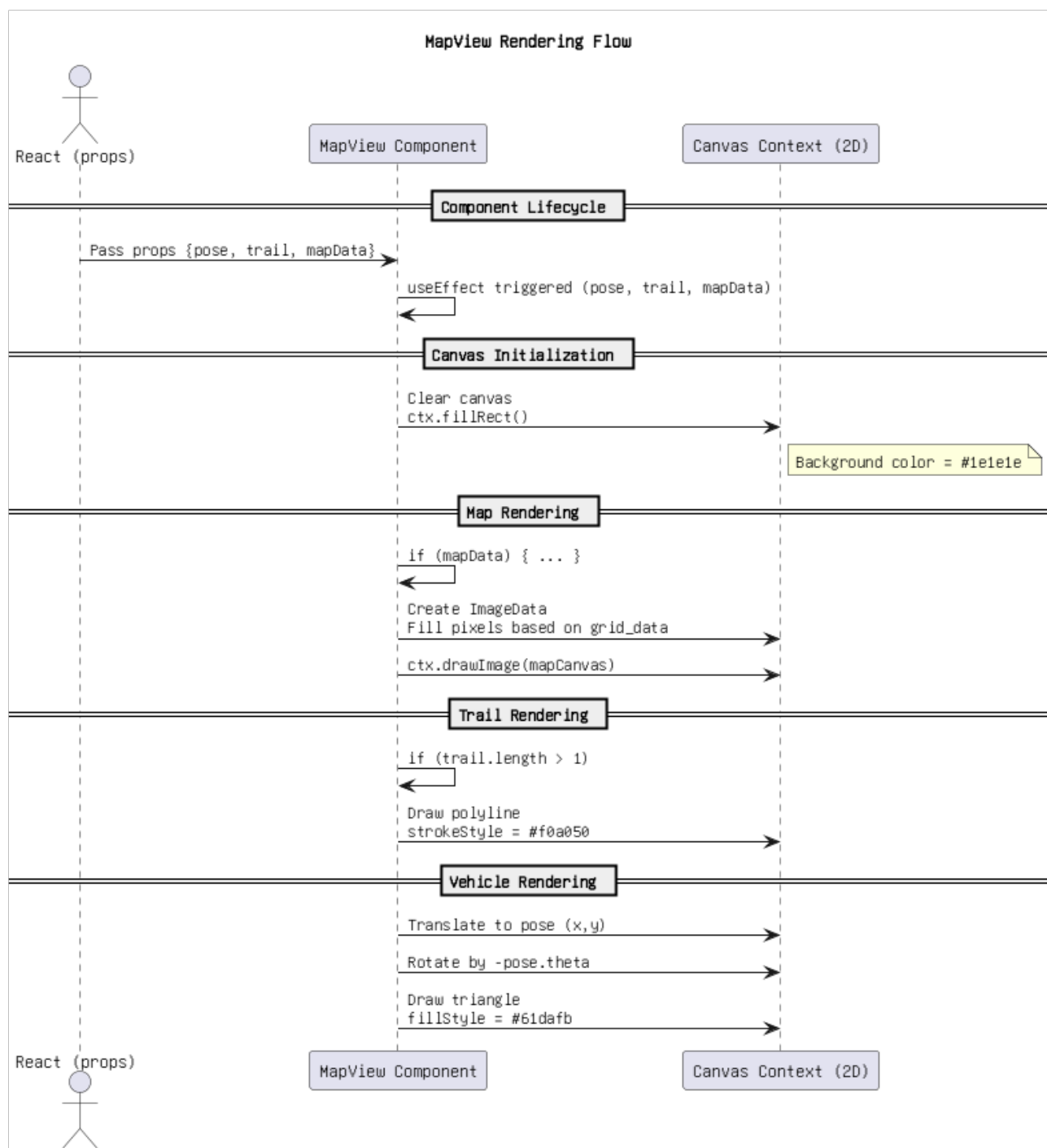


Figure 18: rendering flow.png

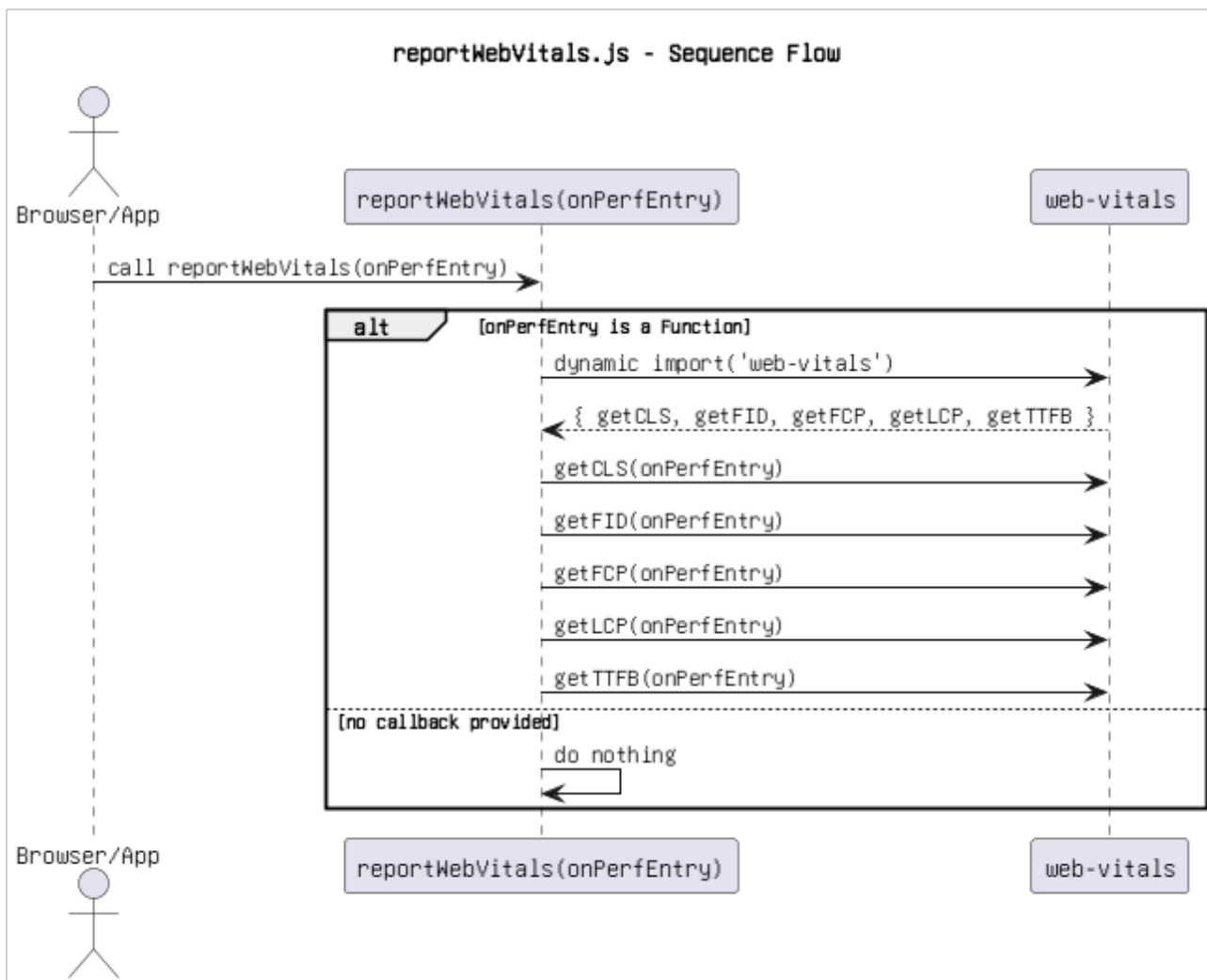


Figure 19: reportWebVitals.js - Sequence Flow.png

fetchSystemHealth - Sequence Flow

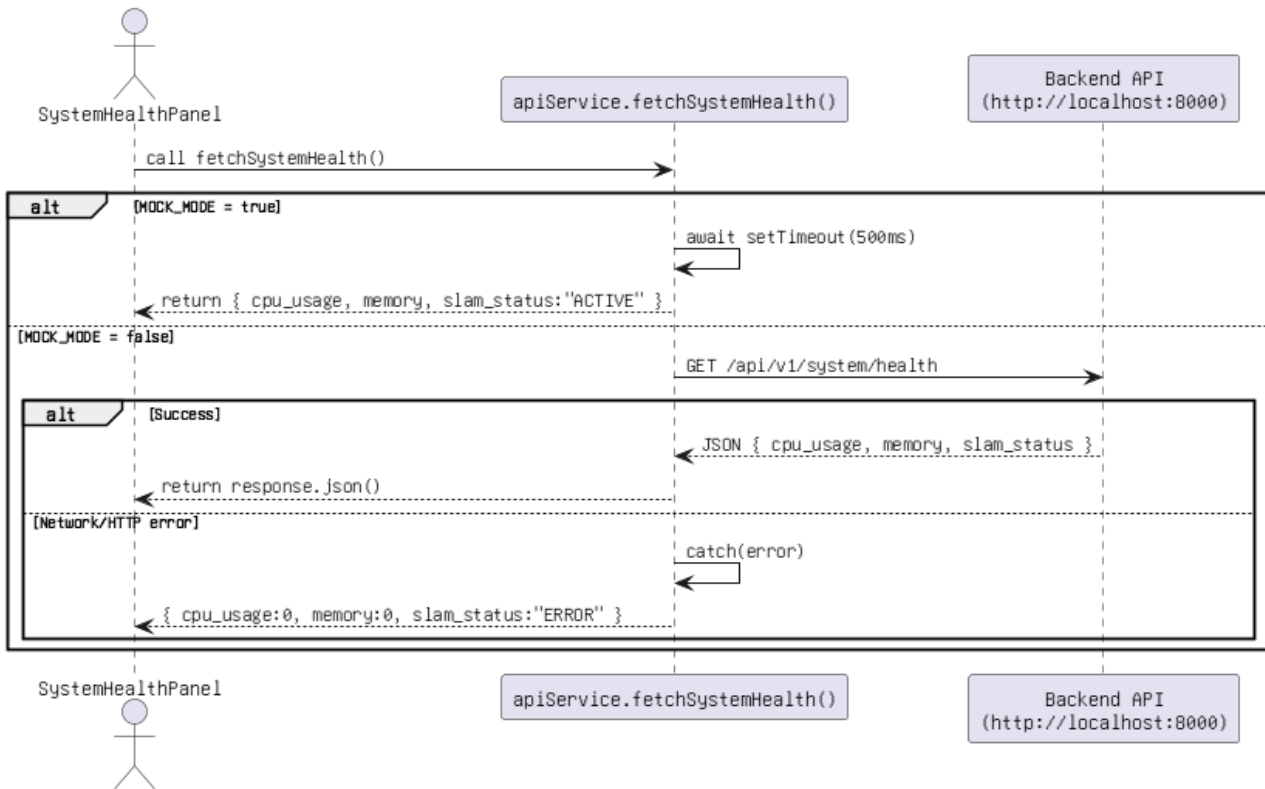


Figure 20: sequence flow.png

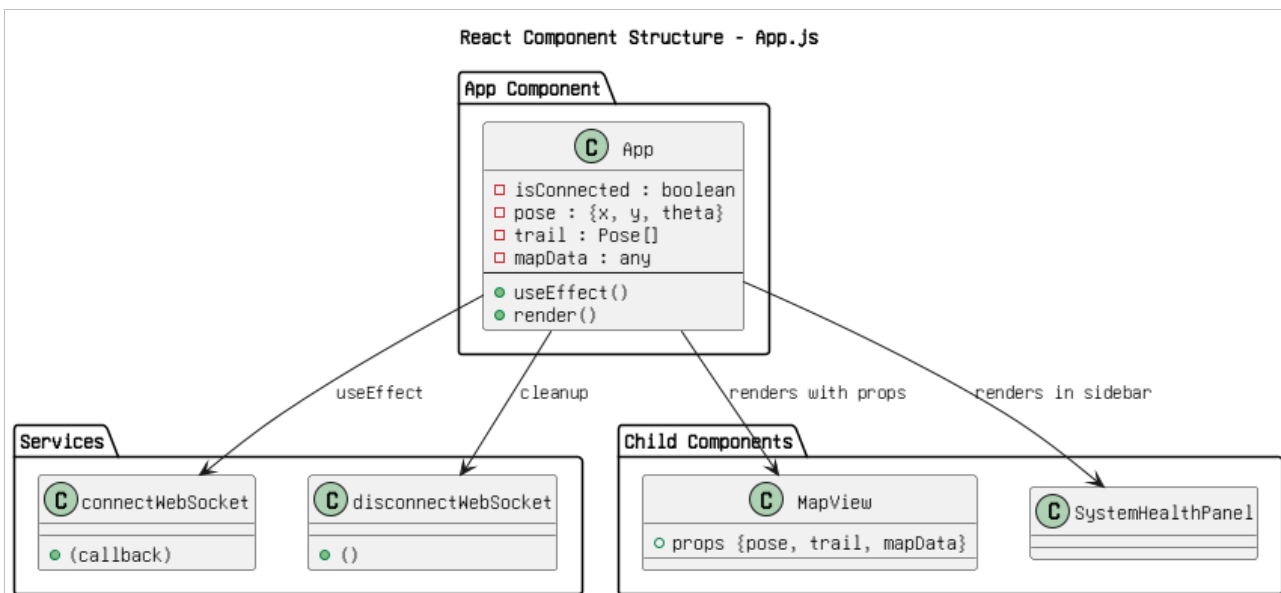


Figure 21: structure app.js.png

SystemHealthPanel - Structure

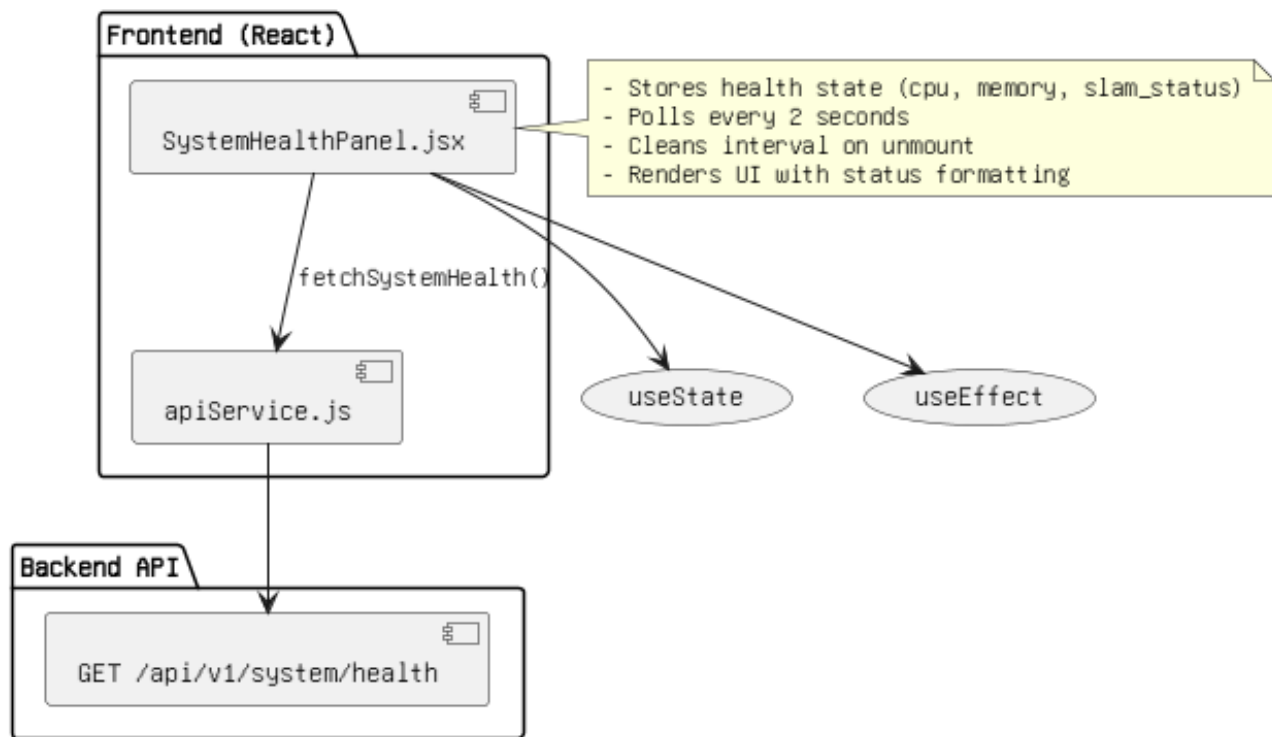


Figure 22: structure(1).png

apiService.js - Structure

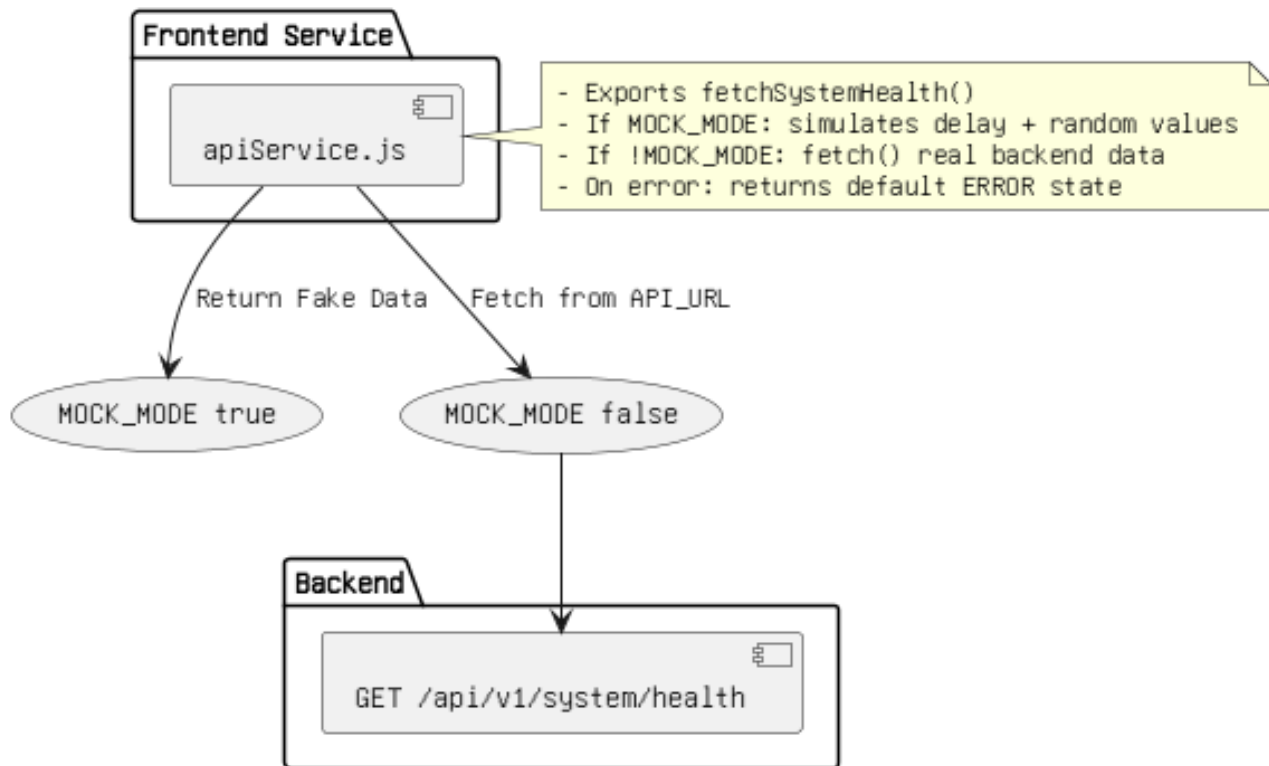


Figure 23: structure(2).png

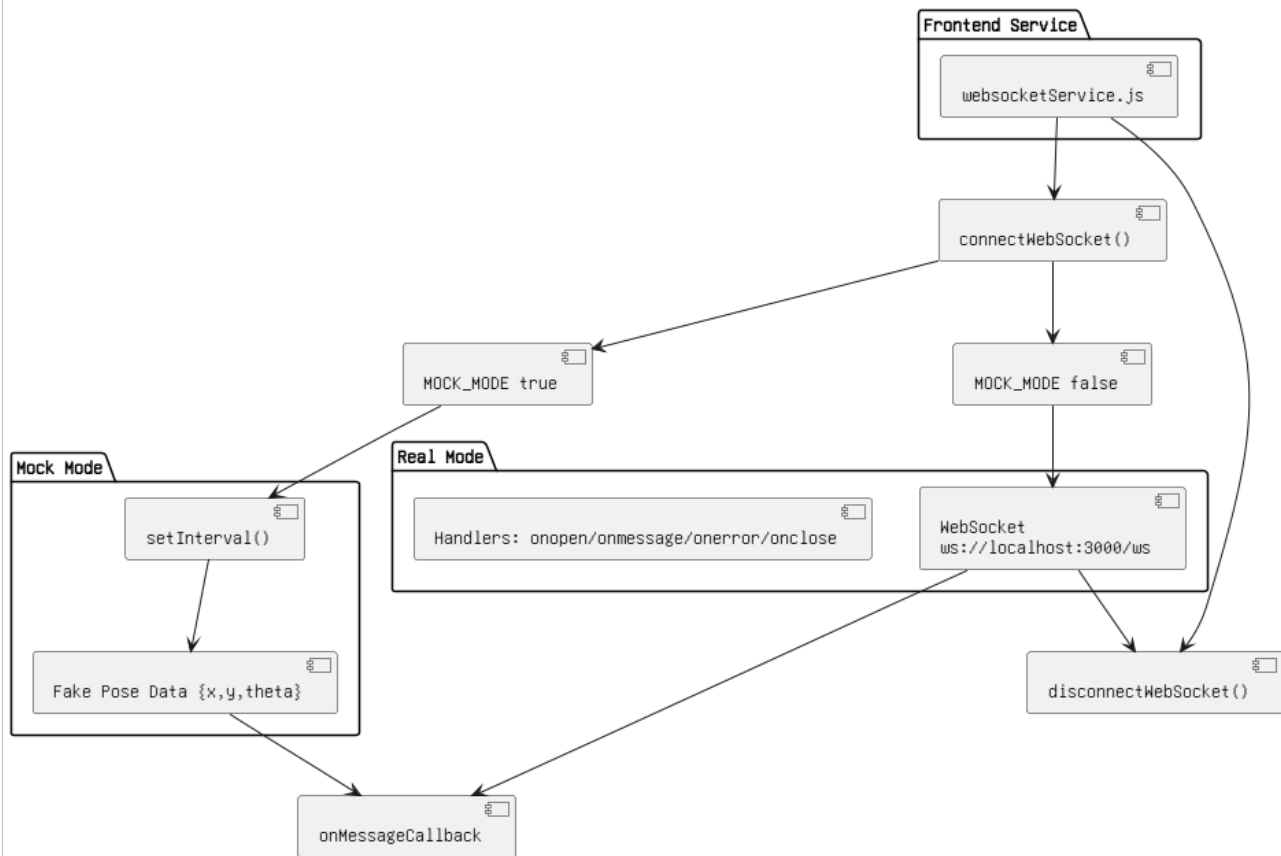


Figure 24: structure(3).png

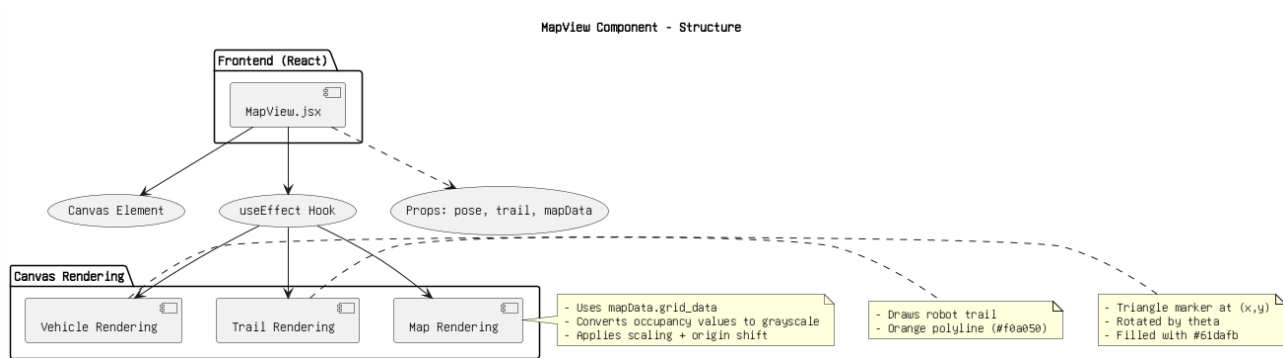


Figure 25: structure.png

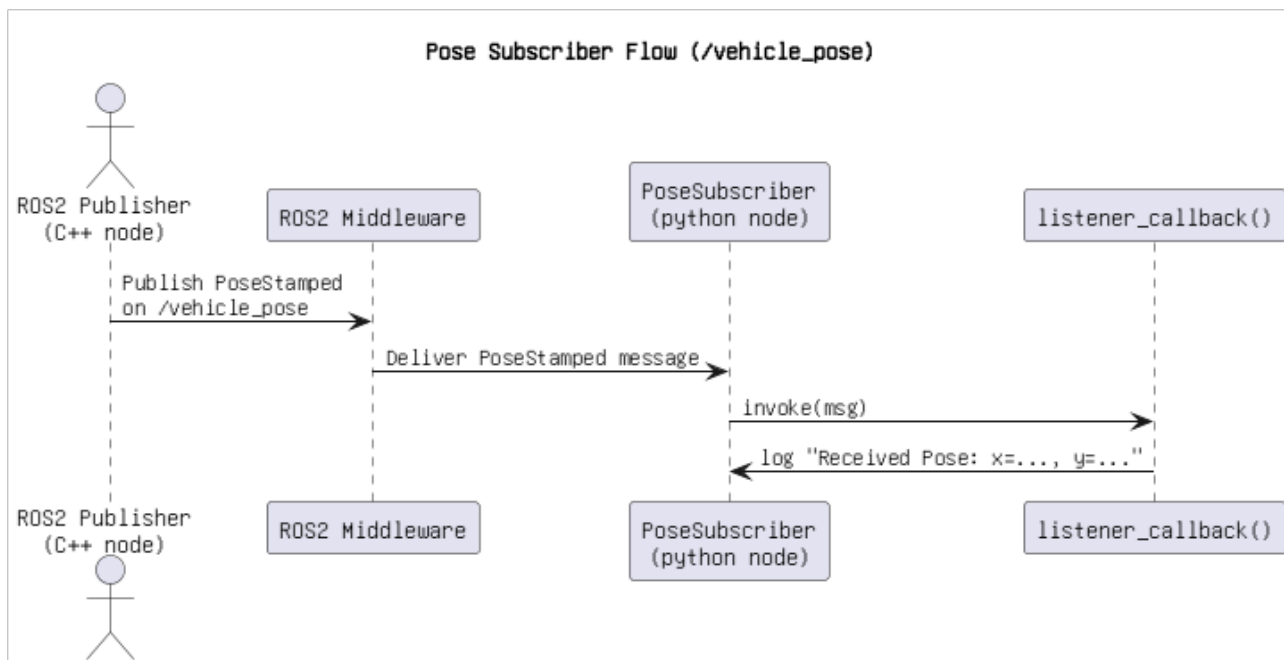


Figure 26: vehicle_pose.png