AR Aircraft Maintenance Project

Amirita Manickandan

Introduction

Mentor: Maribeth Coleman and Scott Robertson

Research Interests – Human Computer Interaction, TanDEm
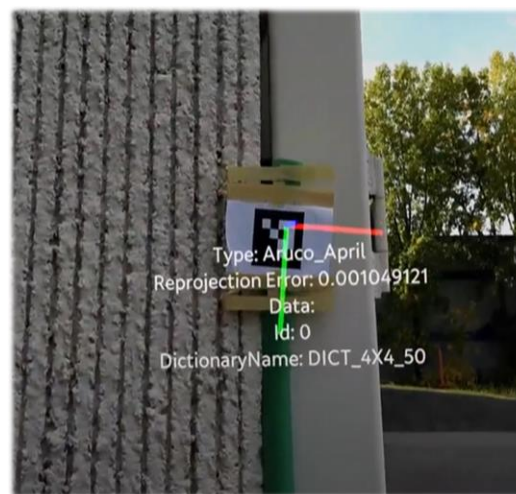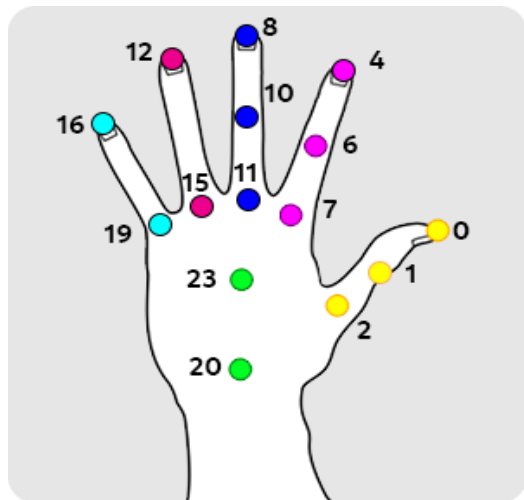
Career Goals – Masters, continuing research at Georgia Tech

Project: AR Aircraft Maintenance

- Client: PartWorks

- Goal: develop an AR application to assist in aircraft part repairs

- Magic Leap 2 Headset Development

- Aligns with IPaT's goals:
  - Collaboration with industry
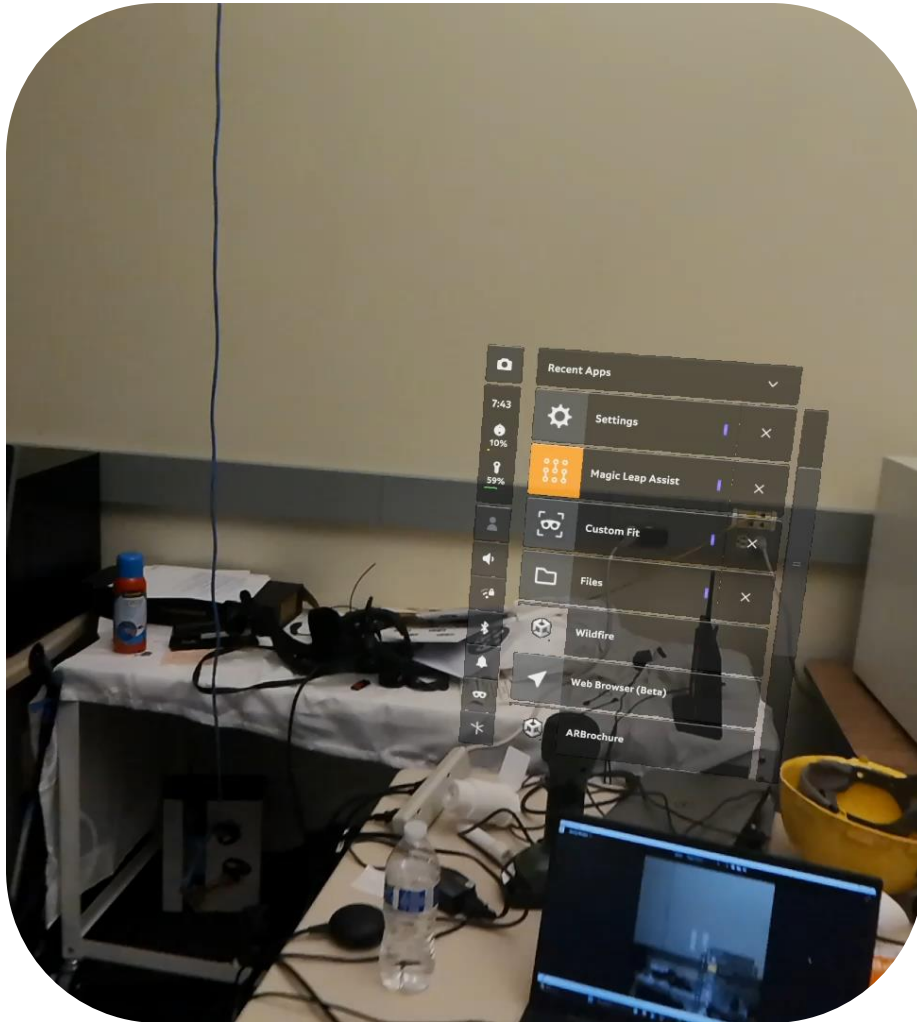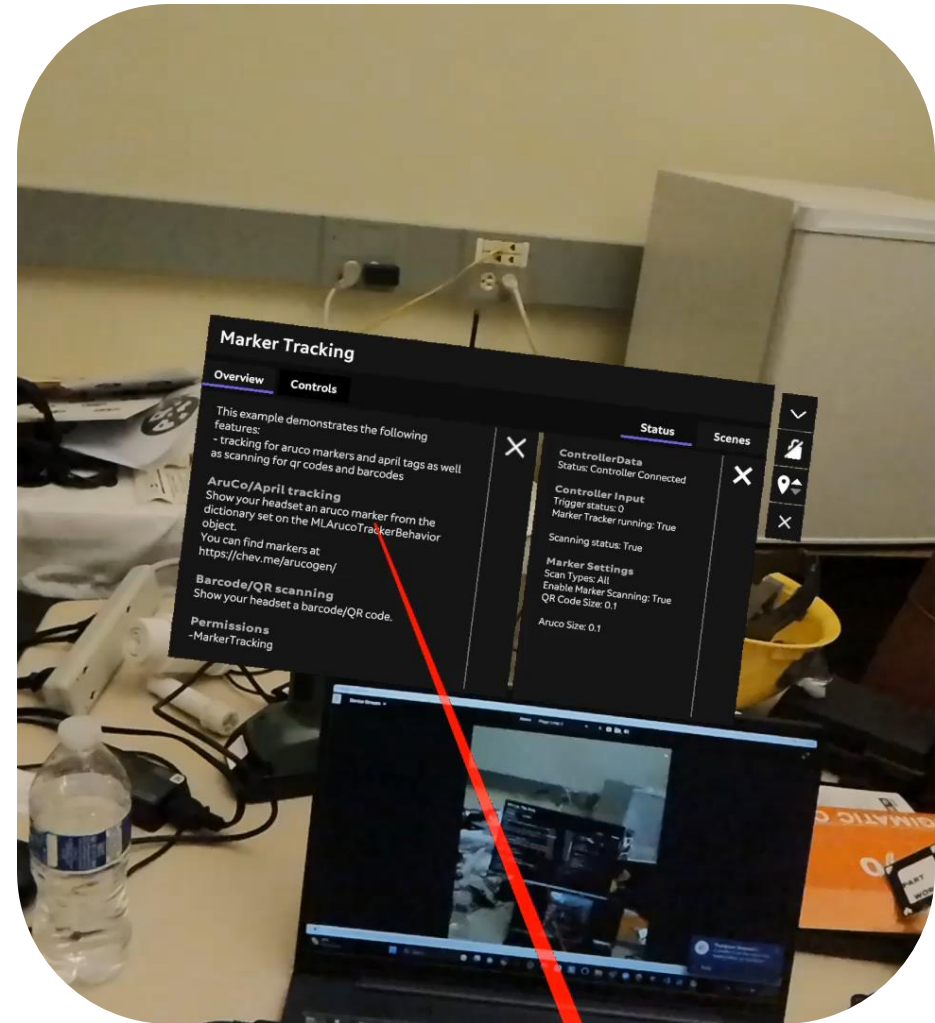 - Advancement of human centered design

Accomplishments

- Explored Magic Leap 2 capabilities
  - Controllers, hand-tracking, marker tracking, haptics
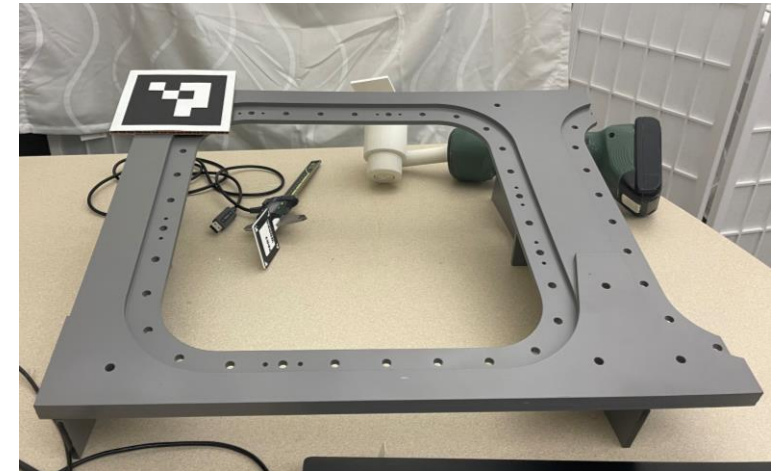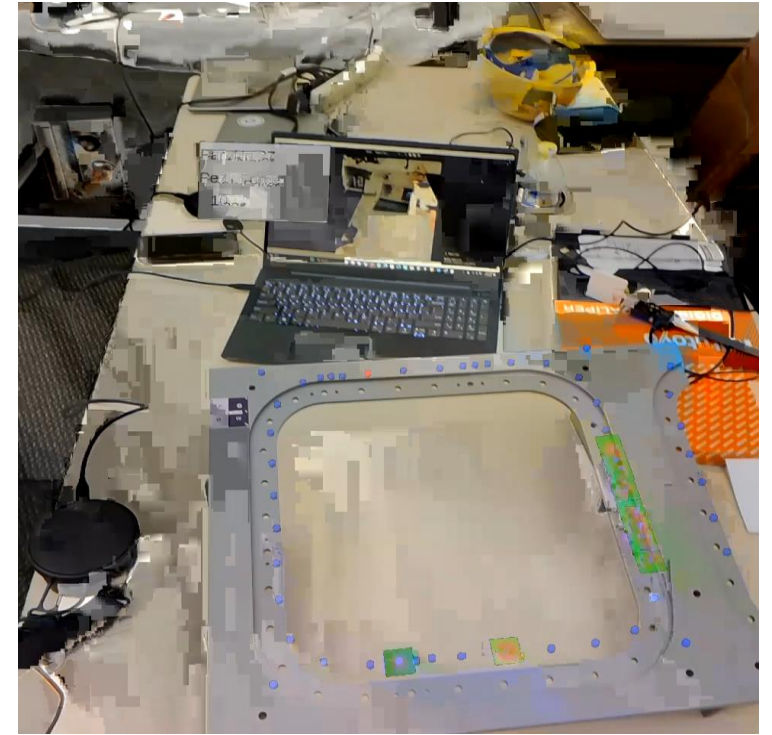- Created a low-fidelity demo

Hand-Tracking

Marker-Tracking

Challenges and Solutions

- Default controllers that lacked finger-tracking
  - Solution: building a specific controller object that tracked the index finger
- Issues with object tracking and compatibility with other software
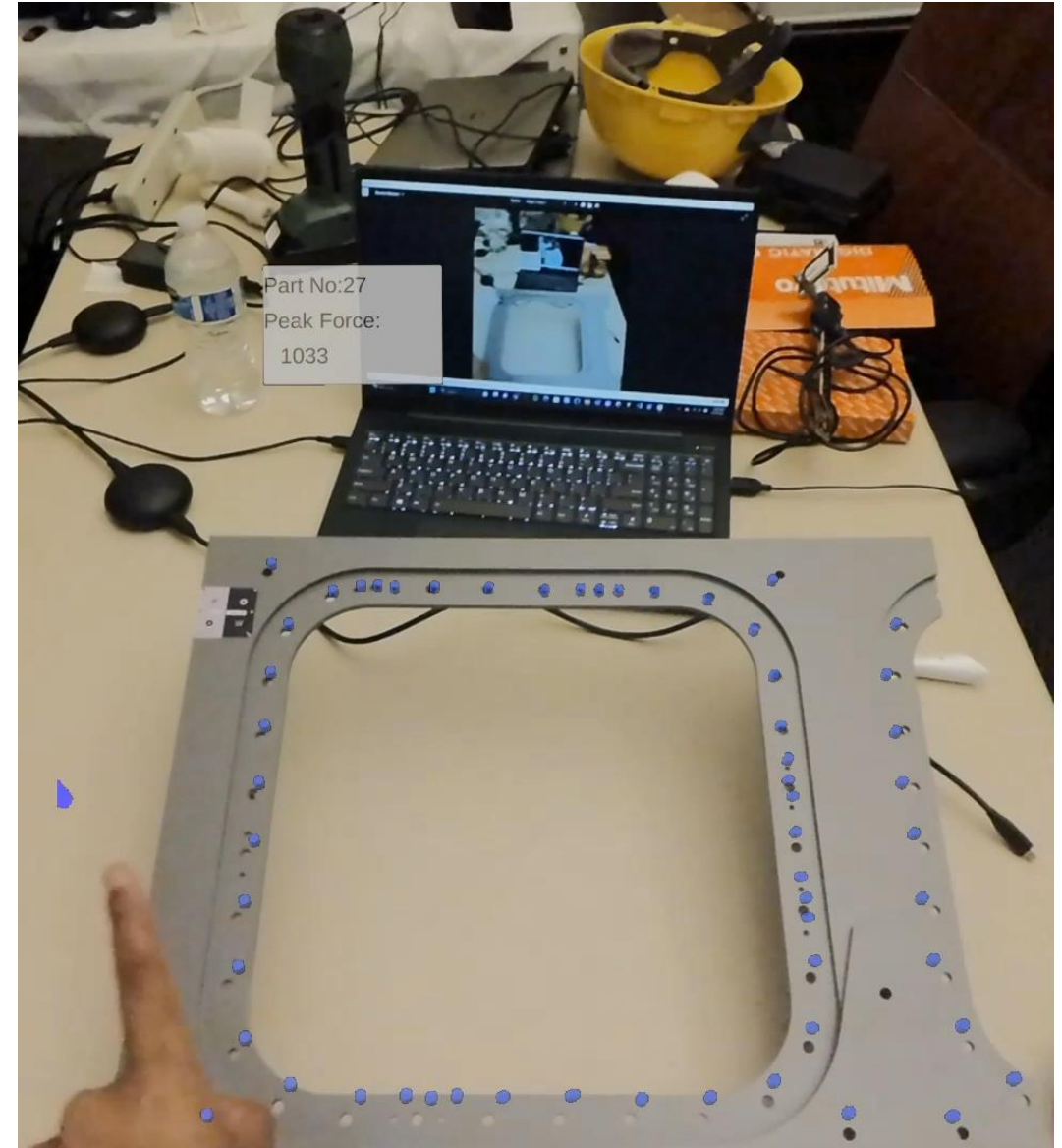 - Finding documentation for marker tracking specific to the leap

Learning and Growth

- Technical Skills
  - Unity development with an AR headset
  - Writing code in C#
  - Magic Leap 2 set-up process

- Project-based Skills
  - Iterative Development
  - Meeting client's criteria
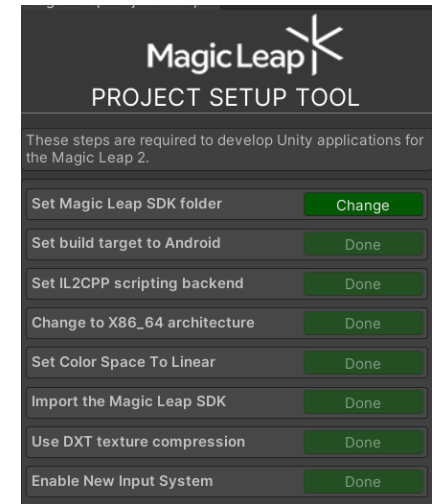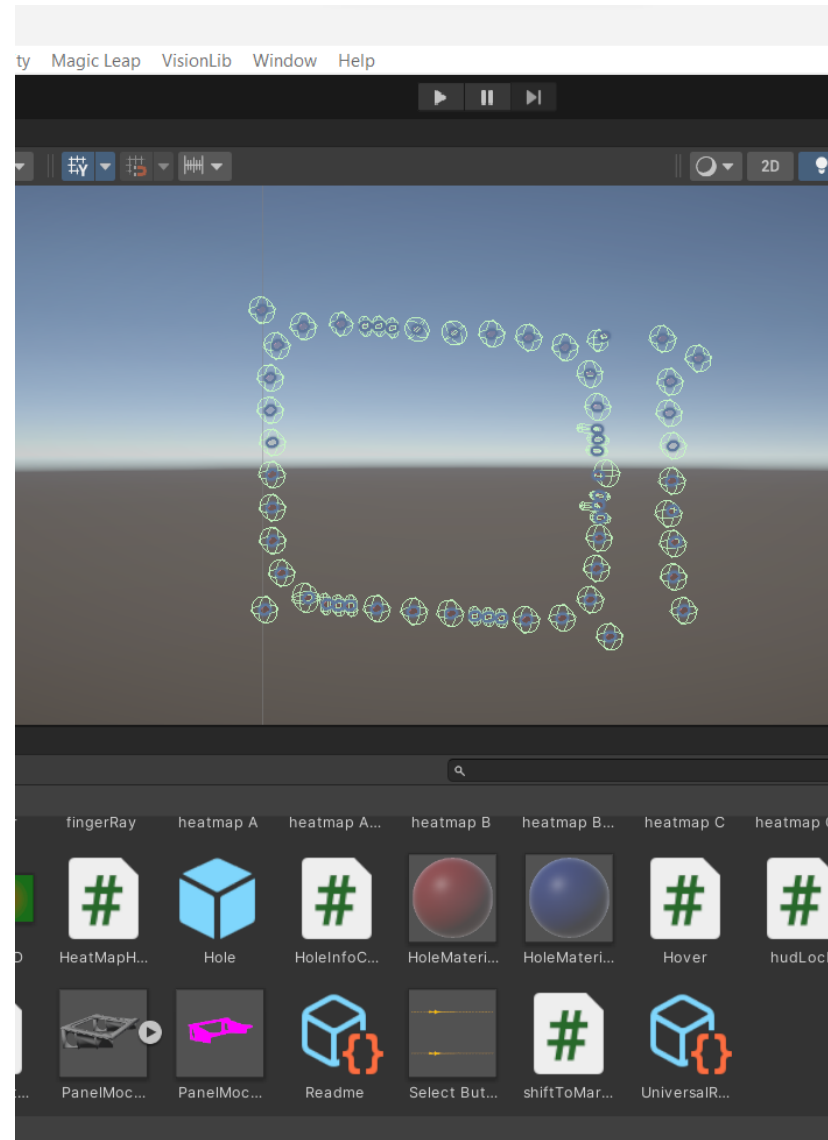
Results

- Demo including:
    - HUD canvas
    - Hole selection
    - Finger Tracking
    - Marker Tracking
    - Haptics

Acknowledgements

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- Marcia Chandler
- Christine Robinson

Q&A