

IT Online Multimedia Specification V 1.4

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Created by
James Khazar
Khazar Multimedia Consulting
james@khazar.com
<http://www.khazar.com>

Office: 510 521 0209
Cell: 510 543 5027
Fax: 510 522 7013
1723 8th Street Alameda, CA 94501

Overview

This multimedia specification covers the structure of the IT Online CD, its User Interface. It will be used as a guide for building the animatic and prototype. It does not include specification for the server

Platform Specifications (Minimum)

Reference at: http://www.macromedia.com/support/director/ts/documents/playback_requirements.htm

Windows

OS: Windows 2000, XP, ME
CPU speed: 166 MHz Pentium Processor
Memory: 64 MB installed

Mac

OS: OS 8.1 to 9.1 and X
CPU speed: 120 MHz PowerPC
Memory: 32 MB installed

Monitor Resolution: 800 x 600
Monitor Color Depth: 16 bit
Quicktime: Lastest shipping version

Platform Specifications (Preferred – proposed as minimum, awaiting survey results from DW)

Windows

CPU speed: 300 MHz Pentium II Processor
Memory: 64 MB installed

Mac

CPU speed: 300 MHz PowerPC
Memory: 64 MB installed

Monitor Resolution: 1024 x 768

Player Specification

Director 8.5 with Flash MX and QuickTime assets Xtras. Other specialized Xtras may be required.

Key Features:

Connectivity

Students and teachers use the program to upload and download data with IT Online's central Web server. There will be server-side facilities to enable teachers to access student's uploaded data and evaluate their progress.

All student data is stored locally for uplinking whenever they go online (also known as data bursting). However, a connection is not required to use the program or move through the simulations. Potentially, the student and instructor never need to meet physically allowing for asynchronous collaboration.

Tutorials

The tutorial is an animation played back as either a Flash Movie within Director, Director animation, or QuickTime. The same content plays, but in one of two formats. The Tutorial format shows a contiguous movie that plays with voice over. It has VCR controls, as well as a menu that shows titled sections that can be skipped to. The Slide Show format plays the content as one scene at a time, with no voice over. There may be animation in the Slide Show format, but it would be triggered within the scene when the instructor chooses to activate it.

Simulations

These are guided modules that have the student solve a specific problem through investigation of a virtual network. A network diagram with a server, multiple clients, hubs and routers can be clicked-on to review each individual components status and configuration with various provided tools. Students can also launch a virtual web browser to search for and download software required for solving the network's problems. All communication is done by internal email provided by IT Online as part of membership.

Simulation Steps

1. *Kickoff from the boss*

When a student enters a simulation level, they receive an email from the "boss" describing a situation on the network that needs to be investigated and resolved by sending in a report. The report appears as an attachment to the email, and is actually a form with popup menus of possible steps/configuration changes/hardware changes that might lead to resolving the issue at hand.

2. *Investigate the problem*

Once the communiqué is received, each student in the group investigates the problem with network tools in the simulation. They can change their network with the tools and examine the results. They can roll-back the changes they made with the history function. As they find more information and come to understand the networks status more clearly, they fill in the report with their ideas on the best fix for the issue.

3. *Collaborate with group*

Once enough individual investigation has been completed, each student sends of their proposed report form to the other members of the group. They examine and communicate with each other about their ideas through emails and instant messaging.

4. *Group agreement*

At any point in the shared investigations, the group can vote on what to send as their final report. Once they all agree, the report is sent to the "boss". If they don't agree, they must keep investigating and collaborating until they can all agree on a single report.

5. *Send report to the boss*

Only after all members of the group agree

6. *Systems updated*

After the report is received, the recommended changes to the network are implemented. The changes are animated in the simulation and are reflected in the simulation's tools.

History

At any point, students can step back through their actions to revert to an earlier state in the simulation.

Misc.

Instructors have full access to the email's and report proposals going back and forth in the group. At any time they interact with the students by email.

Each simulation must be completed before moving on to the next simulation.

At the end of each session, a simulation is stored locally and uplinked when online to IT Online in the form of how the status changed since the last session, allowing the progress of the virtual network to be traced, stepped back, or restored at any time.

Configuration

The program can configure internet and ITOnline connections, as well as setting up student, workgroup and teacher accounts.

Instructors Mode

The same CD ROM is used by both the students and instructors to interface with each other through IT Online. Instructors will use a special password in order to access the instructor-only section of the disk.

UI Hints

Throughout the program, users will see a context-sensitive text hints when the roll over a selectable item, and be advised when a particular action is required.

Server Specification

TBD

Storyboard (Note, bold numbers indicate change from version 1.3)

1.

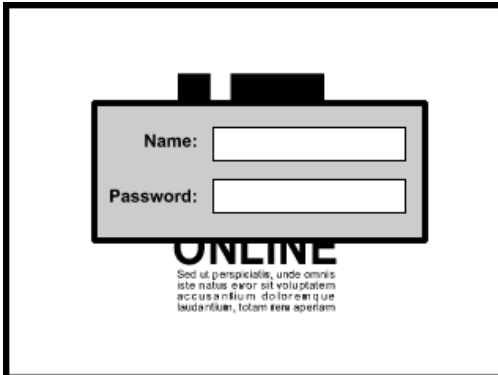
**Startup Screen**

Description: Contains title and branding, relevant copyright and attribution information

After a moment, the Login screen pops up. If the student has not logged in before, they're taken to the Configure section. On successful login, goes to main menu.

Look & Feel: clean, swiss, B&O, OS X

2.

**Login Window**

Description: A dialog window pops up over the Startup Screen requesting a login

Fields:

Name:

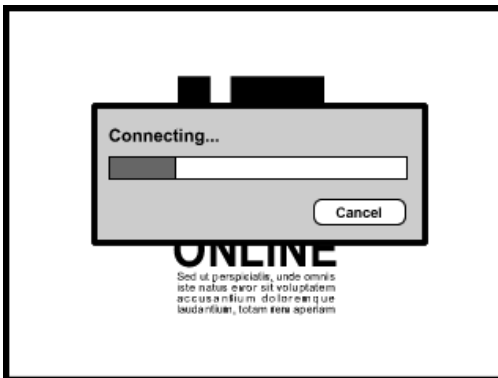
Password:

Buttons:

Work Online

Work Offline

3.

**Connection Window**

Description: If connection is requested, program goes online with last configuration. If no configuration then user is taken to configuration screen.

Labels:

Connecting...

4.

**No Connection Window**

Description: If no connection is requested, user is notified of the last time they connected with IT Online.

Labels:

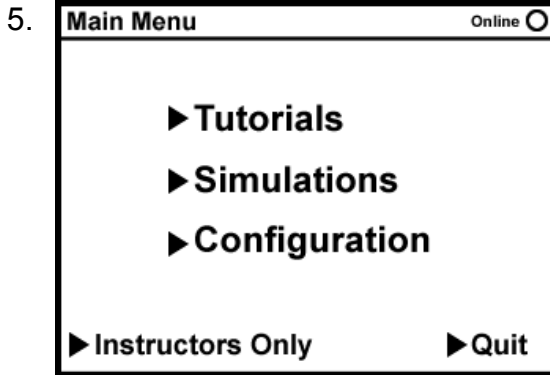
Last time you connected was:

Dynamic Data Field:

lastTimeConnected

Button:

OK



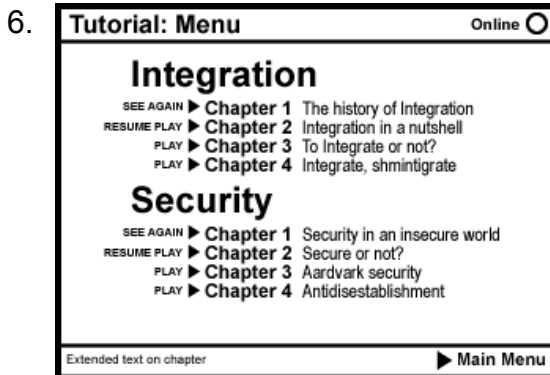
Main Menu

Throughout: Top of screen shows online status. If offline, it offers a button to connect.

- Buttons:
- Tutorials
 - Simulations
 - Configuration
 - Instructors Only
 - Quit

Description: Choosing a menu item goes to that selection.

NOTE: Instructors menu item appears only when a valid login for an instructor has been entered at startup.



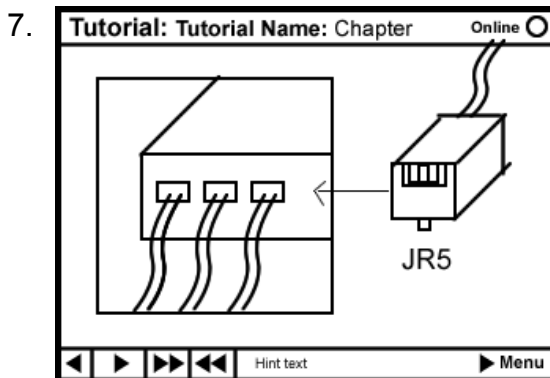
Tutorial Chapters

Items & Buttons:

- Integration
 - See Again > Chapter 1 Name
 - Resume Playing > Chapter 2 Name
 - Play > Chapter 3 Name
 - Play > Chapter 3 Name
- Security
 - See Again > Chapter 1 Name
 - Resume Playing > Chapter 2 Name
 - Play > Chapter 3 Name
 - Play > Chapter 3 Name

Dynamic Menu Description: Each chapter selection shows Play if it's not been viewed before, Resume Playing if they left the tutorial unfinished, and See Again if they have already played it all the way through.

Dynamic Text Field for more information on each chapter

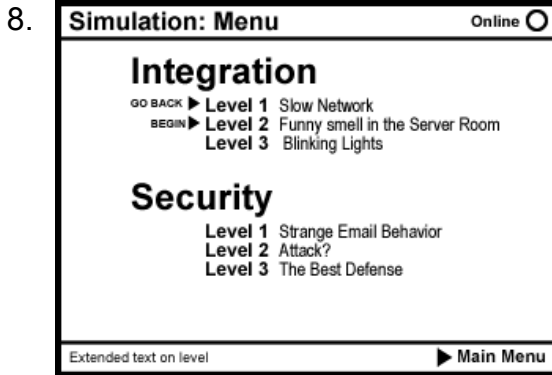


Tutorial UI

- Controls:
- > Play
 - || Pause
 - |< Rewind (to beginning)
 - << Rewind (to next section)
 - >> FFwd (to next section)

- Volume
- Return to Main Menu

Description: The Tutorial format shows a contiguous movie that plays with voice over. It has VCR controls, as well as a menu that shows titled sections that can be skipped to.

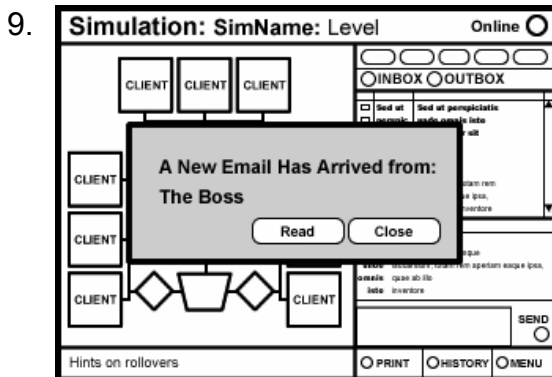


Simulation Submenu

Content/Items:

Integration
 Level 1 > Level 2 Level-3
 Security
 Level-1 Level-2 Level-3

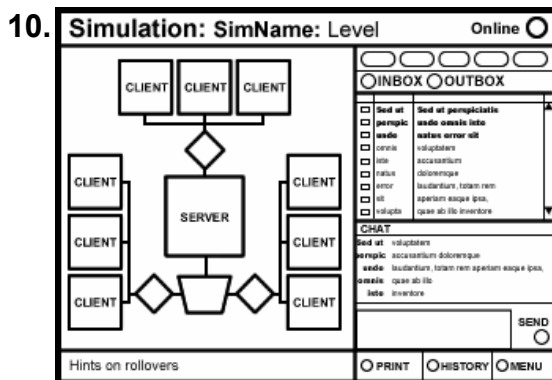
Description: Submenu after main menu selection of a simulation. Simulations beyond the current one will not become active (but will be visible and grayed back) until the current simulation is successfully completed. Submenu also shows completed simulations. Returning to an incomplete simulation will take them to where they left off.



Simulation UI: Intro

Description: When first coming into the Simulation, a dialog telling the student that a new email has arrived appears. Clicking "View" in the dialog opens the email. The email sets up the scenario for the Simulation.

NOTE: Every time a new email arrives, which can be from the IT Online Email server or generated internally by the application, a window pops up announcing its arrival.



Simulation UI: Top-level UI

UI Areas:

- Network Diagram
- Tools
- Configuration
- Log Reader
- Installer Tool
- Web Search Tool
- Performance Evaluator
- Mailbox
- Chat
- Print | History | Menu

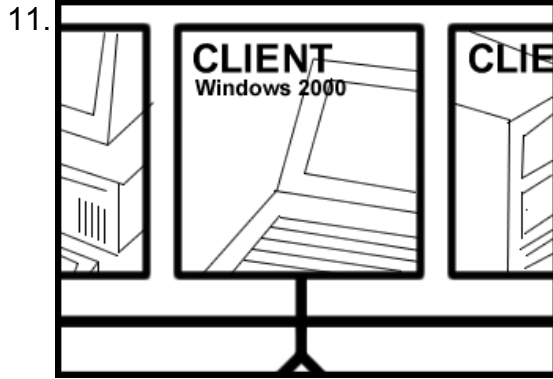
Labels:

Simulation: LevelName: LevelNumber

Buttons:

- Inbox
- Outbox
- Print
- History
- Main Menu

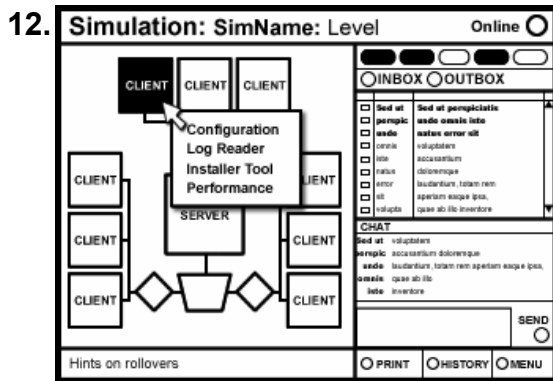
Actions: User can interact with any area at any time.



Simulation UI: Network Diagram

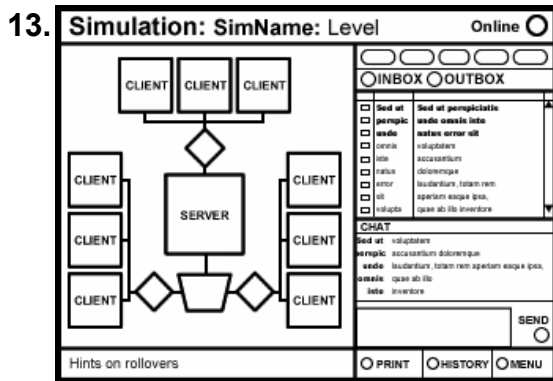
- Buttons:
- Server
 - Hub 1
 - Client 1 (Windows 98)
 - Client 2 (Windows 2000)
 - Client 3 (Mac OS 9)
 - Router
 - Hub 2
 - Client 4 (Mac OS 10)
 - Client 5 (UNIX)
 - Hub 3
 - Client 6 (TBD)
 - Client 7 (TBD)

Description: Each Icon for computers, routers, hubs and servers is selectable. When selected, the tools will react to that object when they are selected, with the exception of the Web tool.



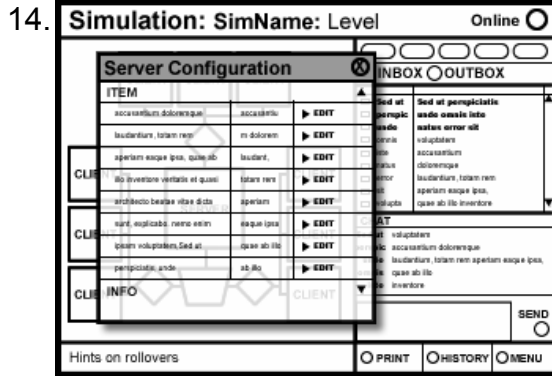
Simulation UI: Network Diagram: Click-On Menu

Description: When the user hovers over an item in the Network Diagram, the relevant tools highlight in the tool menu. When the user clicks on an item, a context sensitive pop-up menu appears.



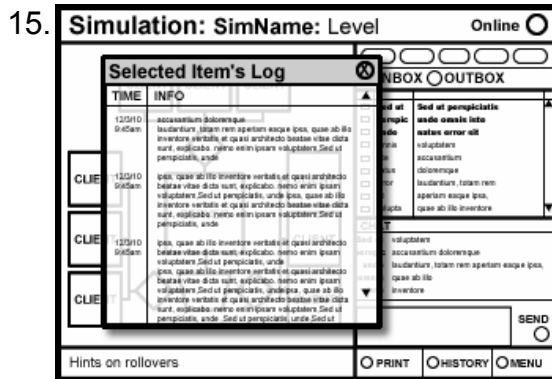
Simulation UI: Network Diagram: Modifications

Description: Once a user chooses a tool and makes modifications with it, those modifications are reflected in the state of the simulation.



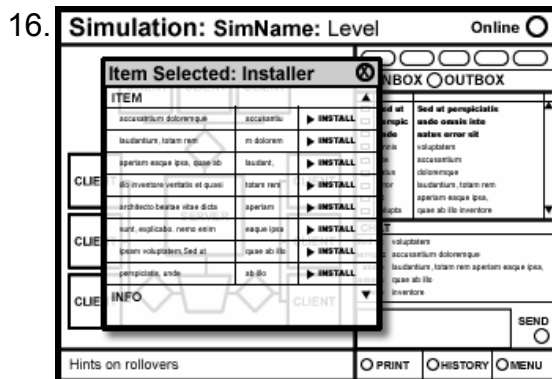
Simulation UI: Network Diagram: Tools: Configuration

Content:
 Configuration item | Current Setting | Edit
 Description: Displays configuration of object selected and allows it to be edited if possible.



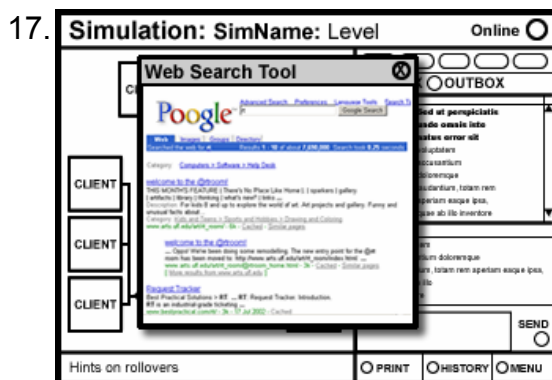
Simulation UI: Network Diagram: Tools: Log Reader

Content:
 Time | Log Item
 Description: Displays objects Logs. May be necessary to have a menu of different logs.



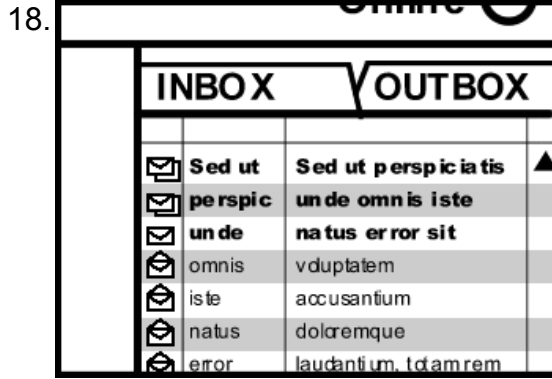
Simulation UI: Network Diagram: Tools: Installer Tool

Content:
 Items available to install | Install it
 Description: Displays a list of available items to install. These can either be items available at startup



Simulation UI: Network Diagram: Tools: Web Search Tool

Content:
 Browser...
 Description: Since the student can't really go out to the web and get drivers and updates, it will be necessary to emulate a search tool and respective web pages to download the appropriate tool.



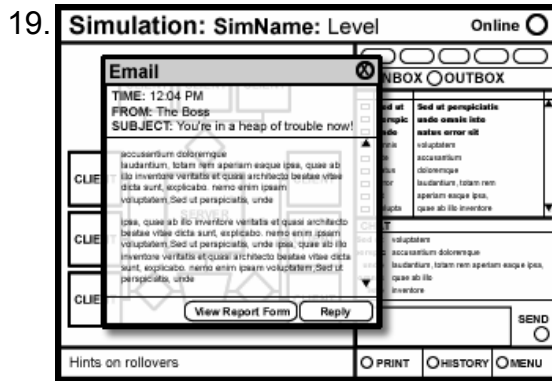
Simulation UI: Mailbox

Description: This is the primary communications interface between students, teachers and the virtual boss and users. As emails arrive from the program or from IT Online’s mail server, a notice is put up and the mail appears in the Inbox of the Mail box.

Clicking on the Inbox and Outbox buttons switches between mailboxes. All mail is listed in order of time received. Double-clicking on an email expands it.

Content:
 Mail Status Icon (read, unread, attachments)
 From
 Subject

Button:
 New (email)

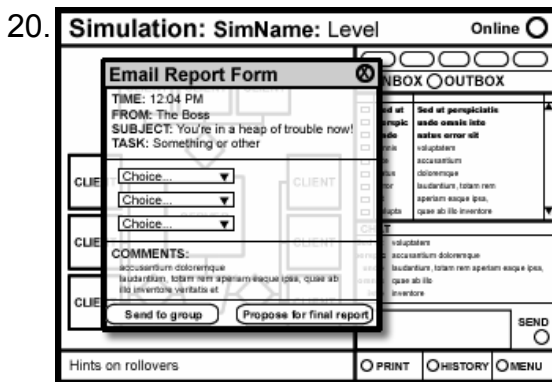


Simulation UI: Mailbox: Expanded Email

Content:
 Time: -----
 From: -----
 Subject: -----
 Message: -----

Buttons
 Close | Reply
 View Report Form (for boss emails)

Description: Once expanded, the student can move linearly between emails. Post pastes content into the Team Communications UI



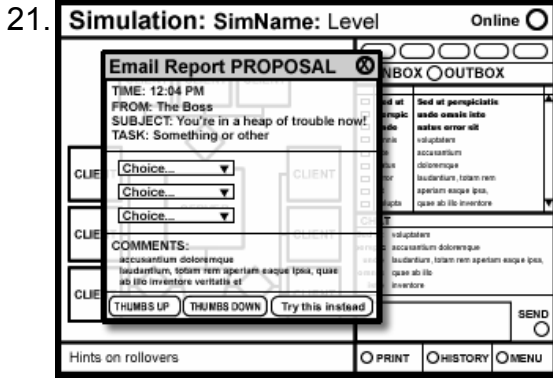
Simulation UI: Mailbox: Expanded Email: Report Form

Description: When the boss sends an email it includes a report form that each team member must fill and provide comments for. Filled in reports are broadcast to the work group, who review it and can annotate it themselves and resend it.

Content:
 Time: -----
 From: -----
 Subject: -----
 Task: -----
 Menu Choice | Menu Choice | etc
 Comments: _____

Buttons:
 > Send to Group
 > Propose for Final Report

Description: All proposed actions in the report are selected from pop-up menus.

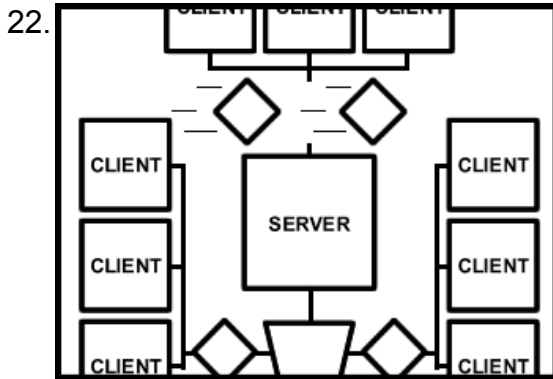


Simulation UI: Mailbox: Expanded Email: Final Report Proposal

Description: When a report is proposed for a Final Report, it is sent to all members of the group to vote on. Once the entire group vote the proposal in, it is sent to the boss for implementation in the simulation.

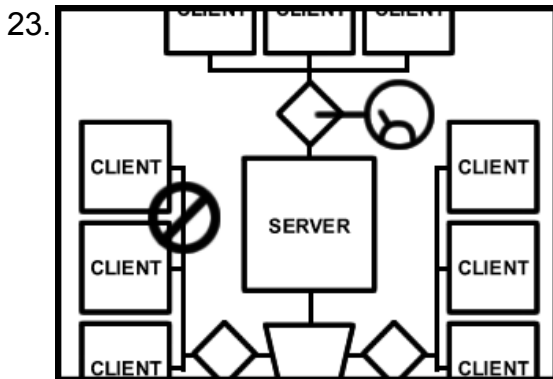
Content: (same as Report form except new buttons and group status field)

- Buttons:
- > Thumbs Up
 - > Thumbs Down
 - > Try this instead



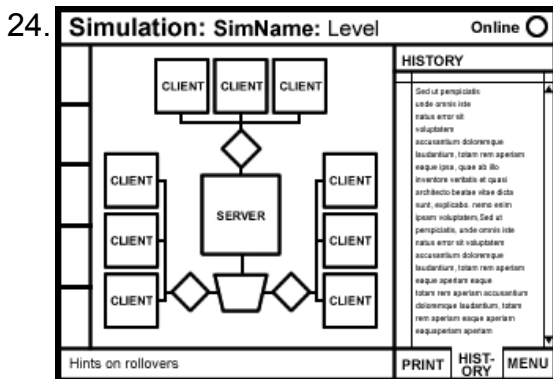
Simulation UI: Network Diagram: Animate Changes

Description: When the final proposal is unanimous, it's sent to the boss, who does the changes. These changes are animated in the Simulation UI and reflected in all of the Simulation Tools.



Simulation UI: Network Diagram: Visual Feedback

Description: At some points in the simulation, it may be possible to show critical situations such as overburdened routers, slow connections, and broken switchers visually in the diagram. Not cartoony, but using simple icons like international "NO" signs and performance meters.



Simulation UI: History

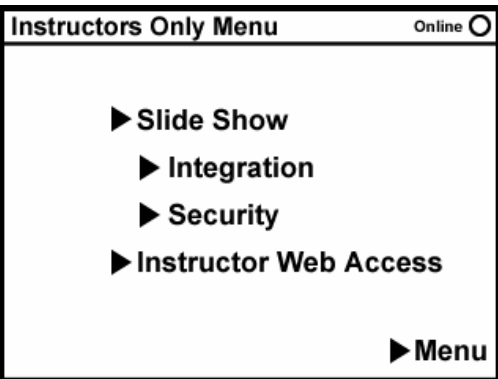
Description: Provides a view of all actions taken on the Simulation and allows the user to roll back changes, including changes administered by the boss as a result of unanimously submitted final report.

Content:

Step #	Action Description	
-----	-----	^
-----	-----	
-----	-----	
-----	-----	v

- Buttons:
- > Undo | > Redo

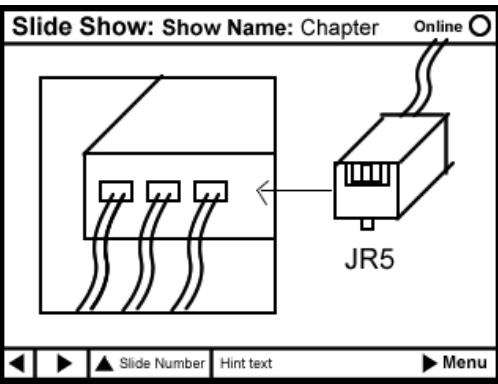
25.  **Configure**
TBD

26.  **Instructors Only**

Buttons:
 Slide Show
 Integration
 Security
 Instructor Web Access

Goes to: Slide show format of Tutorials or launches browser

Note that the Tutorial and Slide Show are the same content, but Tutorials have a voice over and are continuous

27.  **Instructors Only: Slide Show UI**

Controls:
 Next slide
 Previous slide
 Slide Number
 Slide Populist
 Menu

The Slide Show format plays the Tutorial content as one scene at a time, with no voice over. There may be animation in the Slide Show format, but it would be triggered within the scene when the instructor chooses to activate it.

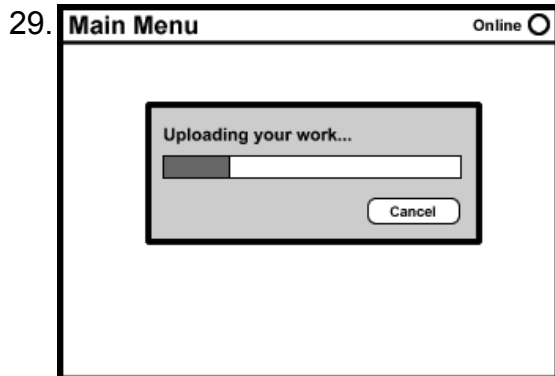
NOTE: The Slide Number can also be directly entered



Instructors Only: Web Access

TBD

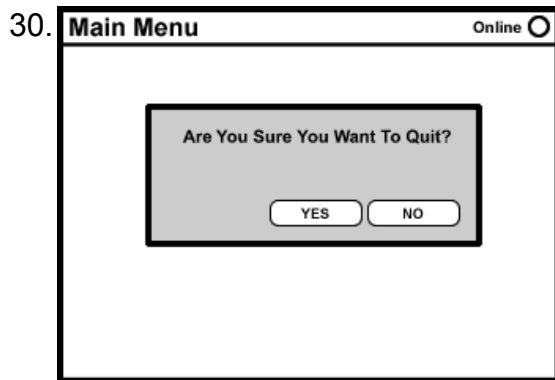
Description: This may launch a browser to a URL or provide an interface for downloaded IT Online data



Quit 1

Content:
Upload Status

Description: Uploads student status to IT Online server if connection is available. If not available, the upload would be deferred, but a reminder would appear at startup that the current status has not been uploaded.

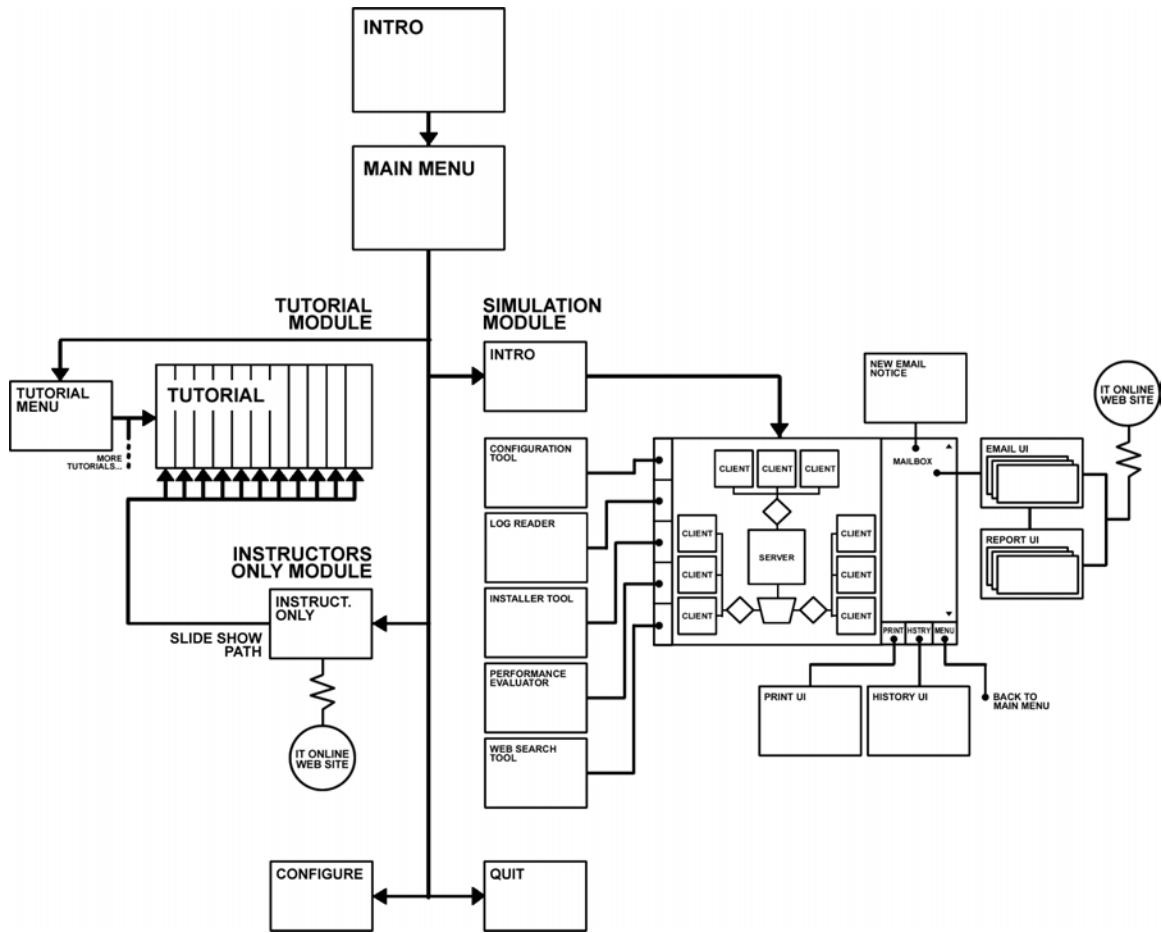


Quit 2

Content:
Are you sure you want to quit?

Buttons:
Yes | No

Flow Diagram



Open Issues:

Server specifications

Platform requirements

Instant messaging

Instructors Access page

CD and Server Milestones:

Date	Milestone	Estimated Cost or Hours
8/29	Final Spec	Artwork/Project Definition 24 hr \$1920
8/29	Look & Feel Review of sample screens for look and feel of product for Sign Off	Artwork Programming
9/23	Animatic A non-functional prototype that steps through most of the visual user interface	Artwork 100 hr Programming 0 hr
	Prototype A A functional proof of concept Director movie that tests out the basic architecture of the product. Should include: Part of a lesson Simulation functionality (not server based) Floating windows Zooming network diagram Event logging and display architecture Basic simulation functionality, enough to modify, show results animation, linked status windows and allow rollback. Instructors UI	Artwork Programming
	Prototype B More functionality and proof of concepts incorporated. Should include: Instant Messaging Server connectivity	Artwork Programming
	Server Prototype Independent effort of Prototypes A and B. Minimal to no contingencies with Prototype A (TBD), heavy contingencies with Prototype B	Programming
	Alphas First version of product available for usability testing. All functionality built in, no new functionality may be added, but interface may change with user testing.	Artwork Programming
	Betas All functional changes frozen. Testing focused on finding bugs.	Artwork Programming
	Golden Master Final build of project ready to be reproduced on CD ROMs for sale.	Artwork Programming

CD and Server Milestones:

Date	Milestone	Estimated Cost or Hours
	Website Spec	
	Website Prototype First pass at look and feel and interaction for IT Online website. Includes layout for each page with wired links.	
	Website Alpha Site wired, ready for review and usability testing. All functionality built in, no new functionality may be added , but interface may change with user testing.	
	Website Beta All functional changes frozen. Testing focused on finding bugs.	
	Website Live Site pushed live to the World Wide Web.	