

CRAFTNOTE



An Overview of our Product and Tech-Stack

Tobias Hornberger - Staff Engineer

HISTORY OF CRAFTNOTE

- Created as project-based group chat (think Teams channels with additional construction-specific data)
- Investors: Fischer, GC Gruppe (later)
- More features, more people
- Aceve

FEATURES

- Projects
 - Chat
 - Files
 - Tasks
- Time & Attendance
- Planning Board
- Dashboard
- Vehicle
- Public API

DEMO TIME

INITIAL TECH STACK

- Firebase/Google Cloud:
 - Cloud Functions (Node.js/TypeScript)
 - Firestore NoSQL database
 - Cloud Storage
 - Pub/Sub
- Frontends:
 - Angular Web App
 - Native iOS & Android Apps

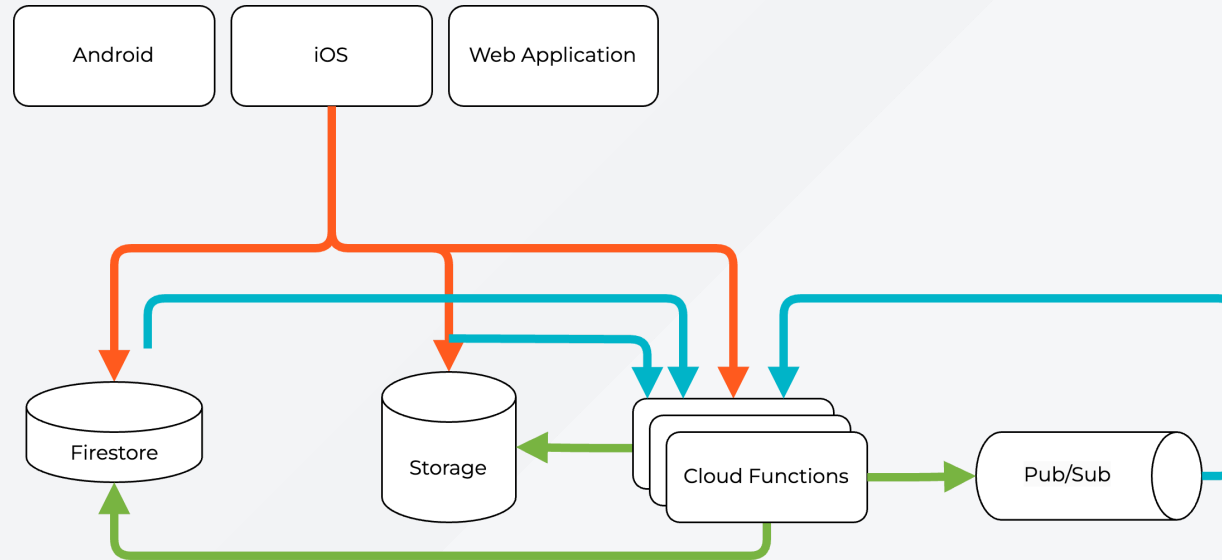
FIRESTORE

- Offline Support
- Live Updates
- Direct Access from Frontends possible

FIRESTORE EXAMPLE

```
DocumentReference ref = db->Collection("cities").Document("SF");
ref.AddSnapshotListener(
    [] (const DocumentSnapshot& snapshot, Error error, const std::string& errorMsg) {
        if (error == Error::kErrorOk) {
            if (snapshot.exists()) {
                std::cout << "Current data: " << snapshot << std::endl;
            } else {
                std::cout << "Current data: null" << std::endl;
            }
        } else {
            std::cout << "Listen failed: " << error << std::endl;
        }
    });
```

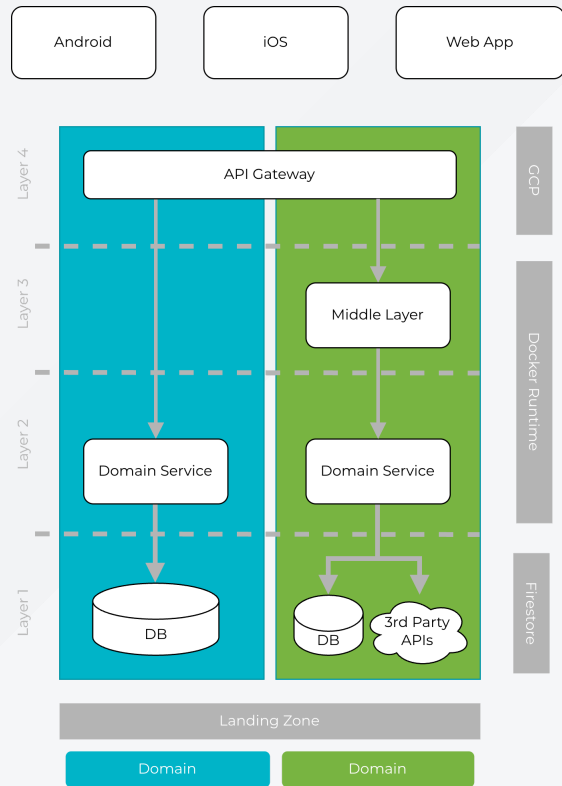
OLD ARCHITECTURE OVERVIEW



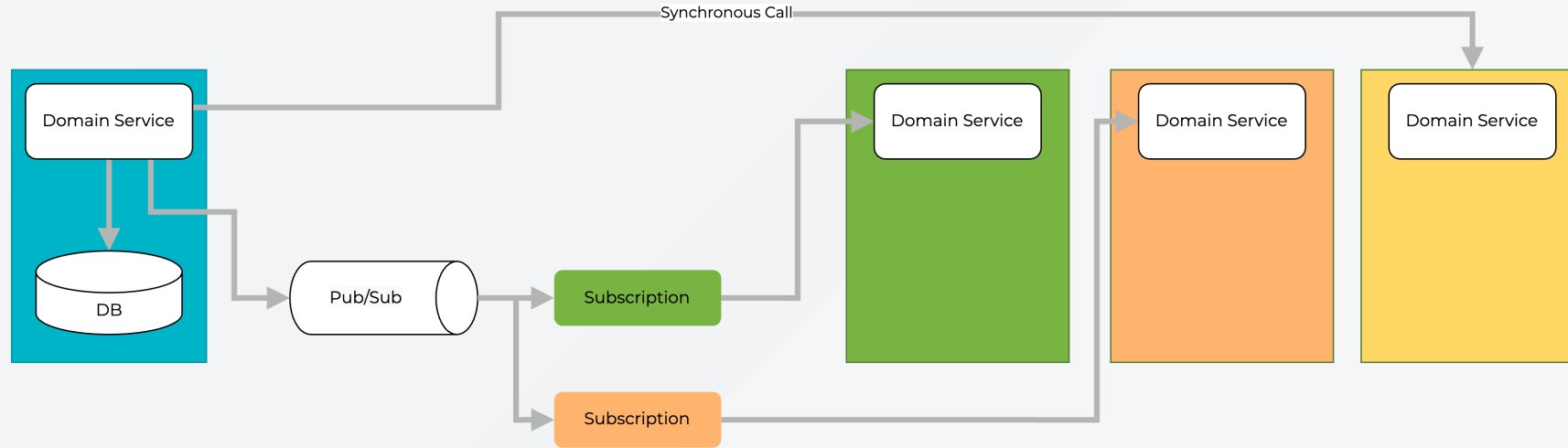
PROBLEMS

- Firestore
 - No control over data
 - Migrations painful
 - Caching hard
 - Expensive
- Heavy-weight clients
- Coupling
 - Difficult to scale team

CURRENT TECH STACK OVERVIEW



EVENT-DRIVEN ARCHITECTURE



THANK YOU!