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Building a Real-Time Collaborative Drawing Board

A Deep Dive into Modern Web Architecture

Suhail





INTRO

Agenda

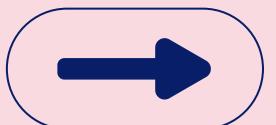
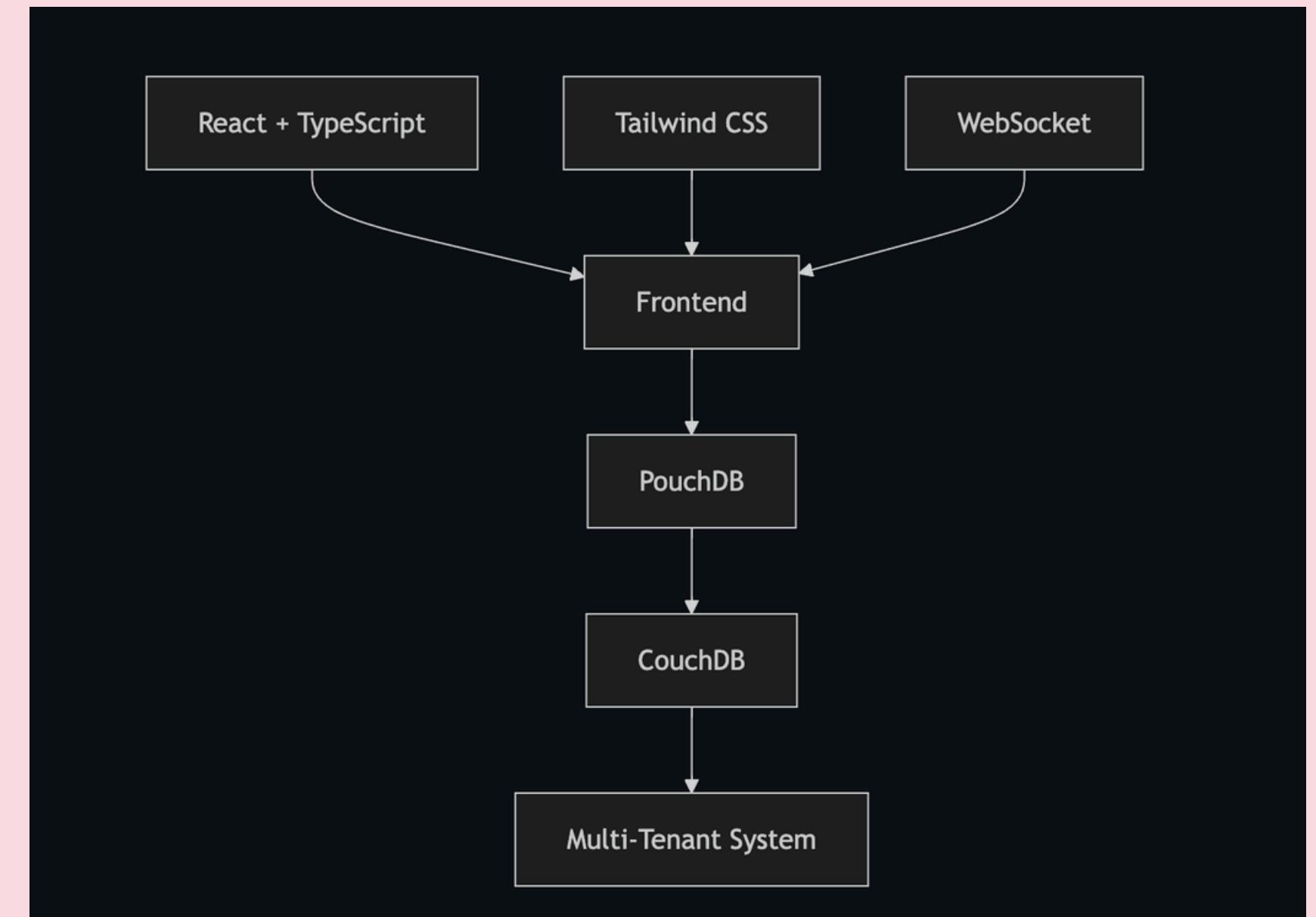
- Intro
- Technical Architecture
 - Multi tenant architecture
 - Pouch & Couch DB
 - Real time sync
- Demo
- Challenges
- Q&A
- Thanks





| Technology | Benefits |
|------------|-------------------------------|
| React + TS | Type safety, Component reuse |
| PouchDB | Offline-first, Real-time sync |
| Tailwind | Rapid UI development |
| Firebase | Social Authentication |

Tech Stack

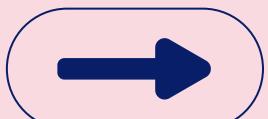


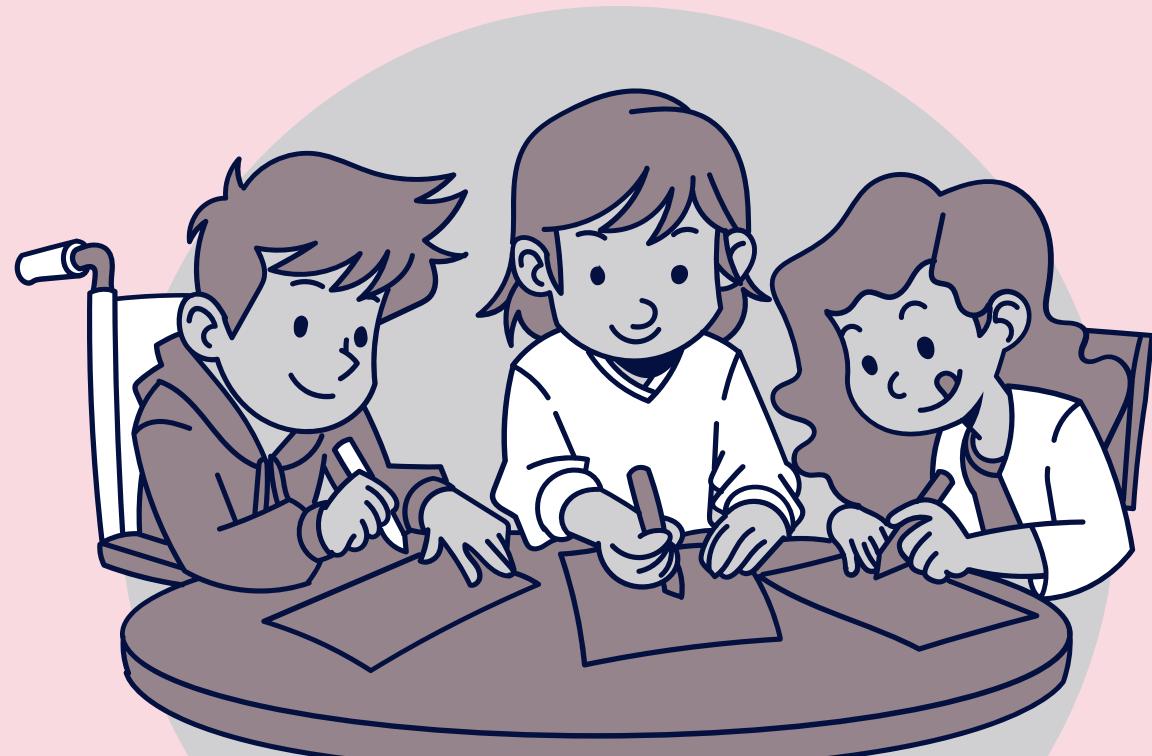
Multi-Tenant Architecture

-  Tenant Isolation
-  Access Control
-  Authentication
-  Audit Trails

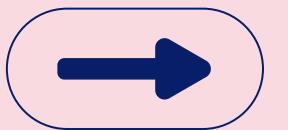
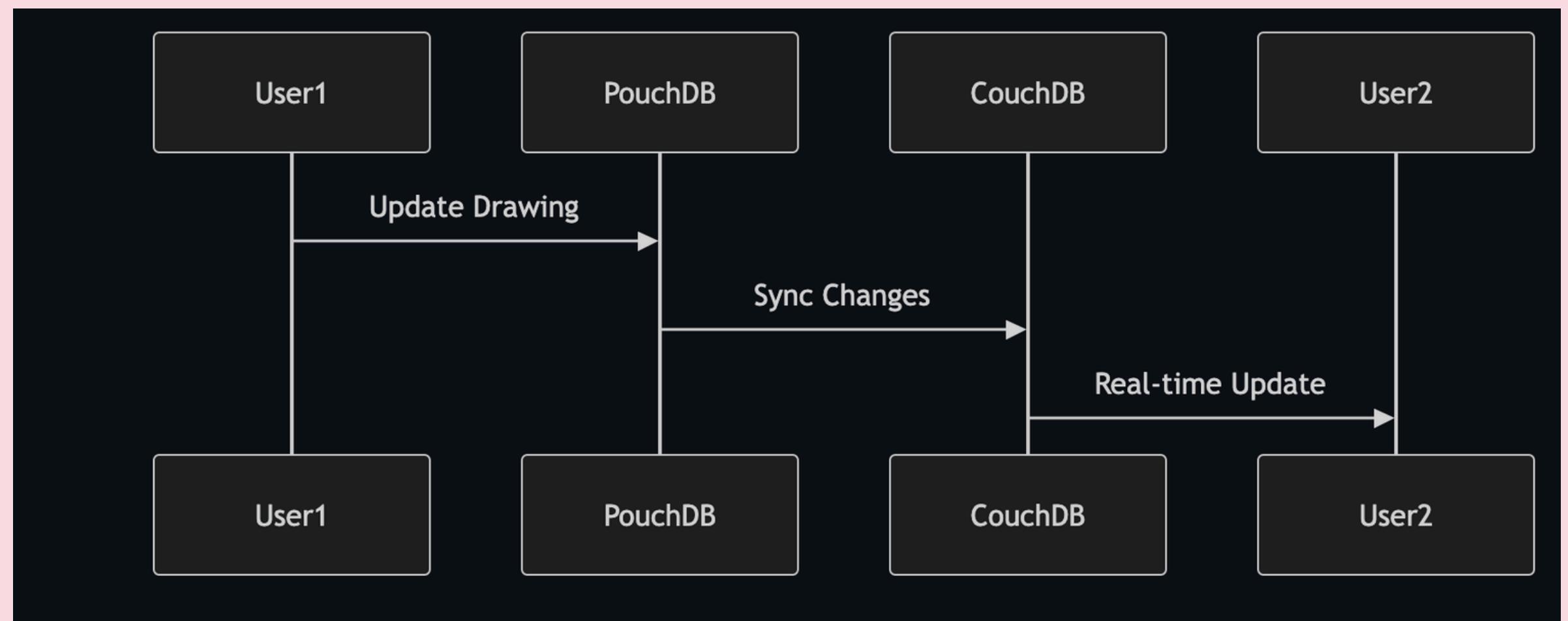
Access Control Matrix

| Action | Private | Shared | Public |
|--------|---------|---------------|----------|
| View | Owner | Collaborators | Everyone |
| Edit | Owner | Collaborators | None |
| Share | Owner | None | N/A |
| Delete | Owner | None | None |





Real Time Sync

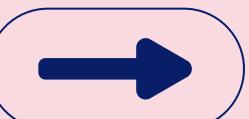


Challenges and Solutions



Storing Eraser tool details and handle that in a proper way.

When realtime sync DB got overloaded or closing the connection.





THANK YOU

<https://github.com/Demonbruster/collaborative-app-tech-talk-demo>

Suhail



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