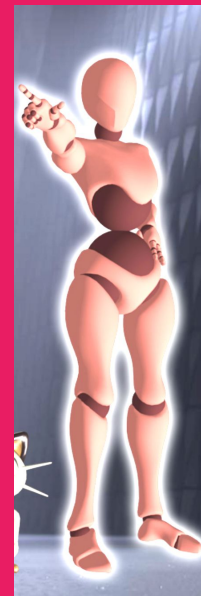


Mesekai

Real-time 3D virtual avatar and world



Presenters:

Vasudevan Venugopal (Frontend Lead)

Jose Atienza (Scrum Master)

Eugene San Juan (Git Master)

Teammates:

Caelen Wang (Team Lead)

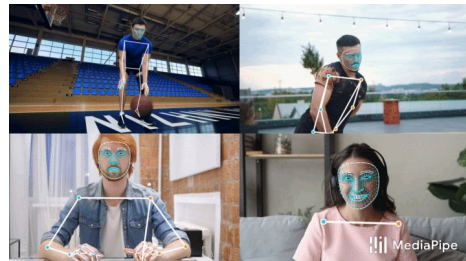
Matthew Madore (Backend Lead)

Mohammad Abdelrahman (Database)

Product Details

— — —

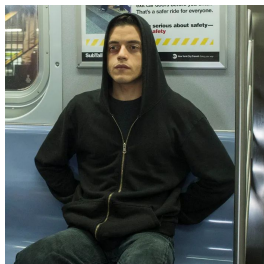
- Body tracking through webcam pose detection (Google MediaPipe)
- Represent face and body using 3D landmarks
- Transform and render avatar Three.js
- Personalized avatar and world selection
- Future features:
 - Moving objects within world
 - Multiplayer
 - World interaction, object physics



Who are our customers?

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- Children and Young Adults
- Content Creators, Streamers, VTubers
- Benefits:
 - Create a digital persona
 - Open source code, developers can build upon our technology
 - Future benefits: personalized, immersive, virtual social interactions



Competitive Analysis

- Face, fingers, and full-body limb tracking
- Only need a webcam and browser
- Don't need VR headset or controllers



Team Building

- Common interest in games, anime, and virtual worlds
- Team organization
 - Beginning: Frontend Team (2), Backend Team (2), Avatar Team (2)
 - End: Next.js Team (3), Three.js Team (3)
- Casual Discord meetings, lots of humor, banter, comradery



Development

- Messy, dynamic output
- Long load times, expensive computations
- Lack of prior work to reference
- Complicated math
- Switched platforms many times
 - HTML/CSS -> React, antd
 - Express -> Next.js
 - Google App Engine -> Vercel
 - Firebase -> MongoDB -> Firebase

