TEAM C3: InteracTable

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Application Area

- Better collaboration with others

- Larger surface area to work on

- Lower cost and more portable than market alternatives

Solution Approach

Portability and Larger Working Area

Foldable stands
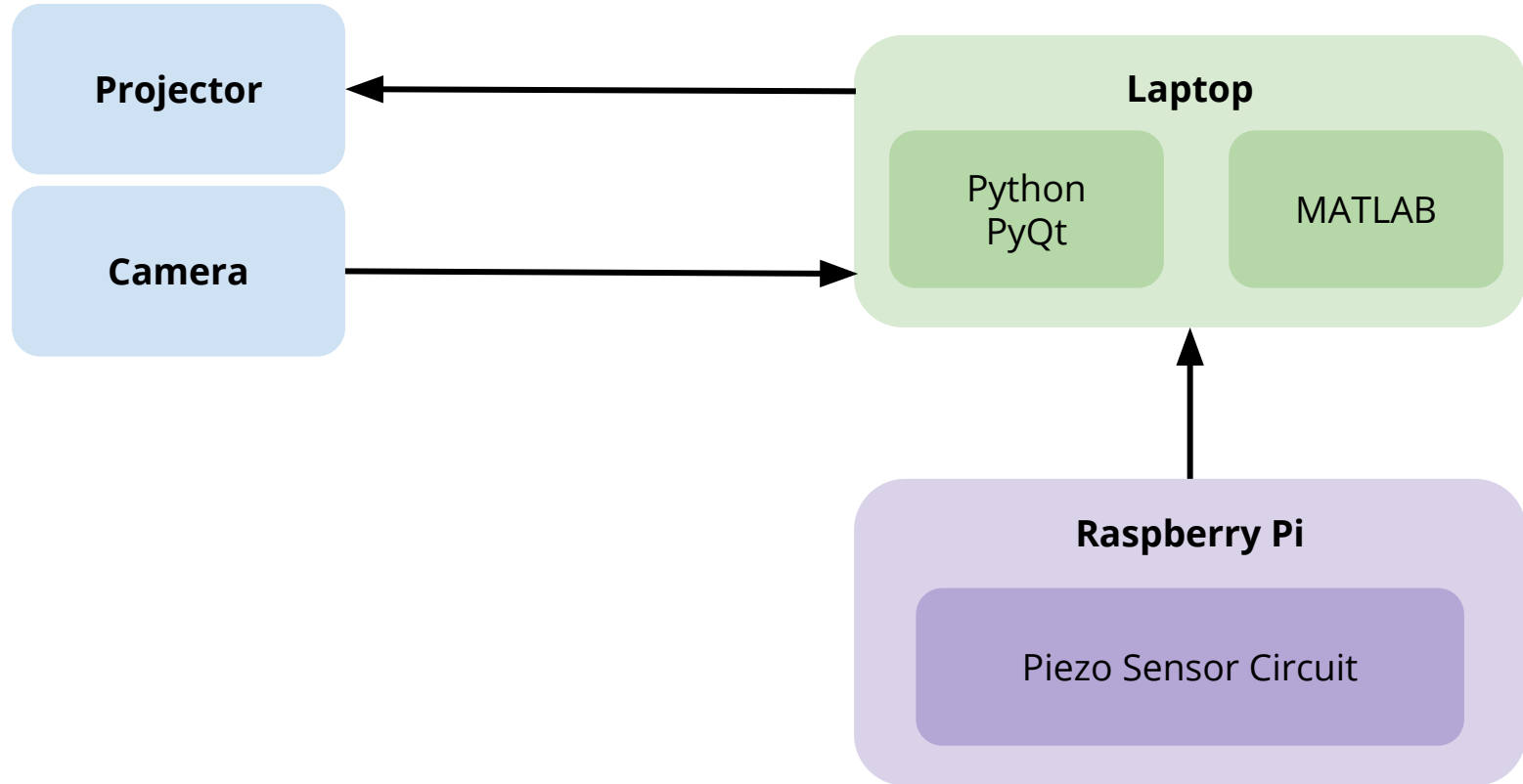Small projector, webcam
Small Circuit

Projector focus adjustable
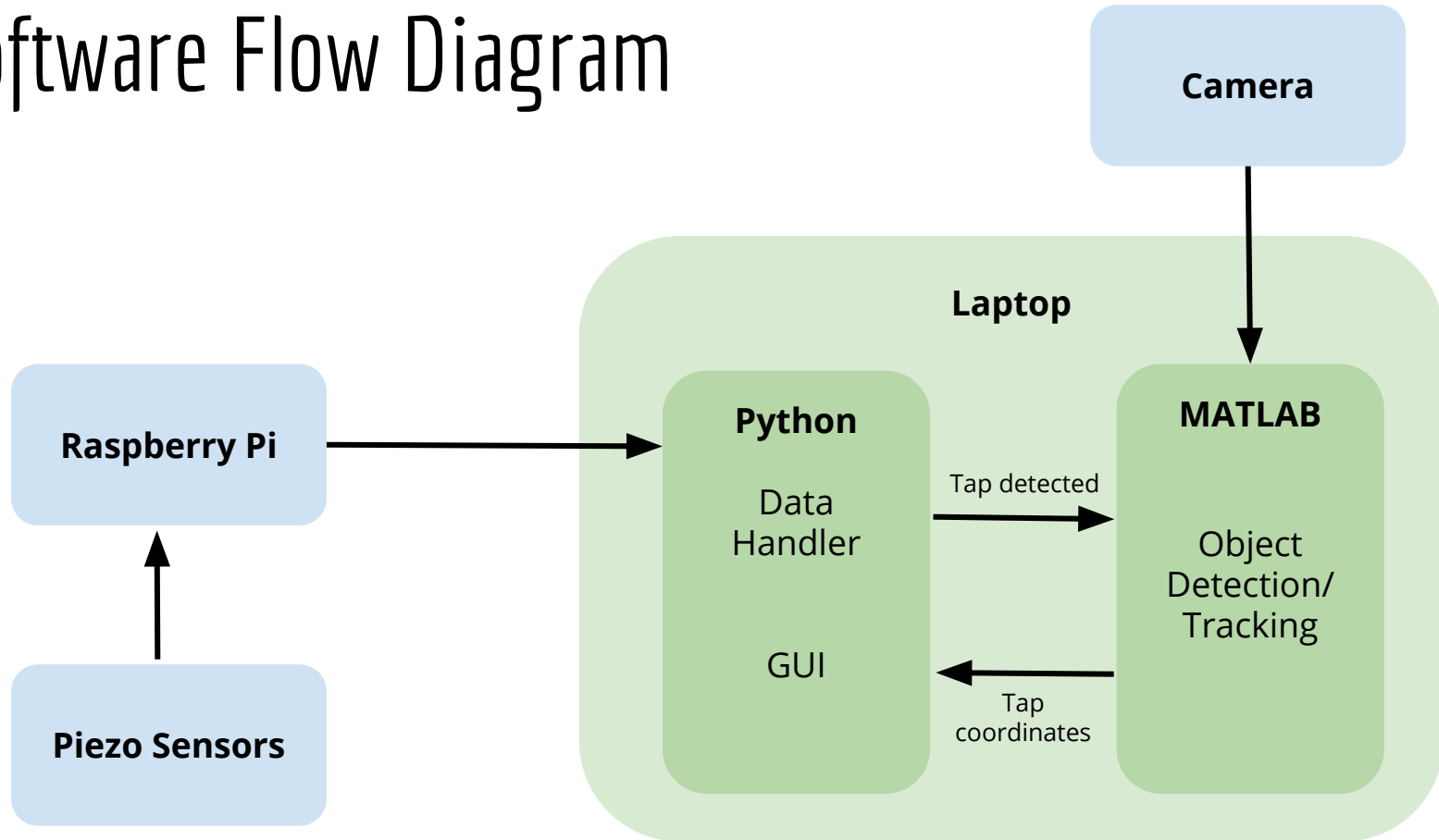Stand height adjustable

Algorithms

Color Detection
Circle Detection

Lucas-Kanade Tracking

System Specification: Overall Design

Software Flow Diagram

Metrics and Validation

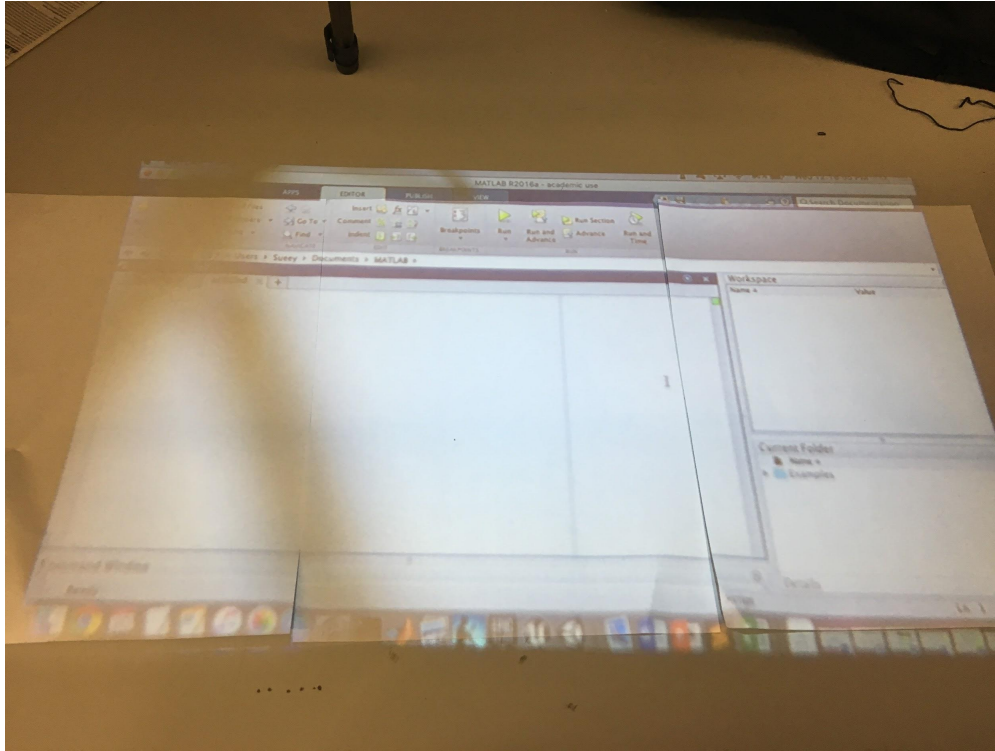Distance from detected coordinate of blob center to the desired center coordinates

Detected coordinate within button boundaries

Low latency - ideally less than 1 second

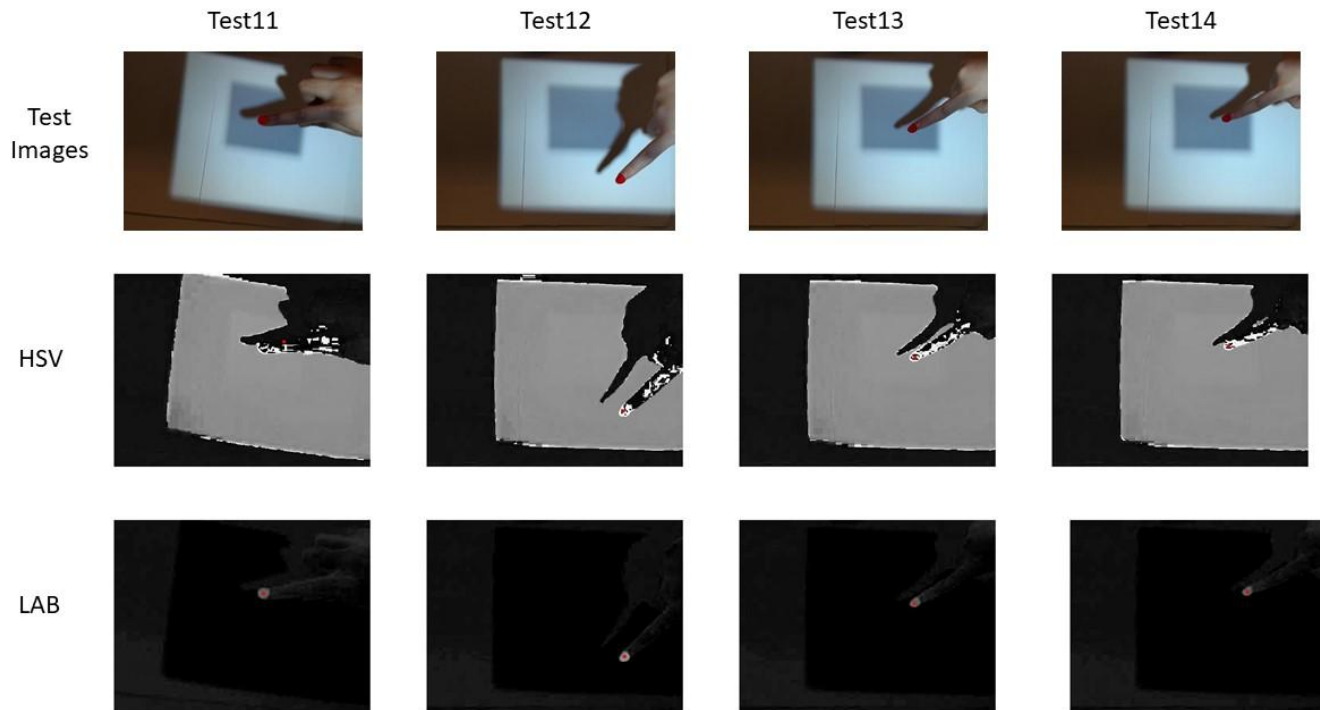How accurate the piezo sensor can detect a tap

Project Management

Legend:
- = Isha
- = Suann
- = Tanu
- = All

Personal Deliverables	Jan	Feb					Mar				Apr				May	
	28	3	6	13	20	27	6	13	20	27	3	10	17	24	1	8
Slack																
Finish Color Detection																
Tracking Algorithm Lucas Kanade																
Blob Detection																
audio manipulation																
Object Detection																
with tracking/detection																
integrate with																
parts (stands, camera,																
Create sensor circuit																
decide threshold																
with projector and																
and sensor data																
environment																
presentation																
Write paper																

Current Status

Current Status: Results for Color Detection

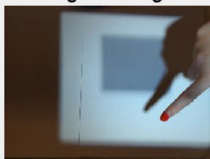# Current Status: Results for Circle/Blob Detection
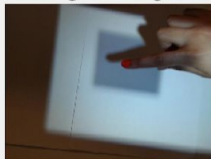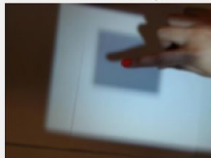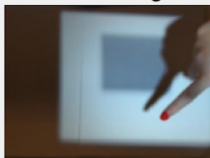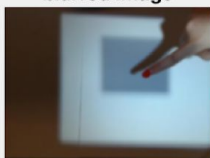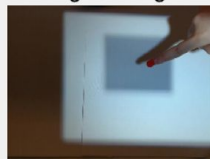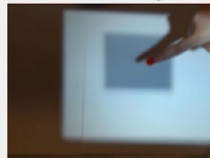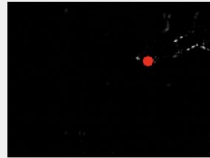
Conclusion

- Detection algorithms have preliminary results. Need more testing.

- Sprint 2:
  - Piezo sensor circuit
  - K-means clustering
  - MATLAB-Python pipeline