



Evidence of Bias in the Production of User Test Lists by Software Analysts, and Proposed Mitigation Strategy



Leonel Morales - URL
Arturo Rivera - UNIS



Context

- User tests highly effective for detecting usability issues
- HCI professionals unavailable
- Task list created by developers or analysts
- Lists include hints and messages that reduce value of results





First Indications of Bias

- **Software Engineering II course**
 - ⊙ Students developed task lists for an application
 - ⊙ Students taped the tests and presented them as an assignment
 - ⊙ Lists contained terminology and references to controls in the application





Experiment in Industry

- Three companies from the Guatemalan Export Software Commission (Sofex) volunteered to participate in study
- Basic introduction: 5 e's
- Analysts created and e-mailed lists for a particular application
 - CRM
 - Badge issuance
 - Inventory





Sample Issues Found

- **Application-specific terminology**
 - ⊙ “Create personal incident” / “Create company incident”
- **Forcing application mental model**
 - ⊙ “Create product family”, “Create sub-family”, “Create sub-sub-family”
- **Tasks imposed by the system and naturally meaningless to the user**
 - ⊙ “Mark the checklist”
 - ⊙ “Save changes and close”





Sample Issues Found (2)

- **Task is means to an end**
 - ⊙ “Print the report”
 - ⊙ “Query by cost”
- **Artificial order of tasks**
 - ⊙ “1. Insert text ‘xxx’” / “2. Insert text ‘yyy’” / “3. Add background image in folder z:\
”
- **Tasks too generic: no information to perform actual test**
 - ⊙ “Read messages”, “Send messages”





Other Issues

- **Analysts tend to think in abstract terms**
 - ⊙ Task lists require specifics
- **Analysts have a mental model of the application**
 - ⊙ They attempt to impose this model on the user
- **Lists show tasks that *should* be tested, even if artificial**
 - ⊙ Change password
 - ⊙ Exit the application





Proposed Mitigation Strategy

- **Develop scenarios, “stories”**
 - ⊙ Cases that exemplify what users will find in real life
 - ⊙ Should be realistic
 - ⊙ Contain all the information that the user would have available
- **Example**
 - ⊙ Provide a sample badge design
 - ⊙ Ask to reproduce design
 - ⊙ Issue a badge for Mr. John Doe, DOB June 3, 1975, from Marketing, with employee ID #12345





Future Work

- **Field-Test the mitigation strategy**
 - ⊙ Let developers know about the problem
 - ⊙ Evaluate the results
- **Categorize as many list-issues as we can**

