Playing it Real: Magic Lens and Static Peep hole Interfaces for Games in a Public Space

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Goals

- Picture of smartphone interaction at pt stop
(How) do individuals use a Magic Lens interface in public space if they can use an established interface?
Research Questions

(How) do individuals use a Magic Lens interface in public space if they can use an established interface?

Interfaces can be switched at any time.
Which interface would be used longer?
Research Questions

(How) do individuals use a Magic Lens interface in public space if they can use an established interface?

Reactions from passers-by?
Research Questions

(How) do individuals use a Magic Lens interface in public space if they can use an established interface?

Differences in usage between public space and laboratory?
Study Design

- Quantitative and qualitative methods
Study Design

- **Quantitative** and qualitative methods
  - Between-subjects design
  - IV: public space, laboratory
  - DV: usage time of interface
Study Design

- Quantitative and qualitative methods
  - Between-subjects design
  - IV: public space, laboratory
  - DV: usage time of interfaces
  - Video-recording and coding, semi-structured interviews
Study Design

- find and select game in front of A0 poster
- free choice of interface
- switching possible at any time
Magic Lens
Static Peephole
Switching implicitly between the interfaces

switching interfaces
Participants

- 16 participants (8 female, 8 male), 21-30 years
- Design, IT, social science background
- Mostly non-gamers, had contact with AR before

Procedure

15 targets x 8 levels (15-20 min)
Data Collection

- Video-recording for main phase (2 hours per location)
  - Questionnaires
  - Device logging
    - usage times
    - tracking data
    - touch events
Hypotheses

H1: ML will be used less often in the public setting than in the laboratory

H2: ML will be used less as the game progresses
Findings

ML was used most of the time (76% in public, 68% in lab)
Findings

H1: ML will be used less often in the public setting than in the laboratory

H2: ML will be used less as the game progresses
Findings

![Relative Usage Durations for Magic Lens Interface at the Public Space](chart.png)
Findings

**H1:** ML will be used less often in the public setting than in the laboratory

**H2:** ML will be used less as the game progresses
Participants used Magic Lens more

- **Enjoyment**
  “you are much more in the game”

- **Novelty**
  “I wanted to try out Augmented Reality [ML], as I can use the map [SP] view all the time”.

- **Overview**
Participants used Static Peephole ...

- When tracking failed
- Speed
- Fatigue
Public Reactions

691 people passing by
Public Reactions
Public Reactions
Public Reactions

1.5%
Public Reactions

0.5%
Usage beyond Study

Locations to use the Interfaces at

- home
- sidewalk
- in pt
- at pt stop
- mall
- pub

- ML public
- ML lab
- SP public
- SP lab
(How) do individuals use a Magic Lens interface in public space if they can use an established interface?
Summary

- Magic Lens used more

- Interfaces combined for various reasons

- Most passers-by did not notice

- No differences in usage between public space - lab
Future Directions

- Less obtrusive evaluation methodologies
- Longer usage times
- Different tasks
- More usage contexts
  - Malls
  - Public transportation
Thank you

Questions?

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