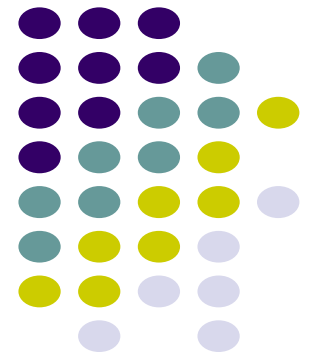


Ubiquitous and Mobile Computing
CS 403x:
Duet: Exploring Joint Interactions on a
Smartphone and a Smartwatch

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Introduction/Motivation



- Problem: Multi-device interaction underexplored
- Importance: Potential of Two Device Interaction

Vision



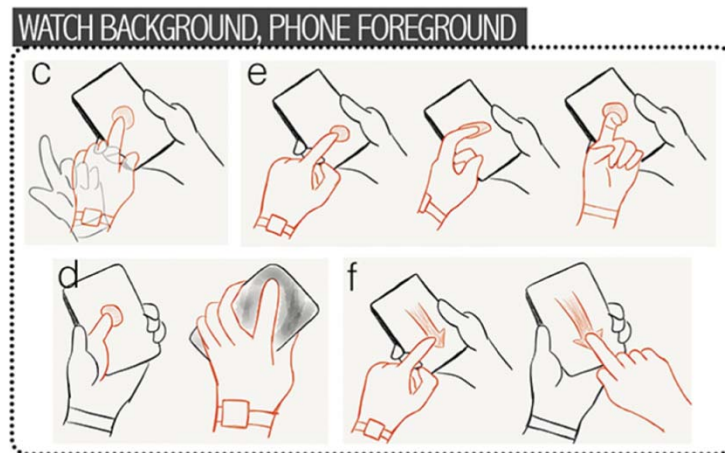
	Watch Foreground	Watch Background
Phone Foreground	<p>Duet:</p> <ul style="list-style-type: none">• Phone as a primary input and output platform;• Watch as an input device or extended display.	<p>Duet:</p> <ul style="list-style-type: none">• Phone as a primary input and output platform;• Watch as a sensor.
Phone Background	<p>Current commercial designs:</p> <ul style="list-style-type: none">• Phone as an inactivated information portal [37]• Watch as a viewport or remote control [37]	<p>Prior research:</p> <ul style="list-style-type: none">• Both phone and watch used for context and activity sensing [7, 31].

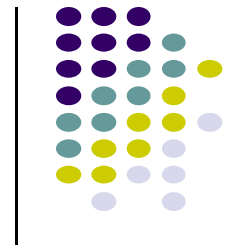
Related Work



- Definitions of device to device interaction already exist
- No known research exploring using phone and watch together

Methodology





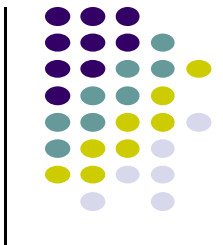
Video

Methodology (continued)

- Assumptions:
 - Gesture preference
 - Application use
- Limitation
 - Specific Watch and Phone
 - User Study Group
- Tradeoffs:
 - Complexity of System
 - Environment



Results



Conclusions/Future Work



- Achieved: Multi-device OS using a android phone and a smart watch
- Learned: potential of multi-device interaction
- Future Work
 - Recognition Robustness
 - Watch Wearing
 - Exploring the ‘phrasing’ of Duet

References



- Chen, Xiang, Tovi Grossman, Daniel Wigdor, and George Fitzmaurice. *Duet: Exploring Joint Interactions on a Smart Phone and a Smart Watch*. Autodesk Research. N.p., n.d. Web. 10 Apr. 2015. <<http://www.autodeskresearch.com/pdf/duet.pdf>>.
- *Duet: Exploring Joint Interactions on a Smart Phone and a Smart Watch*. YouTube. Autodesk Research, 28 Apr. 2014. Web. 12 Apr. 2015. <<https://www.youtube.com/watch?v=i3XcCuWuec4>>.