Modeling Information from Wearable Sensors

Florence Balagtas-Fernandez & Heinrich Hussmann
Media Informatics Group
Department of Computer Science
University of Munich

Outline

- The *Mobile Applications* (*Mobia*) Modeling Framework

- Application Scenario

- Modeling Medgets and User Interactions

- Evaluation: Collecting User Preference

- Summary and Conclusion

Mobia Modeling Framework

- ## Mobia Modeling Tool

  - Allow non-expert users to easily create mobile applications by modeling the mobile application and having a tool automatically transform the model to code

    - Easy to learn

    - Feature modeling constructs that are intuitive

  - Extend to different application domains

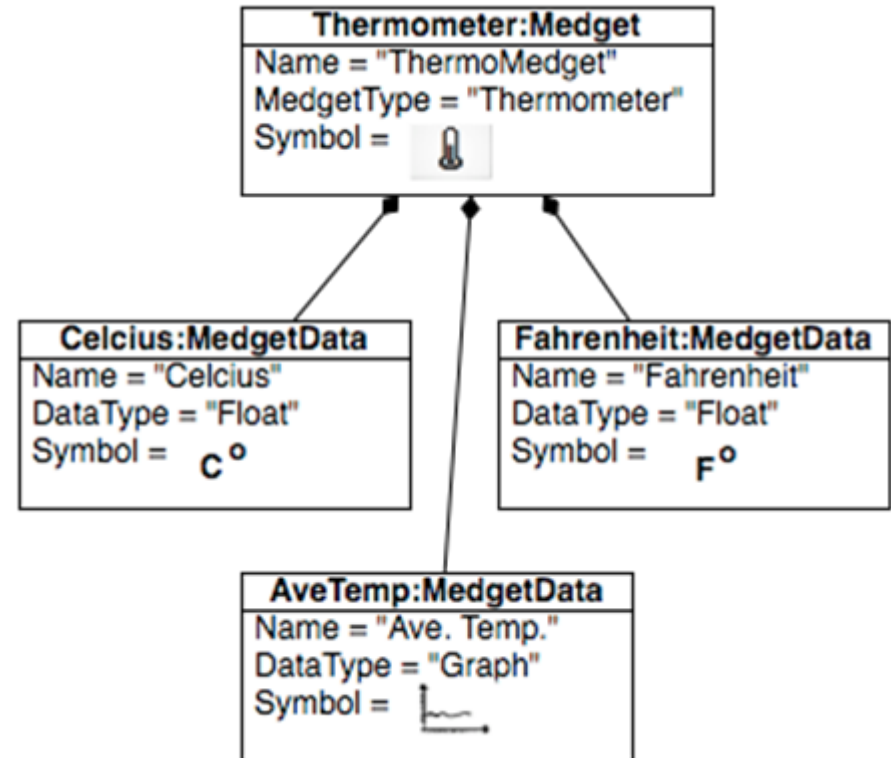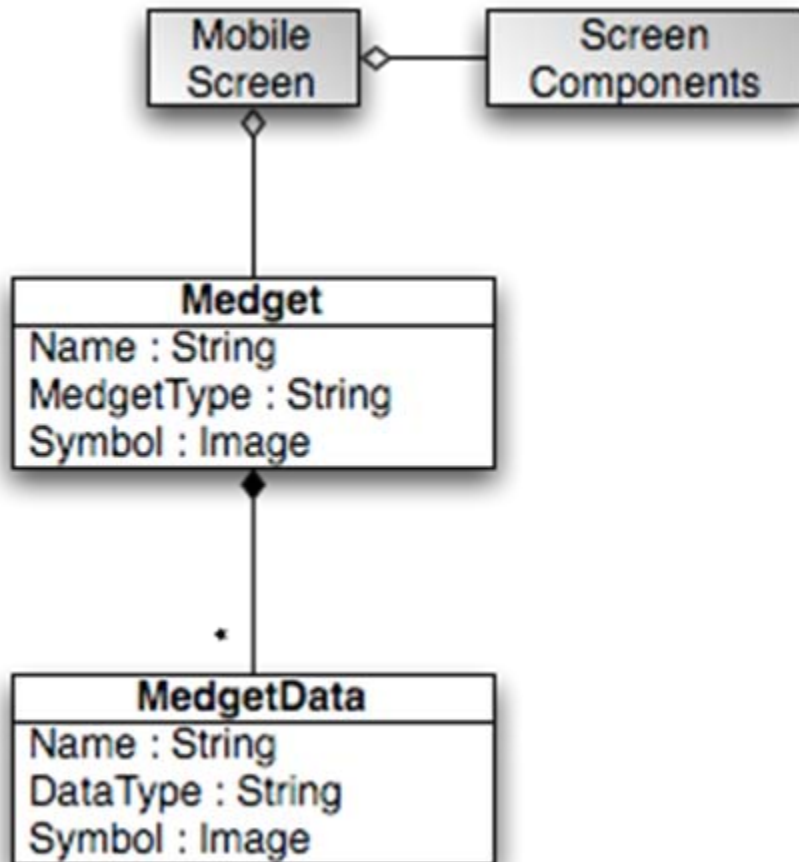   - Current focus: Mobile Health Monitoring
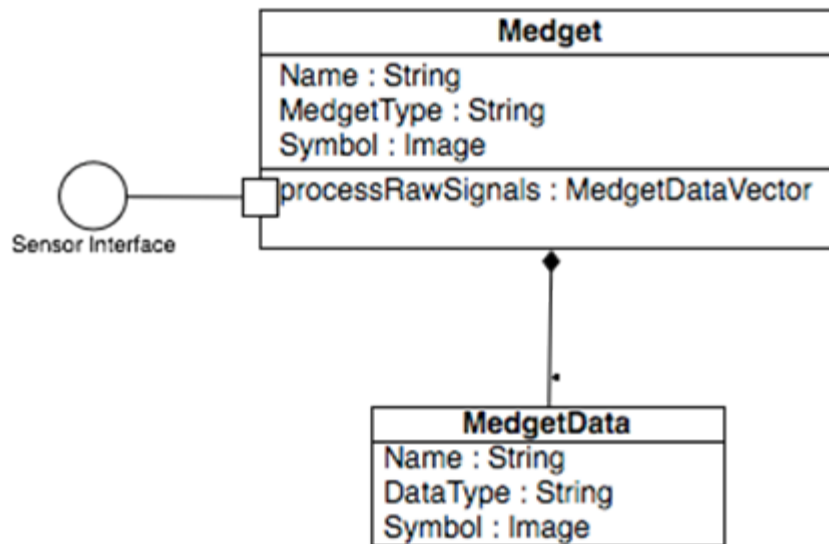
Mobia Modeling Framework
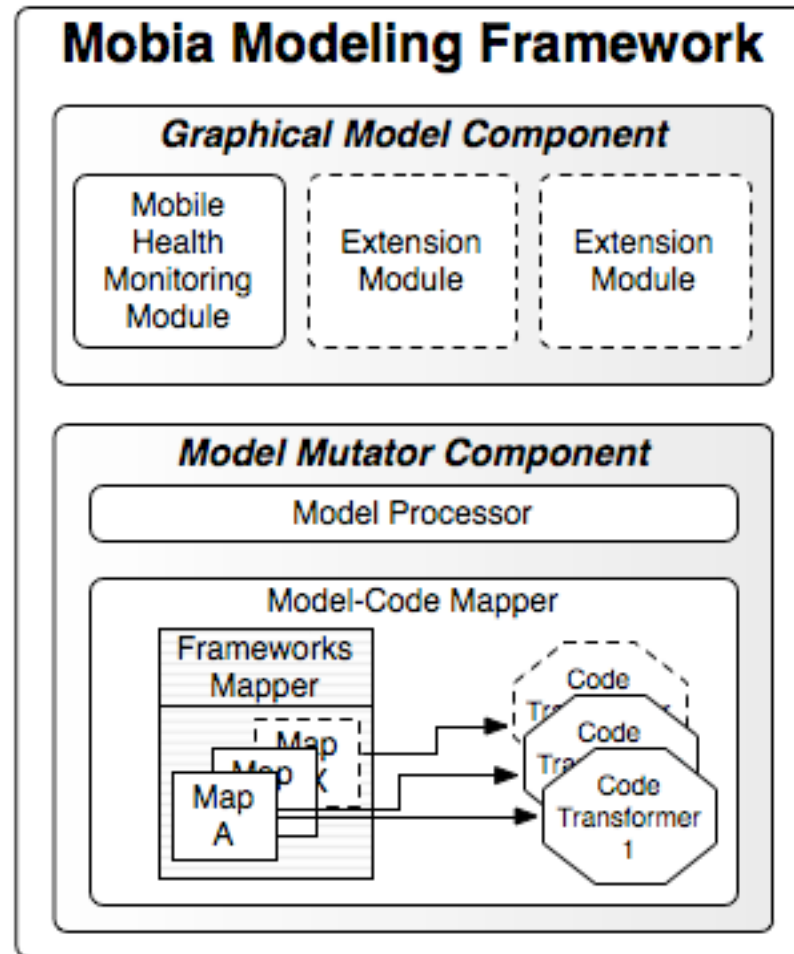
Mobile Health Monitoring

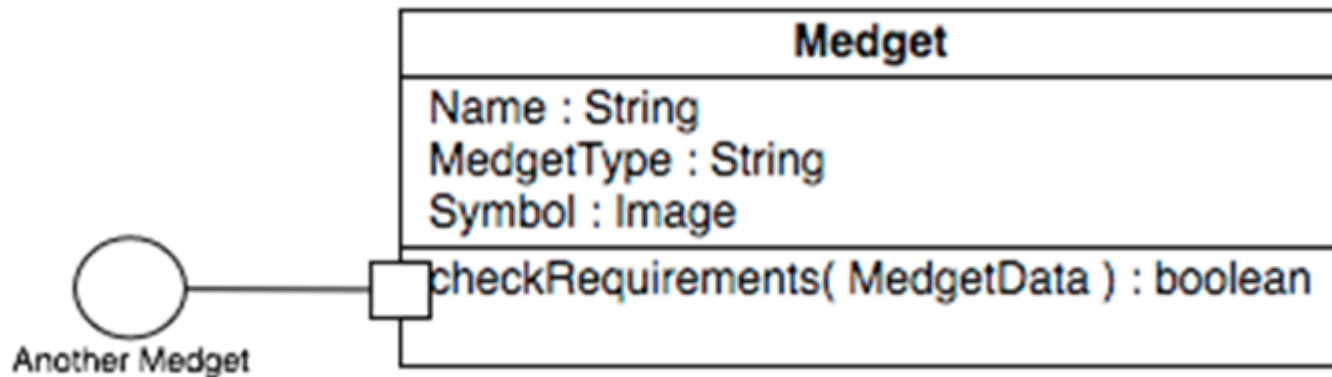Application Scenario
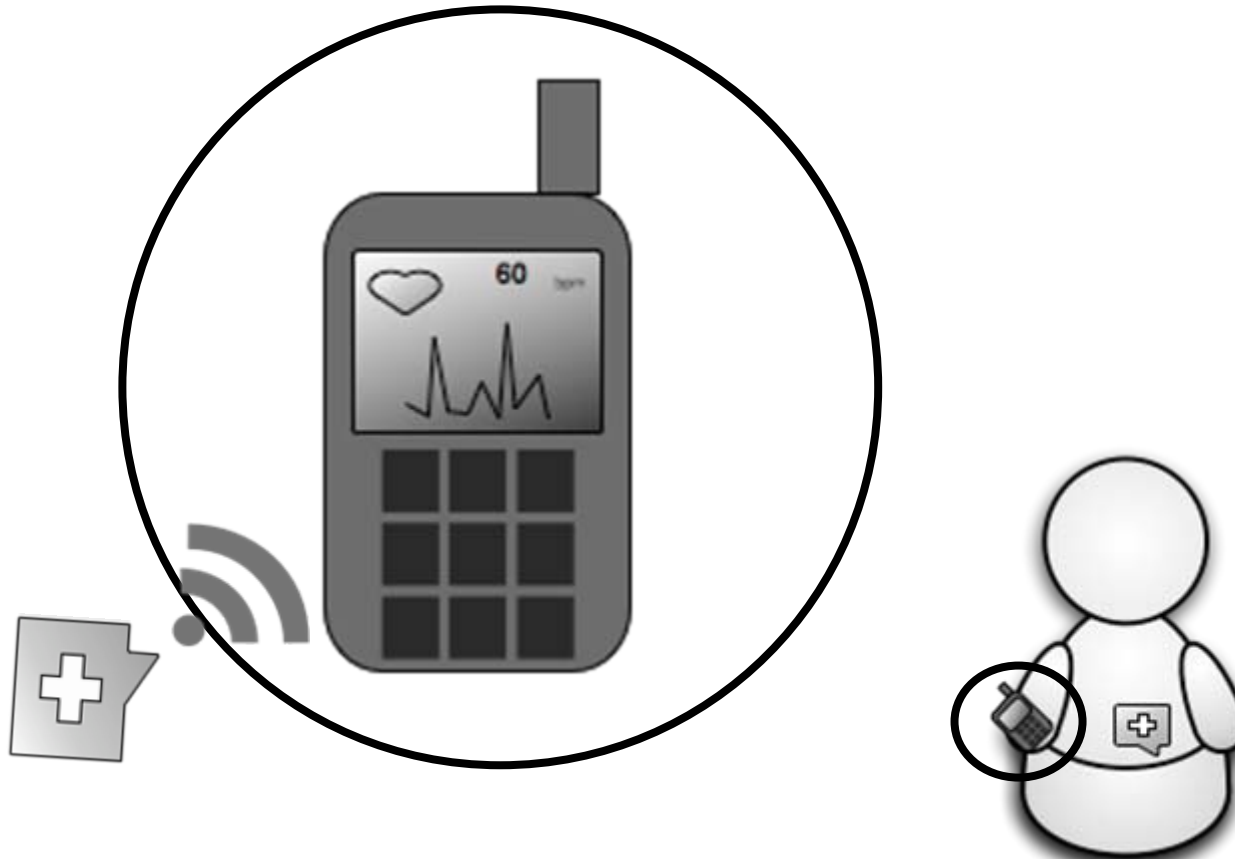
Modeling the Sensor and Data

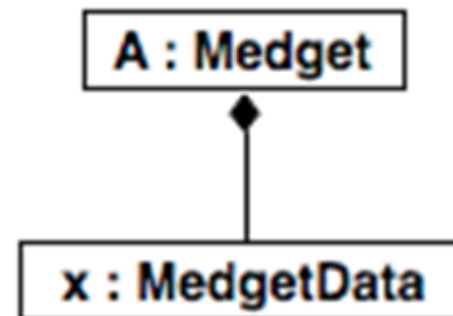# Modeling the Sensor and Data
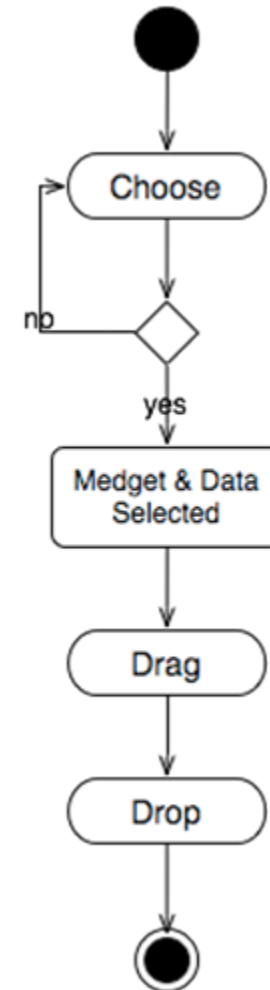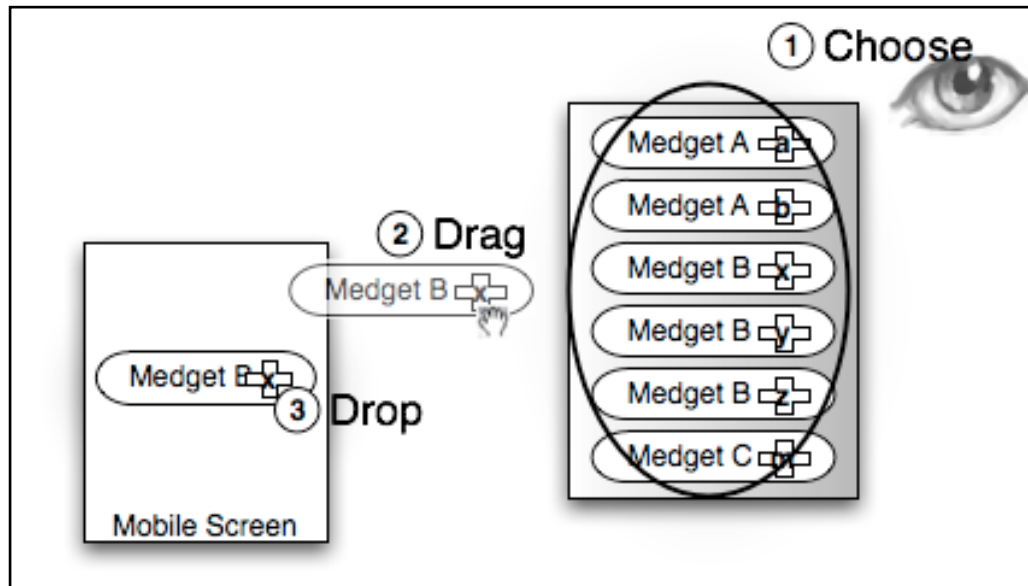
Modeling the Sensor and Data

- Dealing with complex scenarios wherein input from one sensor is a prerequisite for another sensor
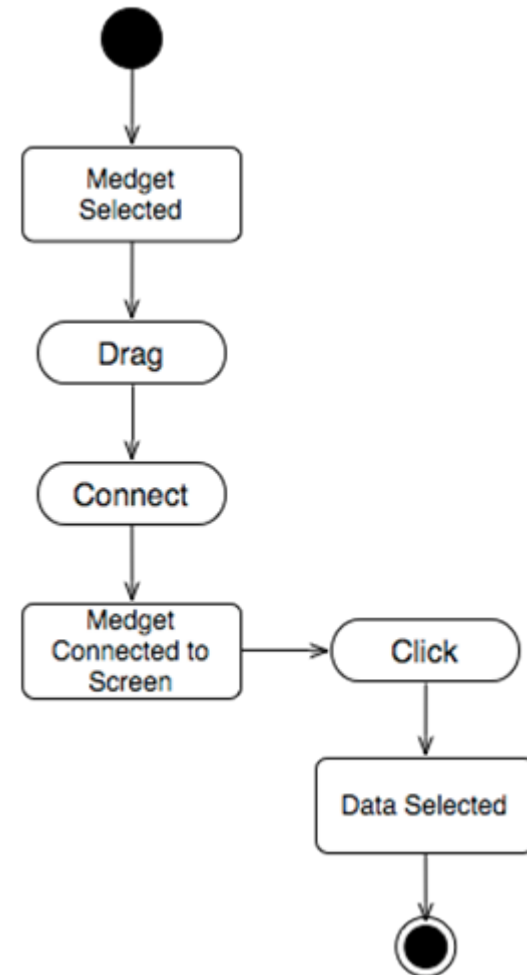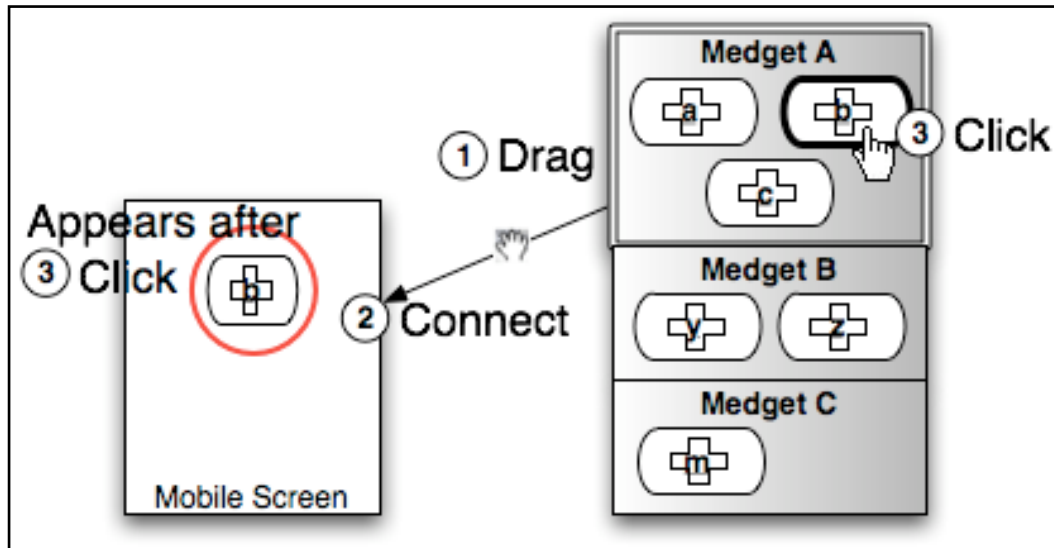
Modeling User Interaction

- Given
  - Medget Instances: A, B, C
  - Medget Data: x, y, z, a, b
  - Actions: Choose, Drag, Drop, Click, Connect
- User's Goal
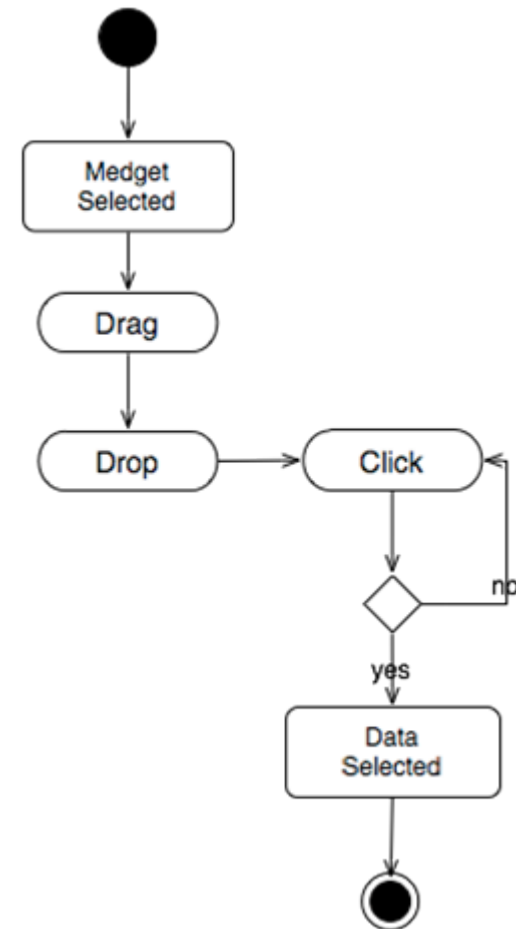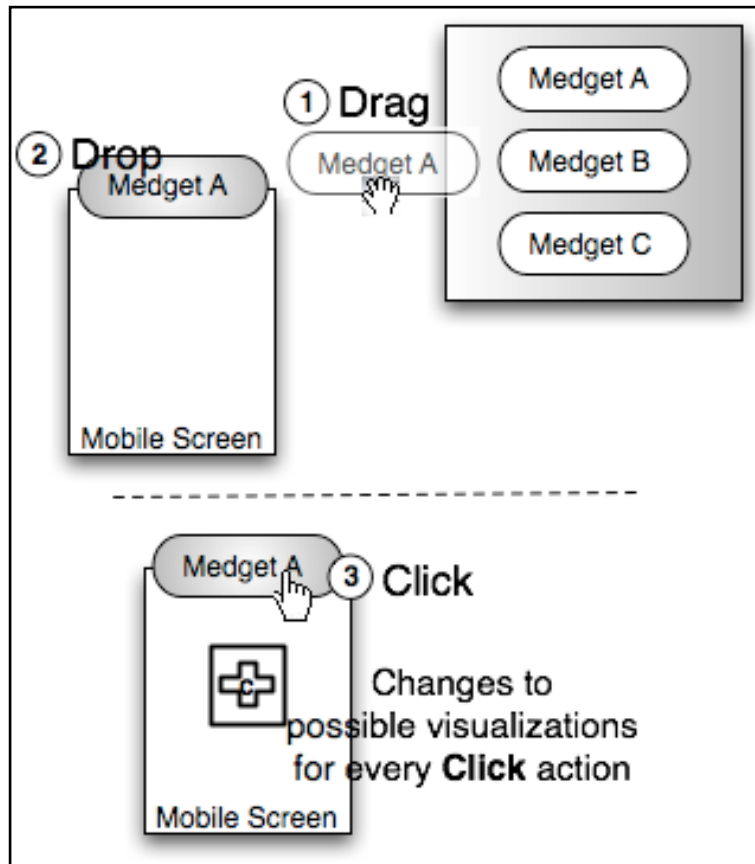 - Select the Medget A and the MedgetData x

Choose, Drag and Drop

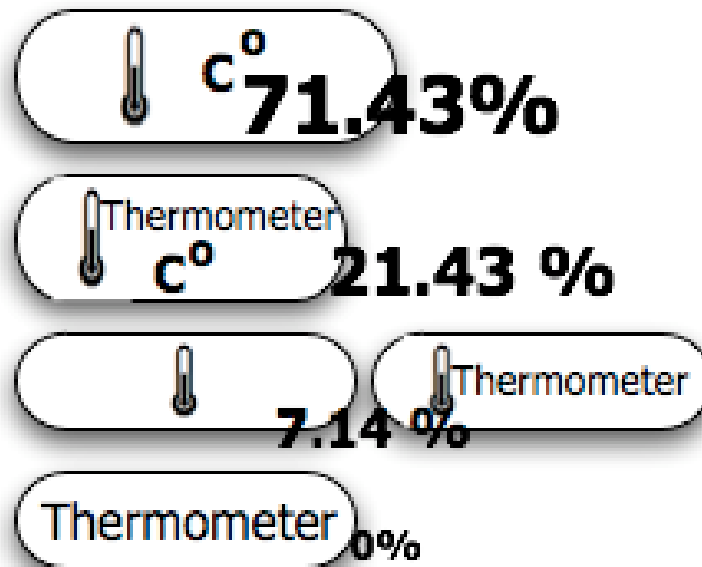# Drag, Connect and Click

Drag, Drop and Click

Modeling User Interaction

- Open Questions
  - Evaluating the interactions
    - Efficient?
    - Intuitive?
    - Easily Learnable?

Evaluation

- Preferred
  - Presentation of a Medget and Related data
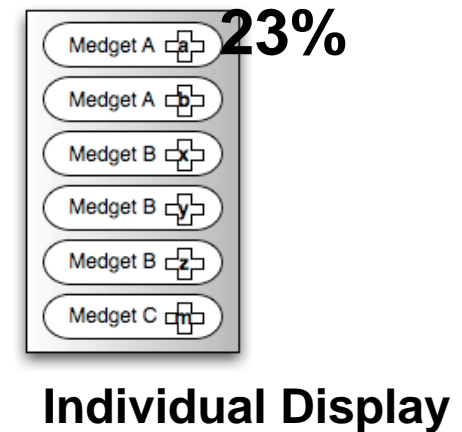 - Presentation of all Available Medgets
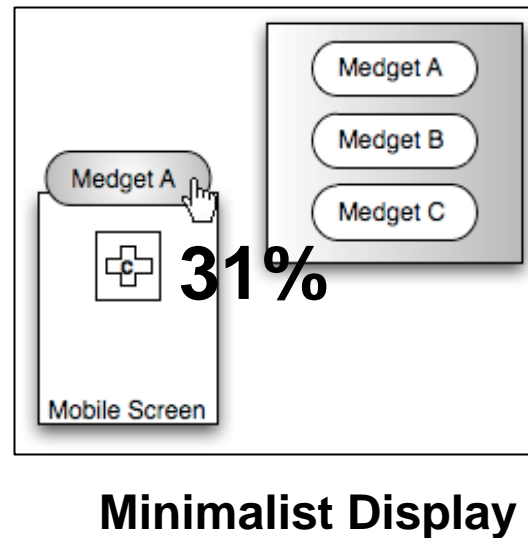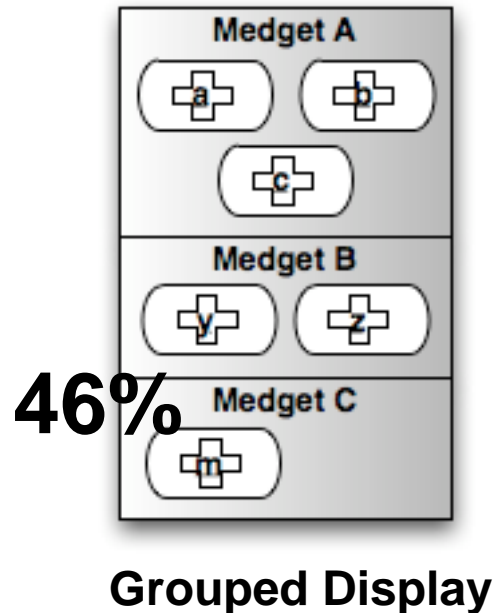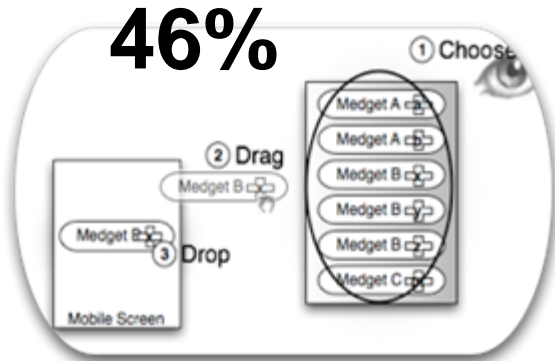 - Preferred Interaction Technique

14 Participants

Presentation of a Medget & Related data

Presentation of all Available Medgets

46%

Grouped Display

31%

Minimalist Display

23%

Individual Display

Preferred Interaction Technique

46%

Choose, Drag and Drop Approach

Drag, Drop and Click Approach

38%

16%
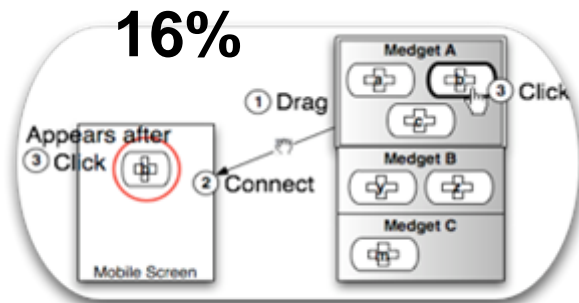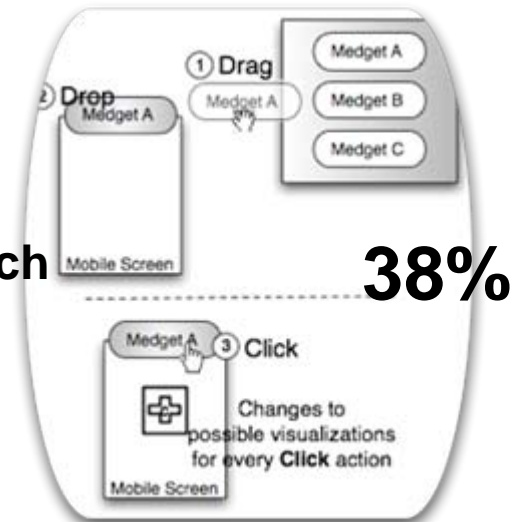
Drag, Connect and Click Approach

Summary and Conclusion

- Overview of the Mobia Framework
- Medget Model Construct to represent information from wearable sensors used for mobile health monitoring
- Model User Interaction
- Evaluation results based on user preference

Thank you for your attention.

Questions?