MobiComics: Collaborative Use of Mobile Phones and Large Displays for Public Expression

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PLAN

• Introduction
• Related Work
• Design
• Interaction
• Evaluation
• Findings
INTRODUCTION: Motivations

- Mobile devices have traditionally been targeted for individual use
- Growing interest in systems that couple mobile devices and larger displays together
INTRODUCTION: Objectives

• Semi-public or public environments
• Medium-sized groups (8-25 persons) -> perch-scale ecosystems
• Larger yard-scale public displays
INTRODUCTION: *MobiComics*

- Allows people to collaboratively create comic strips with their mobile devices
- Supports different ways of sharing comic strip panels
  - Private sharing between devices
  - Sharing over public screens
- Features a variety of playful elements to foster social interactions
INTRODUCTION: MobiComics (continued)

- *MobiComics* supports interactions on 3 scales
  - Two users couple devices *ad hoc* -> inch-scale ecosystem
  - Small number of users bind devices together -> yard-scale ecosystem
  - All users share panels on public screens -> perch-scale ecosystem
RELATED WORK: Mobile Collocated Interactions

- Majority of systems require dedicated infrastructure
- *MobiComics* requires no external equipment
RELATED WORK: Interacting with Public Displays

CityWall

MAGICBoard
DESIGN

“MobiComics combines a mobile application as a creative tool, a public display as a sharing device, direct social interaction between the participants, and the use of photos from the situation, all as part of an integrated experience”
DESIGN: Anonymous Participation

- Social embarrassment affects user interaction with public displays
- *MobiComics* allows people to edit comic strips from the privacy of their mobile phones
- When published on a large display, others can only identify a subgroup that created a panel
DESIGN: Flexible Sharing onto and from Public Displays

- Series of 2D and 3D gestures to allow people to physically throw panels in space
  - Flicking
  - Holding
  - Tilting
- Support *ad-hoc* sharing of panels using devices enhanced with radio tracking technology
  - Shaking
  - Picking up
DESIGN: Game-like elements to Foster Social Interaction

- Voting system
INTERACTION

- http://www.youtube.com/watch?v=HX8q8VGbn94
EVALUATION

• Collecting qualitative data during and after interaction
• Collecting quantitative data by means of a validated questionnaire
EVALUATION: Participants

- 36 participants
- 4 sessions 9 people each
- Groups of friends
- Variety of users: parents, international students, professionals
- Gender: 27 male, 9 female
- Age: 20-43
- Background: 26 technical, 10 non-technical
EVALUATION: Method

• 2 hour session:
  ▪ Introduction – 10 min
  ▪ Exploration – 20 min
  ▪ Task – 30 min
  ▪ Semi-structured interview – 60 min
EVALUATION: AttrakDiff Questionnaire

- Pragmatic quality (PQ) -> usability
- Hedonic quality -> refers to users’ self:
  - Stimulation (HQ-S) -> aspirations
  - Identification (HQ-I) -> social aspects of product ownership
- Perceived attractiveness (ATT) -> global product value
FINDINGS: Different Panel Creation Strategies

- Some members worked individually
- Other members collaborated more openly
- Others had fixed complimentary roles
- Device gestures were described as logical
- Did not like the sound of deleting a speech bubble
FINDINGS: Panel Sharing

- Shared a total of 150 panels total
- Mean: 37.5, Standard Deviation: 5.5
- An average of 12.5 panels per team
- New panel shared every 48 seconds
- 23% of panels were responses to previous panels
FINDINGS: Different Panel Sharing Strategies

- *Throwing* was an intuitive gesture
- *Send to me* gesture produced contradicting opinions
- *Retrieving* was a natural gesture
FINDINGS: Social Interaction

• Prototype is connective and integrating
• But there is a room for improvement
• Voting procedure felt artificial
• Voting procedure was distracting
FINDINGS: AttrackDiff for MobiComics

Figure 6. Mean values along the four AttrackDiff dimensions.
THANK YOU

Any Questions?