Automotive Digital Cockpit

Comprehensive Project Report

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Project Files

backend/.env

```
PORT=5000
DB_URL=mongodb://localhost:27017/vehicle_health
API_KEY=123456
```

backend/CMakeLists.txt

```
cmake_minimum_required(VERSION 3.10)
project(AutomotiveDigitalCockpit)

set(CMAKE_CXX_STANDARD 17)

include_directories(include)

add_executable(cockpit main.cpp src/api.cpp src/telemetry_handler.cpp...
```

backend/Dockerfile

```
FROM gcc:latest
WORKDIR /app
COPY . .
RUN apt-get update && apt-get install -y cmake
RUN cmake . && make
CMD ["./cockpit"]
```

backend/include/api.hpp

```
ifndef API_HPP
define API_HPP
```

backend/main.cpp

```
include <iostream>
include "include/api.hpp"
```

backend/model/interface.cpp

```
include <iostream>
```

backend/server.js

--- 1. Dependencies ---

backend/src/api.cpp

```
include <iostream>
```

include "api.hpp"

backend/src/telemetry_handler.cpp

include <iostream>

include <fstream>

include <string>

frontend/.gitignore

Logs

frontend/README.md

React + Vite

frontend/api.js

Define the base URL of your backend API.

It's a good practice to have this in one place.

frontend/eslint.config.js

import js from '@eslint/js'

import globals from 'globals'

import reactHooks from 'eslint-plugin-react-hooks'

import reactRefresh from 'eslint-plugin-react-refresh'

import { defineConfig,...

frontend/src/components/UserList.js

import React, { useState, useEffect } from 'react';

import { getUsers, createUser } from '../api';

import {getUsers} from 'src/api.js'

const UserList = () => {
  const [users, setUsers] =...

frontend/src/server/server.js

Example React component fetching data from backend API

frontend/src/socket.js

import { io } from 'socket.io-client';

// The URL of your backend server
const SOCKET_URL = 'http://localhost:3000';

// Create the socket connection
export const socket = io(SOCKET_URL);

// You...

frontend/vite.config.js

```
import { defineConfig } from 'vite'
import react from '@vitejs/plugin-react'

// https://vite.dev/config/
export default defineConfig({
  plugins: [react()],
})
```