HapTech

Mini-Team Update

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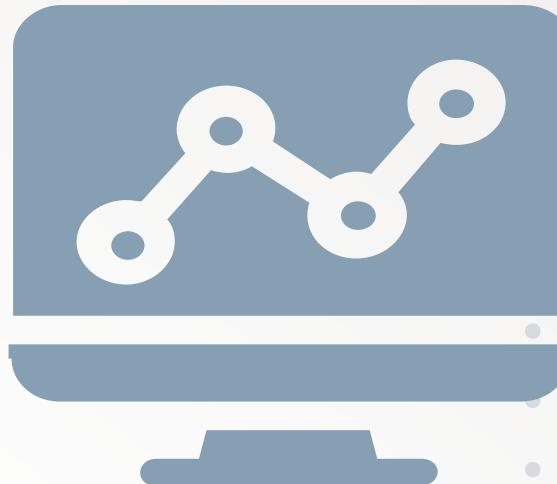
Project Overview

- **Project Focus:**
  - Data collection from the FRANKA robot
  - Integration of robot data into a 3D environment using CHAI3D
- **Client:**
  - Professor Reza from Northern Arizona University
  - Actively researching human-robot interaction within his lab
- **Team Experience:**
 - Faced multiple technical and integration challenges throughout the project
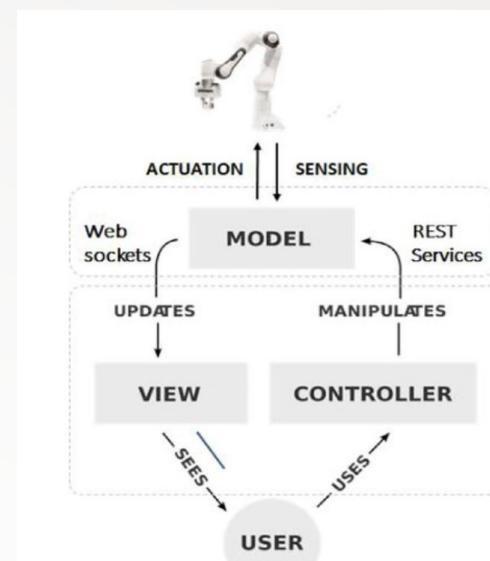
Progress & Recent Activities

- **Current Activities:**
  - Requirements Document
  - Setting up testing environment
- **Recent Activities:**
  - Technological Feasibility
  - Weekly client meetings
- **Key Design Decisions:**
  - Interface Approach
  - Data Management
  - System Communication
  - Hardware Integration
 - Testing Strategy
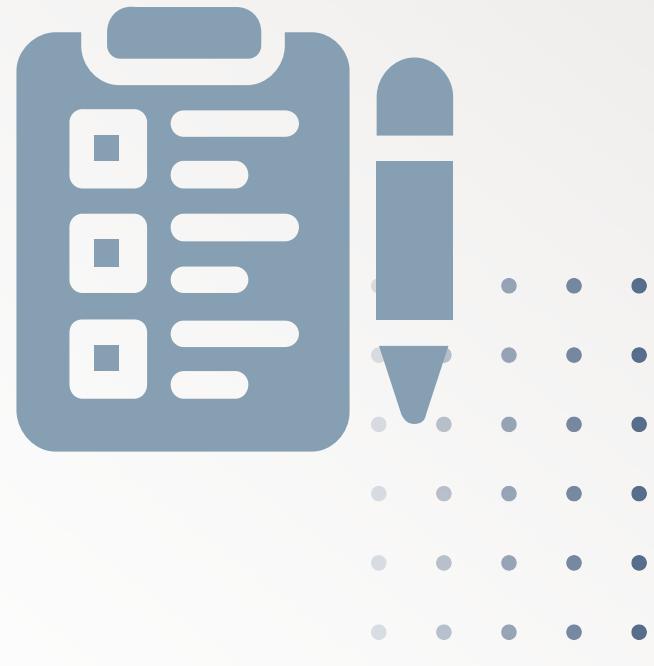
Technical Challenges & Solutions

- **User-friendly interface**
  - Terminal-based interface + GUI option
- **Data collection & storage**
  - CSV files for easy access and ease of analysis
- **UI-CHAI3D communication**
  - gRPC - high-performance, modular, service oriented networking library
- **Robot & CHAI3D Integration**
  - Interface with libfranka
- **Logistical Testng Limitations**
  - Virtual test devices in CHAI3D

Next Steps

- **Our next steps are:**
  - Develop and Test Chai3D prototype
  - Design and Create UI/Terminal interface
  - Integrate software with Franka 3 Robot
  - Conduct System Testing

- **Unresolved Challenges:**
  - Ensuring real-time responsiveness
  - Understanding how to integrate with Franka

Thank You!

That's our update! Any questions?