

- What is Simulation?
- Why Simulation?
- Case Study – An example from online banking
- Simulation and Usability
- Summary

What is Simulation?

- Simulations are interactive previews of system behavior (and visual requirements)
- Simulations look and behave like the real system
 - user interface
 - navigational logic
 - data logic, including conditional behavior
 - business logic
- Facilitates identification, communication, and validation of requirements
- Simulations allow Stakeholders to interact with critical business systems before development

Why Simulation? Observations from Digital Insight

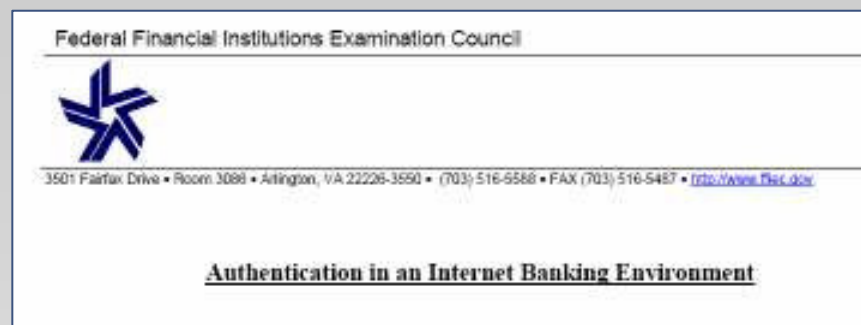
- Engineering puts in a contingency of 50% plus in delivery dates to accommodate rework and issues with the requirements process.
- Based on text-only docs (with mockups) people often just don't "get it". They sign off—but don't know what they are signing, and then protest later.
- Business Analysts must mock up GUIs using various tools and put them into different documents for different audiences. Maintenance is a nightmare.
- When explaining things to engineers, takes lots of time since they have to read through the text (often with no visual context).

Simulation vs. “Traditional” UI Prototyping

	Traditional HTML Prototyping	Simulation (Using simulation tools)
Owner	Product Management	Product Management
“Real” Owner <i>(“Real” Owner = he/she who touches the code last)</i>	SW Developer	Product Management
Technical Skills Required	HTML, DHTML, JavaScript, Databases, etc.	Standard office applications skills (Word, Visio, etc.)
Cost of Functional Fidelity	Very High (must define requirements in detail. Rare to find 1 developer who can do it all)	Very Low (low to high fidelity models)
Overall Cost of Change	“Coders + Caffeine”	WYSIWIG
Dependence on external resources to Product Management	Dedicated developer (s) required to move fast	Product and Business Analyst skills drive simulation
Reuse of code/models	High if used by same developer, else LOW	High reuse of models

Case Study - The opportunity for simulation

- Business Goals
 - Meet regulatory compliance goals by end of 2006
 - Minimize user impact
- Product Development Goals
 - Better and more accurate requirements
 - Gather stakeholder feedback earlier in the process
 - Improve communication between Product and Engineering
- Usability Goals
 - Discovery and validation of user needs and behavior
 - Identify and support usability best practices within SDLC
 - Establish thought leadership in user experience for online financial services



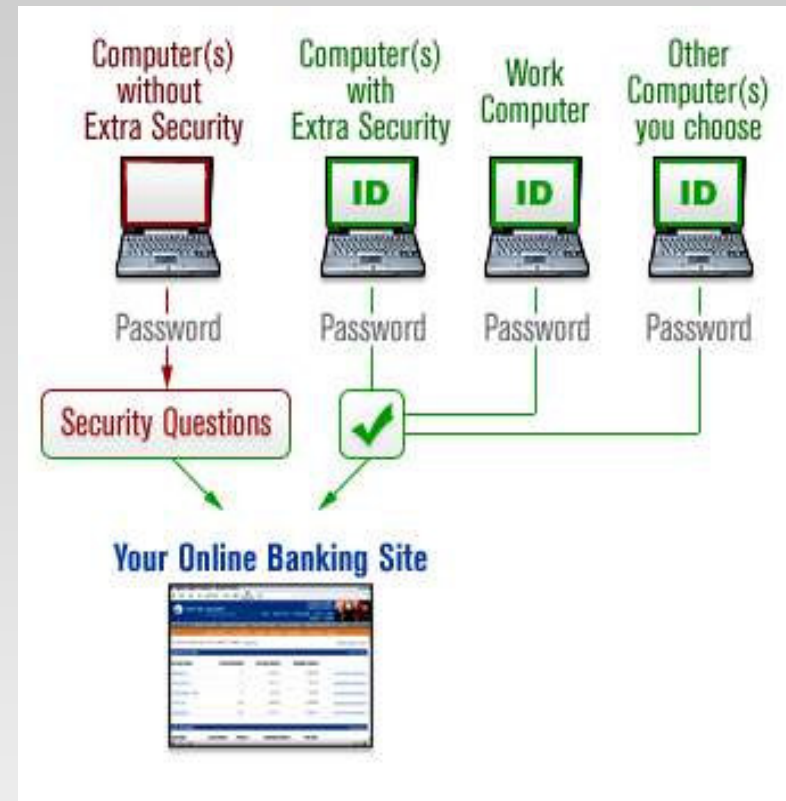
What is multi-factor authentication?

- Current password-based login is one factor authentication
- Multi factor authentication uses password + a second factor, such as:
 - Hardware token
 - Smartcard
 - Special additional code
 - “Shared secret” such as challenge questions
 - Your PC as a second factor (Device ID)
- Goal of multi-factor: Even if a fraudster gets your user ID and password, they still cannot gain access to your Internet Banking.

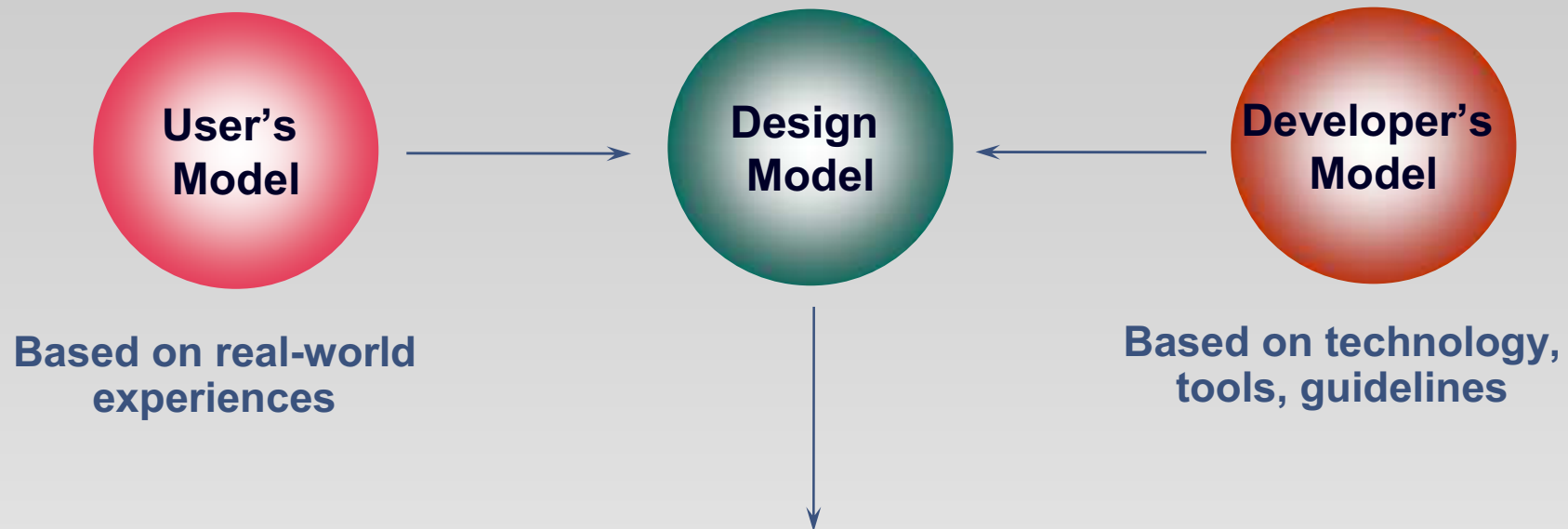
- Show Simulation Here

Multi Factor Authentication (MFA)

- Multi Factor Authentication
- Purpose of the simulation
 - Visualize UX
 - Elicit feedback from customers
 - Refine flow and wording
 - Validate numerous deployment options
- Required hi-fidelity simulation
- Simulation used in single user testing and focus group feedback

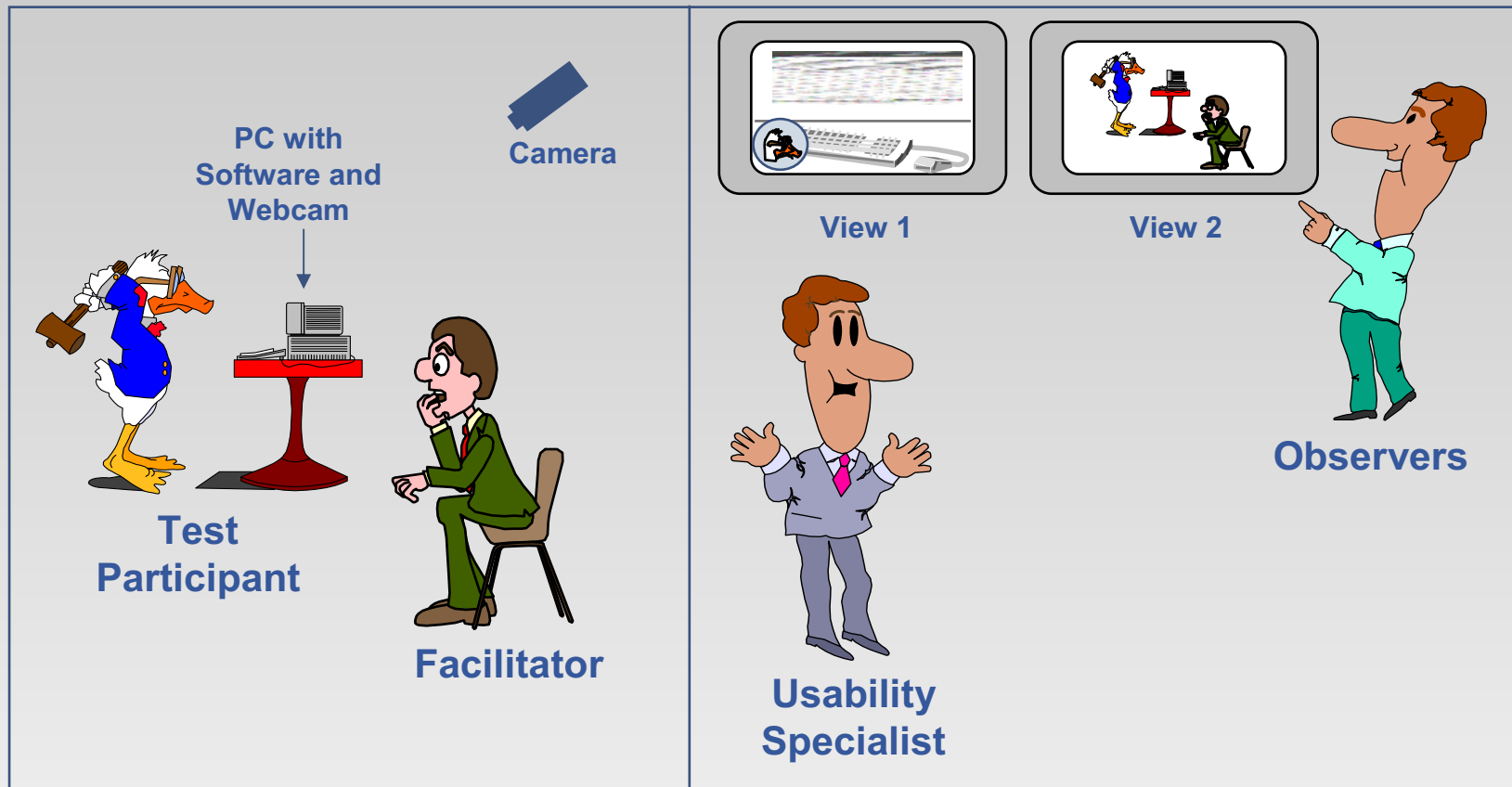


Simulation + Usability Testing = Better understanding of User's Mental Model



A mismatch between the user's model and the developer's model leads to
Errors, Increased performance time, User dissatisfaction

Simulation and Usability Testing



Usability can be measured

- **Effectiveness**
 - Accuracy, Completeness
 - Task Success or Failure
 - **Can users complete the task?**
- **Efficiency**
 - Resources Expended
 - Time, Requests for Help
 - **How long does it take to complete a task and is help needed?**
- **Satisfaction**
 - Qualitative Comfort & Confidence
 - Self Rating
 - **Do they like it? Would they recommend it to a friend?**

Simulation and Usability Testing

Orlando - Morae Manager

File Segment Marker Clip Search View Player Help

Analyzer

Analyzer - Project

- Orlando
 - test1
 - Segments
 - Markers
 - Video Clips
 - Title Clips


Presenter

Details


Folders: 0

Video clips: 0

Camera



Recording - test1



0:00 00:04:24.07 00:08:48.14 00:13:12.22 00:17:36.29 00:22:00.37 00:26:24.44 00:30:48.00

0:00:00.00 0:31:53.07 0:14:00.45 / 0:31:53.07

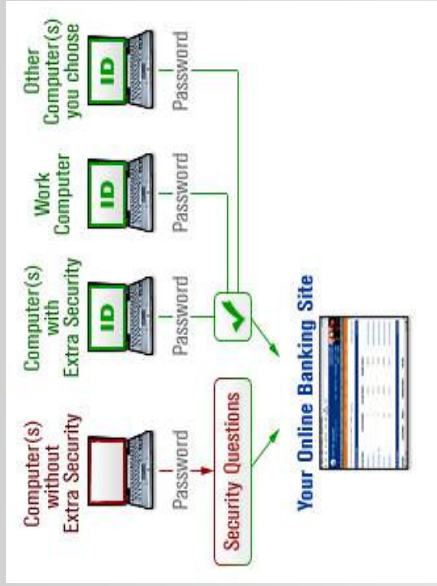
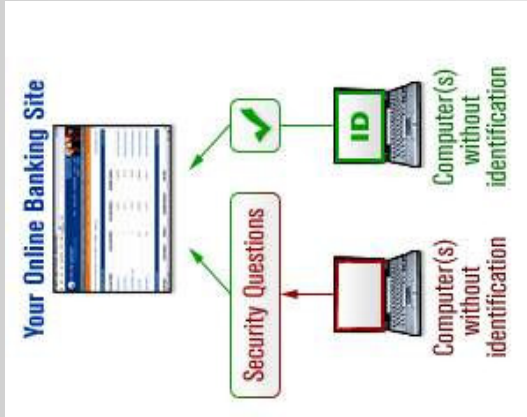
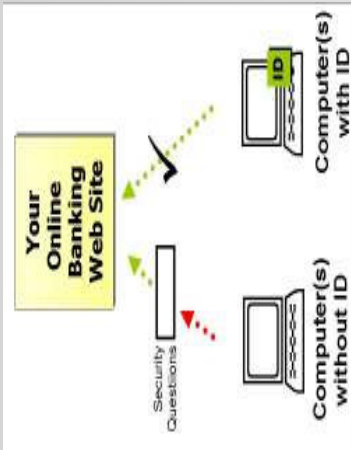
Search Results

Search results for: test1 - Entire recording

Elapsed ...	Event	Name	Notes	Creator	Marker Type	Definit

User Feedback and Simulation

- Video clip here



- Video clip here

Results

- Very positive response from internal partners (Eng and QA both have requested training and access to iRise)
- Simulation and resulting user feedback drove detailed changes in wording and flow
- Feature is live with all clients
- Simulation being factored into SDLC process

Strategic Relevance – Customer Benefits

- Customer Satisfaction
 - Higher quality
 - Deliver right solutions the first time
 - Eliminate large % of customer change requests and rework
- Increased Revenues
 - Improved use and adoption
 - Faster time to market – stay ahead of the competition
- Communication
 - Customers feel more actively involved early in the process
 - Customers can more easily sign off on requirements
 - Ensure focus on the right projects

Questions?

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