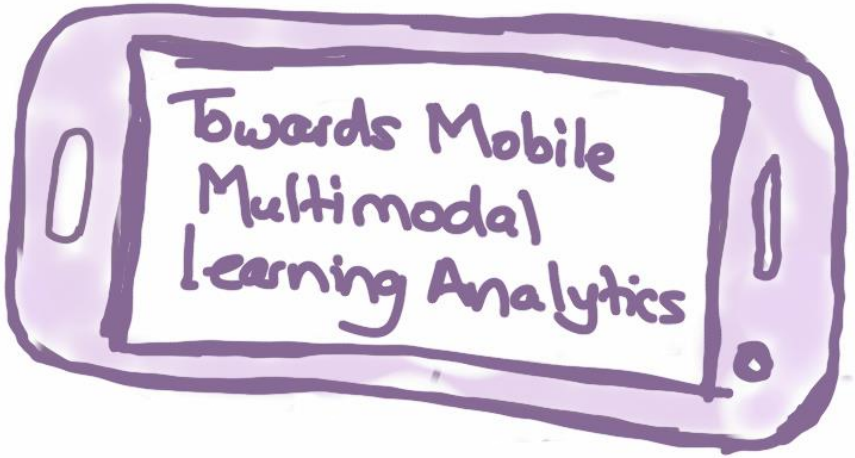
Towards Mobile Multimodal Learning Analytics

Laila Shoukry



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Why Learning Analytics on Smartphones?

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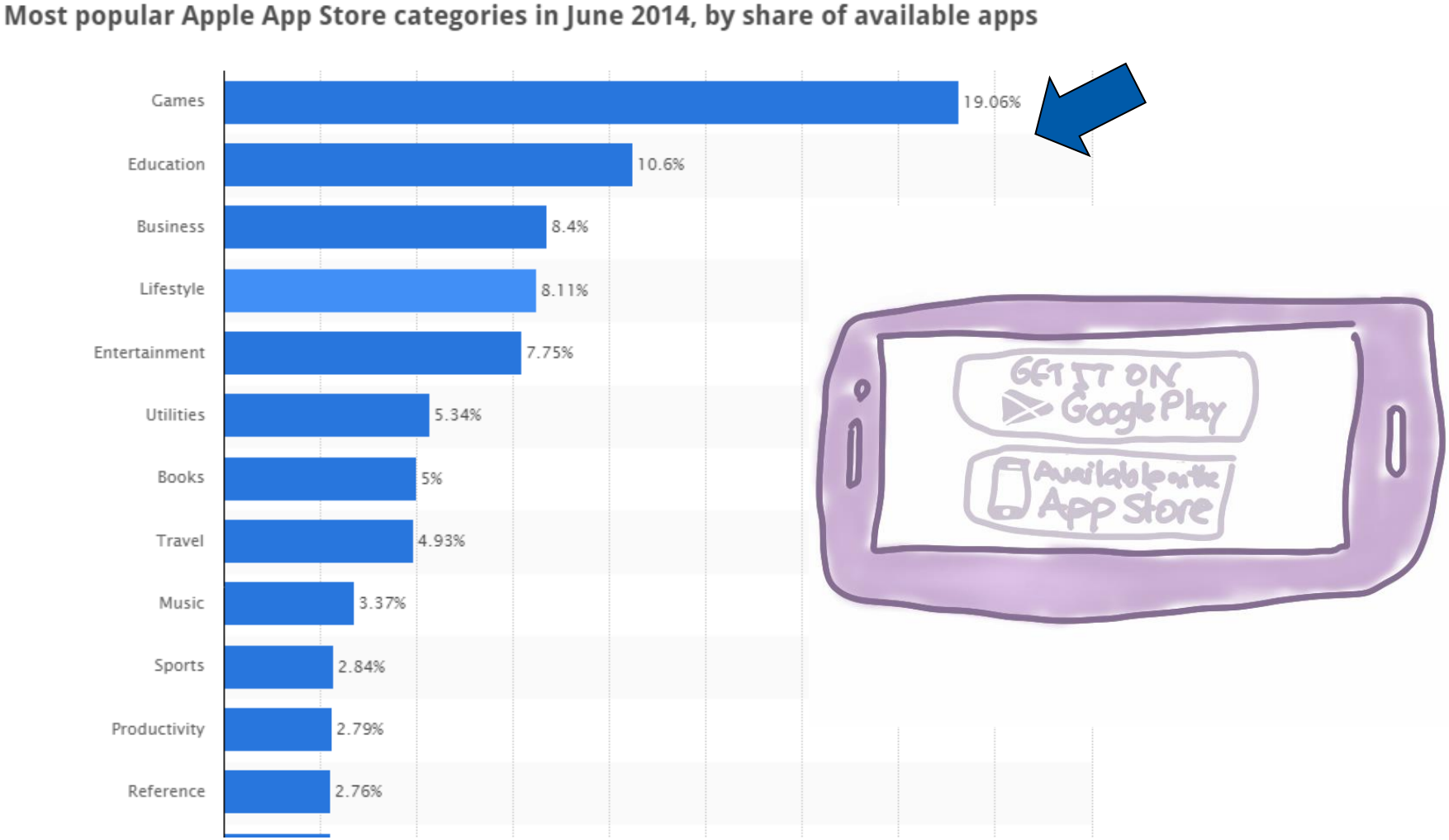

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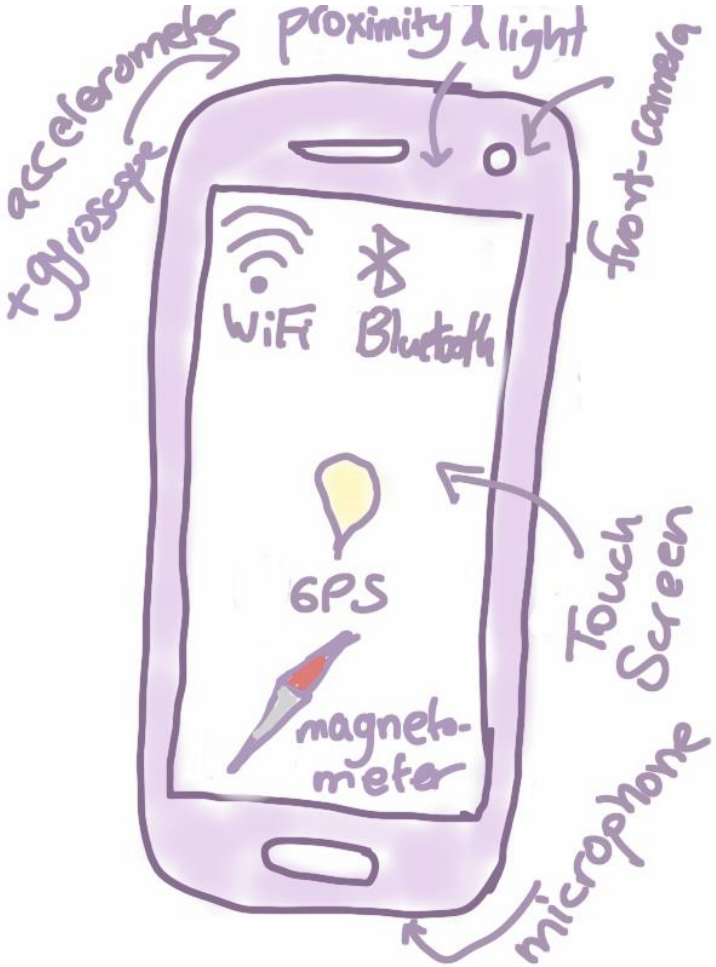

Front-Facing Camera

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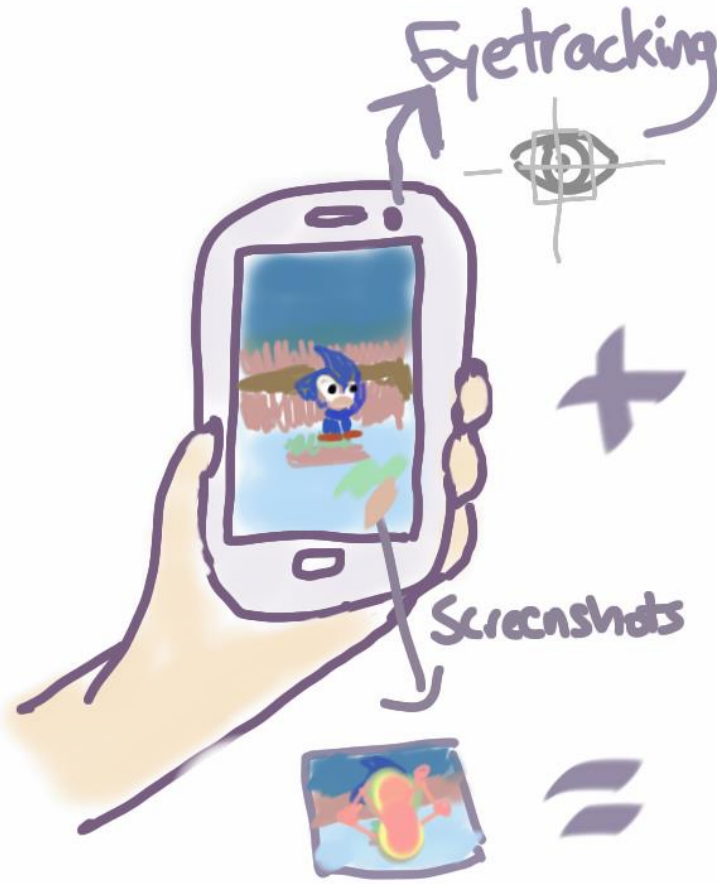


Microphone

Microphone

Facial Feature
Wow
Cool!
microphone
speech recognition
wow, cool = enjoying

Microphone

distraction
wrong answer
microphone
noise level
couldn't hear instructions?

Touch Interactions

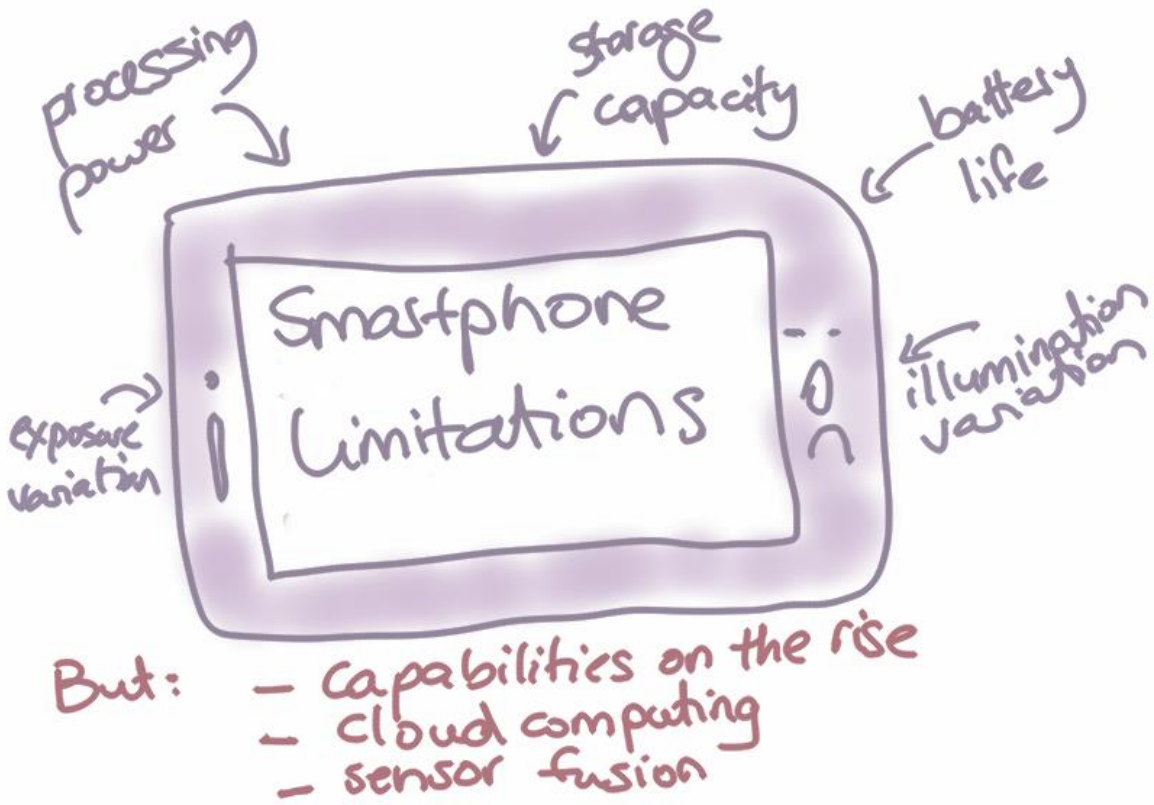
App Usage

App log and arrangement
→ plays this game a lot compared to others ?

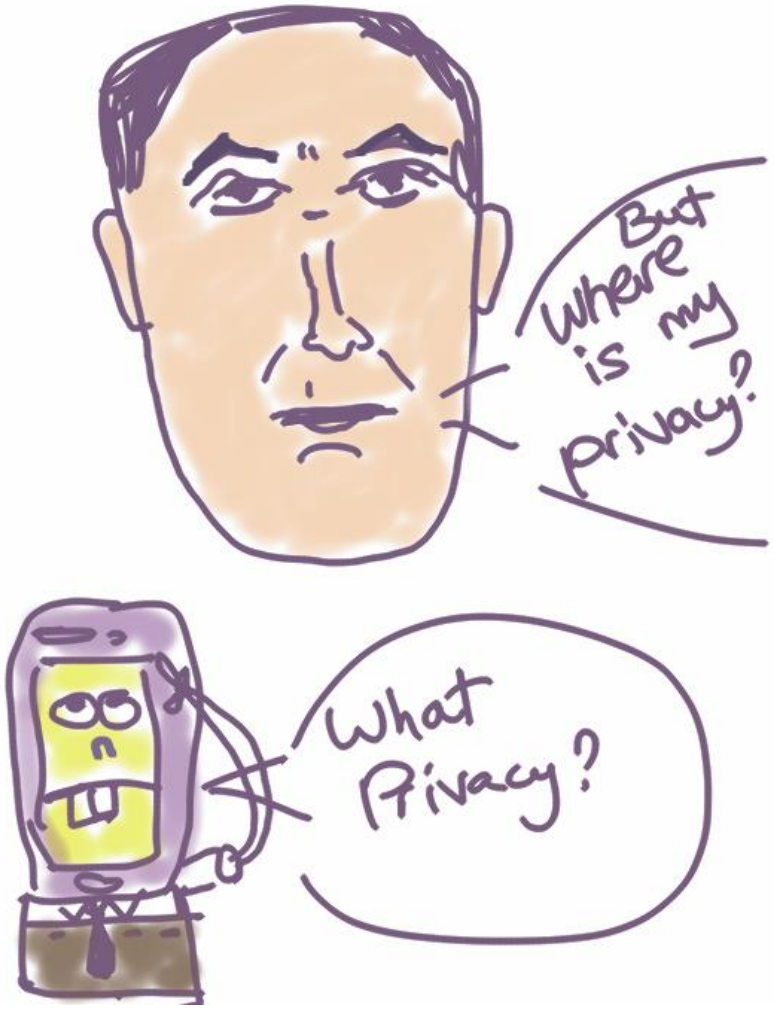
Background Information

Multimodal LA & Sensor Fusion

Overcoming Smartphone Limitations



Privacy Concerns



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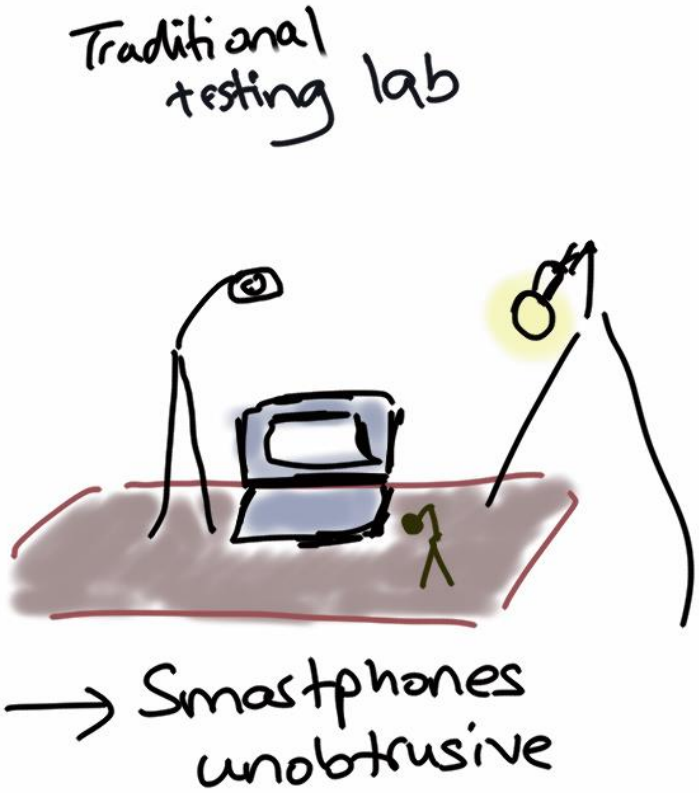

Smartphone-Based Learning Analytics

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Advantages:

- Unobtrusive
- Suitable for different interaction paradigms
- Constant connectivity
- Enriching logging data
- More personalization

Challenges:

- Smartphone Limitations: Processing Power, Storage, Battery Life
- Uncontrolled Context: mobility, illumination & exposure variation, unstable camera
- Privacy Concerns:

-> Cloud Computing, sensor-fusion for algorithm efficiency

-> sensor-fusion

-> keeping least info: e.g. cropping of images

Questions & Contact

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