

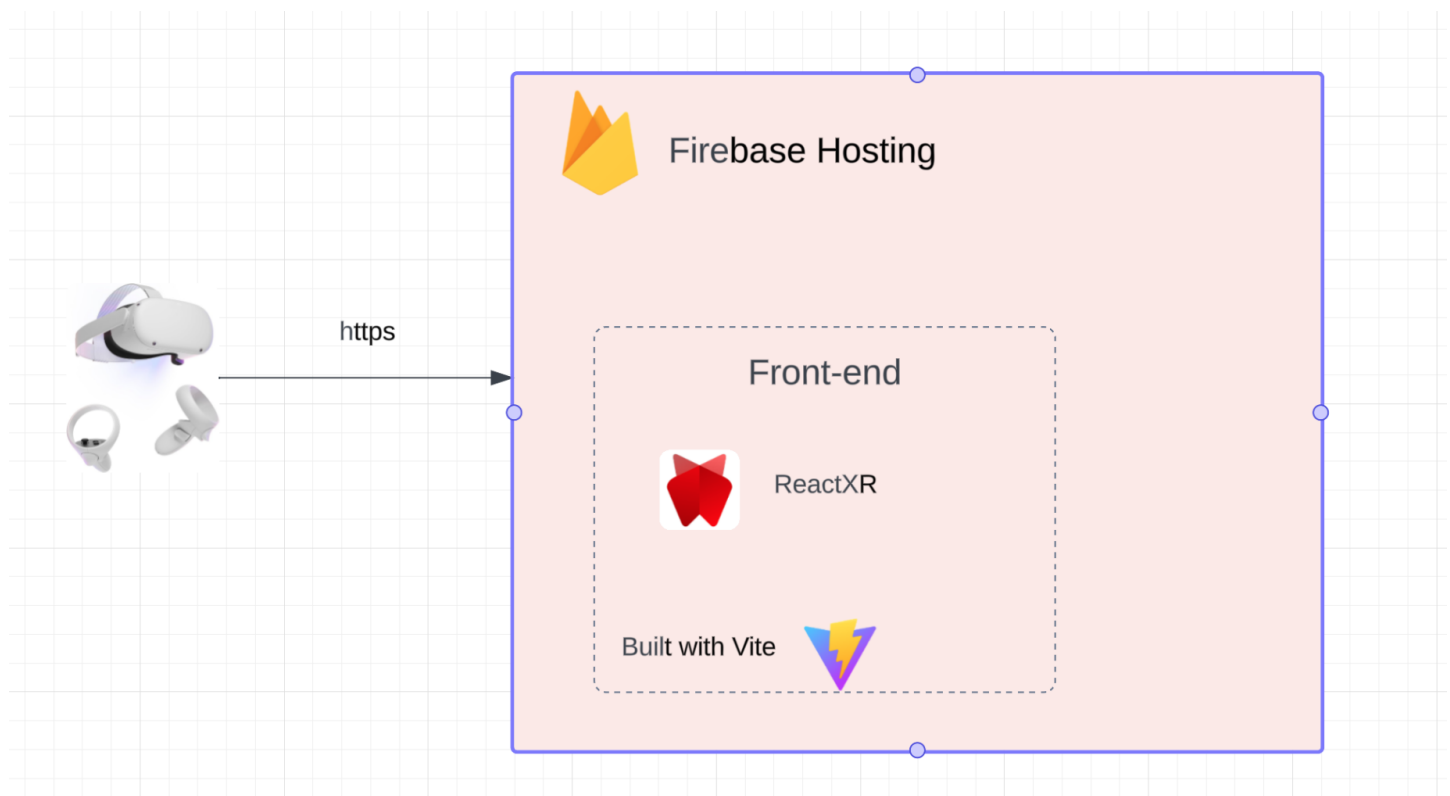
Architecture Design Records (ADRs)

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Matthew Buglass edited this page 3 minutes ago · 4 revisions

[Guide on Writing ADRs](#)

1. Initial Architecture Prototype



Context

This architecture design serves as the foundational blueprint for the web application. Given a short approximate 3-month window designated for development, the primary objective is to create a simple yet effective architecture.

Decision

- The web application will be serverless. PCA computations will be executed directly on the Oculus device's browser.
- The web application will be hosted on Firebase.
- The developers will use ReactXR - a React renderer for Three.js's 3D objects for Front-End.
- The developers will leverage Vite - a web app build tool to set up the project quickly.

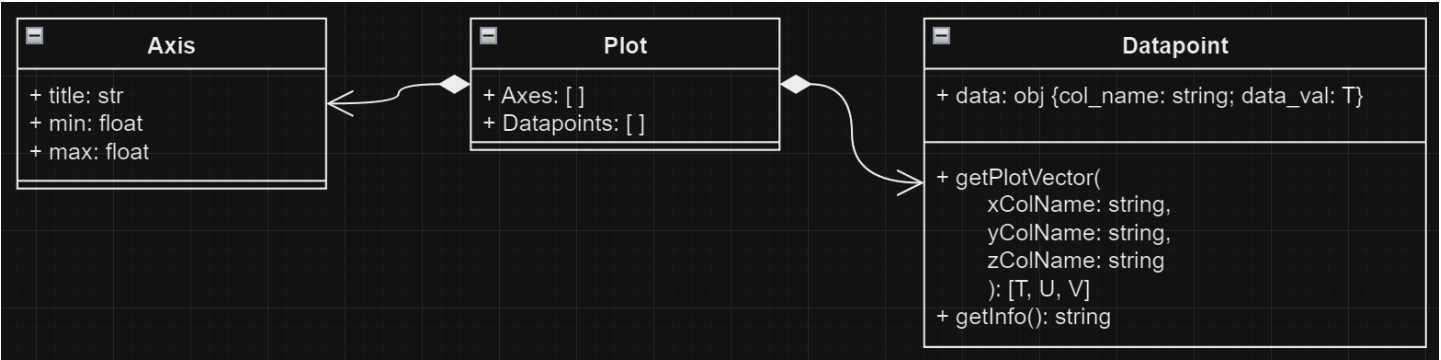
Status

Accepted

Consequences

- Positive Outcomes:
 - High responsiveness with PCA done on Oculus.
 - Firebase hosting provides secure HTTPS connection, analytics, performance monitoring extensions and easy integration of a database and user authentication if future requirements necessitate.
 - Efficient web development process using Vite.
- Negative Outcomes and Mitigations:
 - Risk: Lag with large datasets on Oculus.
 - Mitigation: Offload computations to a server using node.js.
- Future Considerations:
 - Continuous monitoring and assessment of PCA performance on the Oculus.

2. Data Model



Data handling process:

1. Read CSV data file
2. Create the Plot component. It will be responsible for generating and rendering the plotted data.
3. The Plot component will generate each Axis component.
4. The Plot component will generate all Datapoint components.

The current data model is in the initial design phase. There will be future updates to include further detail. We are currently exploring the use of IndexedDB within the browser for storing formulated data. The goal is to have an extensible plot implementation that can be used with a wide variety of data inputs, including both nominal and categorical data.

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2. Data Model
Data handling process:
▸ Branching Strategy
▸ Conducting Effective Code Review
▸ How to access App publicly
▸ How to use WebXR Libraries
▸ How to write a gherkin
▸ Project Setup (So far)
▸ Risk Plan ID1
▸ Using Immersive Web Emmulator

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