User Experience Design

What We Do & How We Do It

Presented by the User Experience Designers
in Systems Engineering

Nancy Gift   Bill McAvinney   Laura Watts
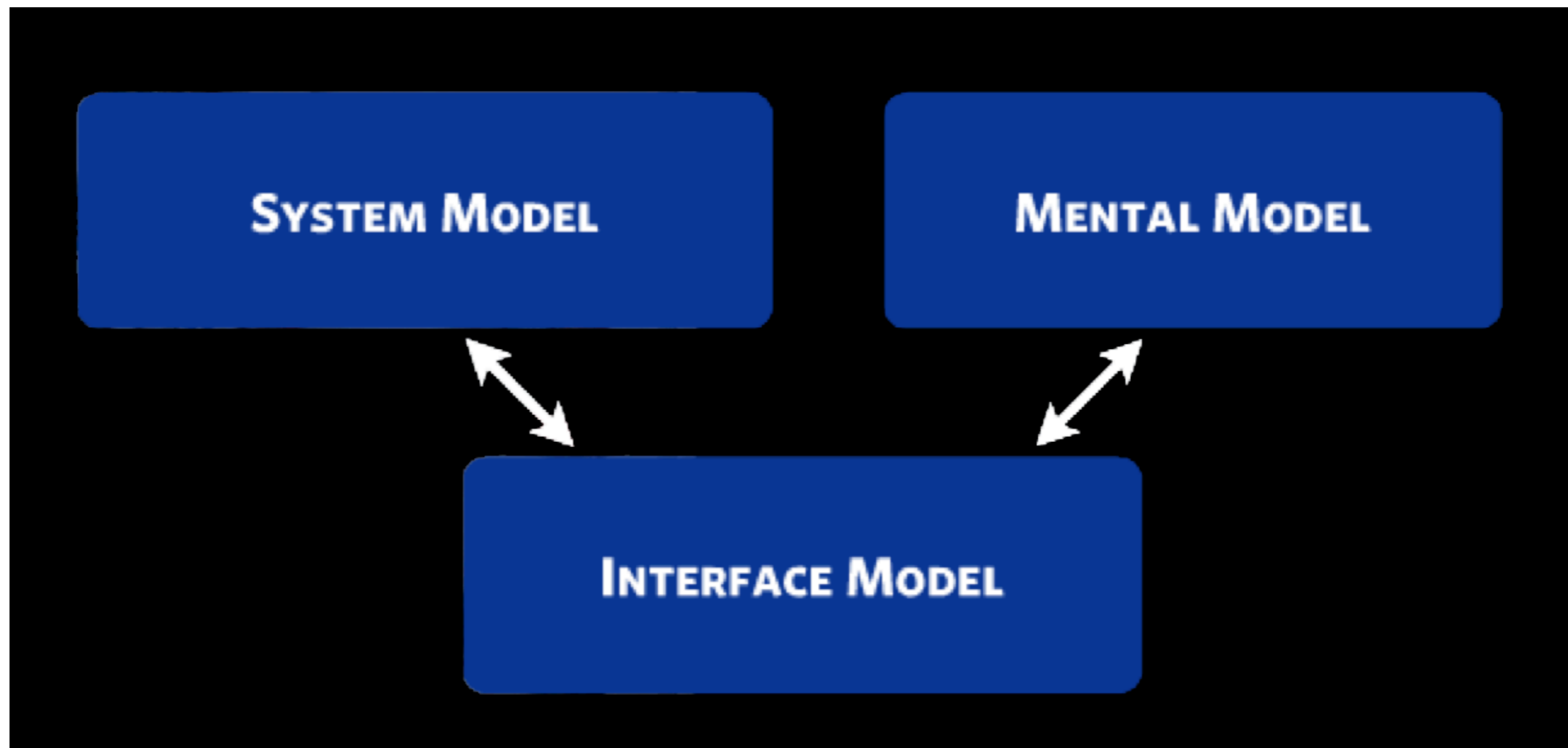
Why User Experience Design?

Save Money

Save Money

20% OFF!

Benefits

* Increased Productivity

* Decreased Input Errors

* Higher Adoption Rates

* Reduced Development Costs

* Fewer Customer Service Calls
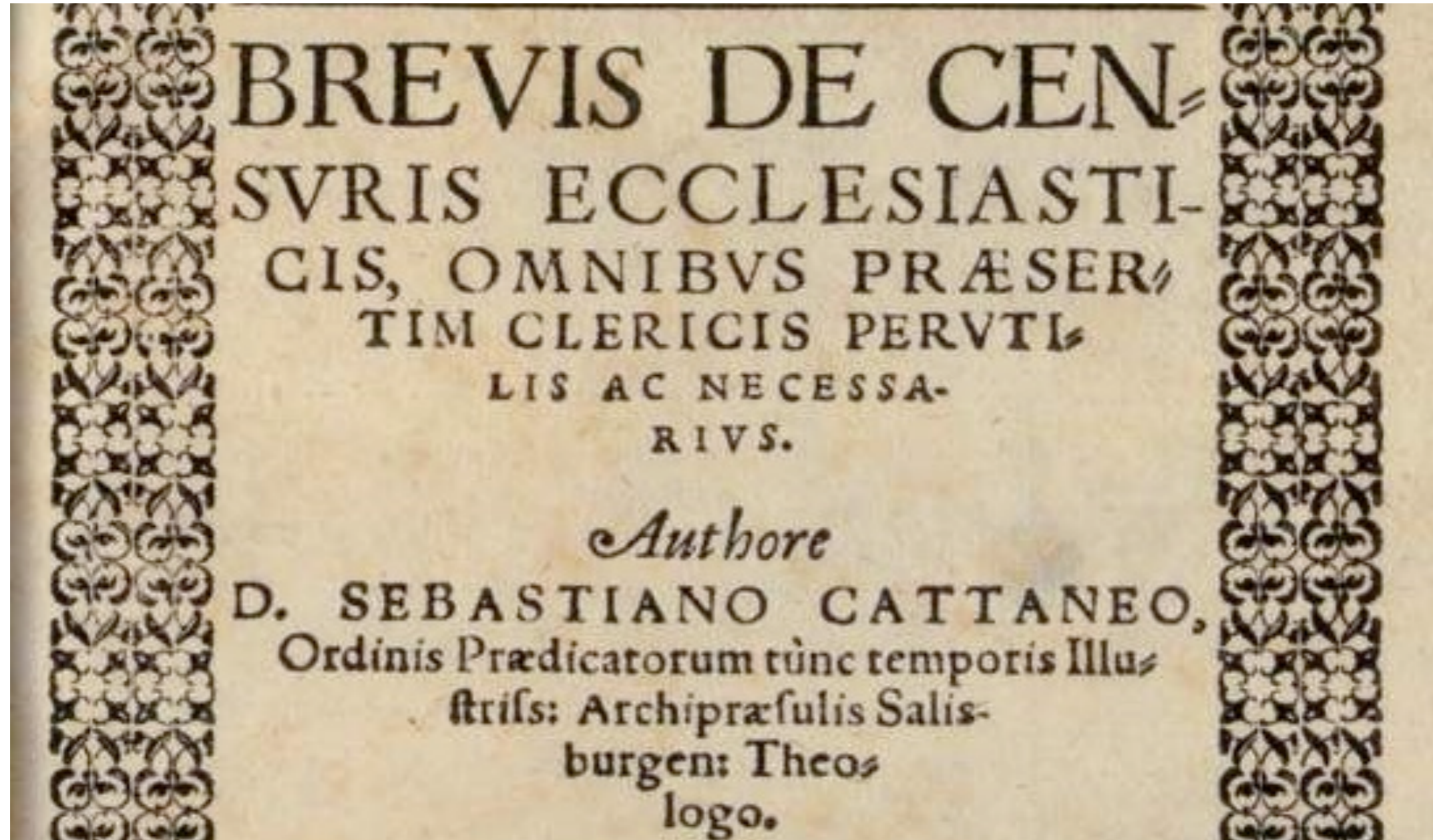
* Greater Client Satisfaction

What do UX Designers do?

Mental Model: What is it?

ECCLESIASTI-CAL CENSURES COL-LECTION, ESSENTIAL AND USEFUL, ESPECIALLY TO ALL CLERGY

Mental Model: What is it?

Web Expertise

Estimating UX Design Value

INDIVIDUAL BENEFIT CALCULATIONS

Increased Productivity

# Users X	# Days X	# Transactions X	Hours Saved per Transaction X	Hourly Rate =	
400	100	1	0.008333	$60	$20,000.00

Decreased Errors

# Users X	# Days X	# Eliminated Errors/user/day	Hours Saved per Error X	Hourly Rate =	
400	100	0.1	0.083333	$60	$20,000.00

Decreased Training

# Users X	per User X	Hourly Rate =	
400	0	$60	$0.00

Decreased Late Design Changes
Cost of Early Changes:

# Changes X	Hours per Change X	Hourly Rate =	
5	8	$66	$2,640.00

Cost of Late Changes:

Cost of Early Changes X	Ratio of Late to Early Changes =	
$2,640.00	4	$10,560.00

Savings of Early Changes Relative to Late Changes:

Cost of Late Changes -	Cost of Early Changes =	
$10,560.00	$2,640.00	$7,920.00

UX Design Savings

Increased Productivity - Once a year use $1-$5/user/year

Increased Productivity - Frequent use $.10-$.50/transaction/year

Decreased Input Errors $.03-$.15/transaction/year

Reduced Development Costs   ≈$1,500/change

Fewer Customer Service Calls $.10-$.50/transaction/year

C & G Example: Original Screen

C & G Example: Entry Screen

Order Recycling and Trash Services

Submit

Work Description

What do you want?

Qty.	Products/Services		Qty.	Products/Services
	Recycling Bins			Computers, Monitors, etc. Disposed of
	90 Gallon Totes			Large Items, Furniture Disposed of
	Boxes of Paper Shredded			

	Products/Services
☐	Trash/Recycling Pick-up
☐	Trash Cart

C & G Example: Work Order

Work Order Receipt

✅ Work Order 5000076 successfully created.

✅ A confirmation e-mail has been sent to the contact e-mail address(es).

| PDF |

Work Description

Order Number	5000076		Creation Date	4/15/11
Status	New Order		Estimate Requested	No
Team	Work Reception Grp			
Where	W92-210			

Work Details

Trash

--- Services Ordered ---
3 Recycling Bins
1 90 Gallon Totes
3 Boxes of Paper Shredded
2 Computers, Monitors, etc. Disposed of
1 Large Items, Furniture Disposed of
Trash/Recycling Pick-up
List of Large Items to be Disposed of
Tall filing cabinet
When? (for 90 gallon totes)
From 04/25/2011 To 04/29/2011

Change Example

UX Design Team

* Part of Project Team

* Design

Usability Team

* Expert Consultants

* Research & Evaluate

User Experience Design

When to engage & how long will it take?

"Design is not just what it looks like and feels like. Design is how it works."

Steve Jobs

When should you engage User Experience in the process?

How much time will User Experience add to the process timeline?

How much time will User Experience add to the process timeline?

It depends on...

* Project Complexity
* Timeline
* Resources
* Budget
* Technology

When should you engage User Experience in the process?

Throughout the Entire Process

* Beginning
* Middle &
* End

"I never design a building before I've seen the site and met the people who will be using it."

Frank Lloyd Wright

Beginning: User Research

Identify:

   * Users

   * Tasks / Goals

   * Workflows

   * Pain Points

(BA & UX opposite sides of same coin)

Beginning: User Research

Analyze:
* Current workflows
* New workflows
* Open source & 3rd Party applications

Observe, Question, Extrapolate, Synthesize & Understand

"Supposing is good, but finding out is better."

Samuel Clemens

Beginning: User Research

Verify that Business Goals and
User Goals mesh.

Prioritize product features --
need to have vs. nice to have.

Define concrete and measurable
success metrics.

Middle: Iterative Design Process

* Layouts & Visual Elements

* Workflow Design

* Interaction Design

* Text & Labeling

* Prototyping (Lo & Hi-Fidelity)

* Information Architecture

Middle: Workflows

* Facilities

* RAFT

* Touchstone

Middle: Prototypes

Online Registration
   * Lo-Fidelity: Paper
   * Hi-Fidelity: HTML/CSS

A Web Page

http://web.mit.edu/registrar/OnlineRegistration

| WebSIS Home | Registration Home | Registration Form | Help | Log off |

Welcome Seth Winerman: Registration Home

MIT Info | Addresses | Emergency Contacts

MIT ID: 991234567
Reg Type: Regular

Year: 3
Degree: SB

Major: 10 B
Advisor: Robert Principato

2nd Major: 6
Advisor: Lakshmi Thanga-Raja

3rd Major: 21
Advisor: Richard Burton

Minor in: History

REGISTRATION STATUS:

📝 **Registration**　　Advisor Approval　　Submit Registration

MESSAGES:
⚠ You have been dropped from the following Pre-Registration Subjects because
   they are not offered this term:
   – 1.018J Ecology I: The Earth System
   – 1.036 Structural and Geotechnical Engineering Design
– You have a credit limit of 60 Units
– You currently have an incomplete in 1.035 in Mechanics of Structures and Soils

INSTRUCTIONS:
Subjects may have Pre-requisites and Co-requisites. It is your responsibility to confirm
that you have met them and that you are qualified to take the class.

If you do not register for enough credits to be full-time it may impact you financial aid.

You are not considered registered until your advisor has approved you selections and you
have completed the submit process.

MIT Online Registration

Welcome Firstname Lastname!

REGISTRATION STATUS

Pre-Registration   Registration   Advisor Approval   Submit

INSTRUCTIONS

Subjects may have Pre-requisites and Co-requisites. It is your responsibility to confirm that you have met them and that you are qualified to take the class.

If you do not register for enough credits to be full-time it may impact your financial aid.

You are not considered registered until your advisor has approved your selections and have completed the submit process.

YOUR INFORMATION

Seth Winerman

MIT ID: 991234567
Reg Type: Regular

Year: 3
Degree: SB

Major: 10 B
Advisor: Bob Principato

2nd Major: 6
Advisor: Richard Burton

Minor: History

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MIT Online Registration

Home   Registration Form   Help   Log Off

Welcome Firstname Lastname!

REGISTRATION STATUS

Registration   Advisor Approval   Submit

MESSAGES

⚠ Morbi congue auctor interdum. Phasellus sit amet metus justo. Phasellus vitae tellus orci.

○ Curabitur ut elit id nisl volutpat consectetur ac ac lorem.

○ Quisque non elit et elit lacinia lobortis nec a velit. Sed ac nisl sed enim consequat porttitor.

○ Lorem ipsum dolor sit amet, consectetur adipiscing elit.

○ Maecenas gravida diam vitae nisi convallis vulputate quis sit amet nibh.

INSTRUCTIONS

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Proin euismod tellus eu orci imperdiet nec rutrum lacus blandit. Cras enim nibh, sodales ultricies elementum vel, fermentum id tellus.

Proin metus odio, ultricies eu pharetra dictum, laoreet id odio. Curabitur in odio augue. Morbi congue auctor interdum. Phasellus sit amet metus justo. Phasellus vitae tellus orci, at elementum ipsum. In in quam eget diam adipiscing condimentum.

Maecenas gravida diam vitae nisi convallis vulputate quis sit amet nibh. Nullam ut velit tortor. Curabitur ut elit id nisl volutpat consectetur ac ac lorem. Quisque non elit et elit lacinia lobortis nec a velit. Sed ac nisl sed enim consequat porttitor.

YOUR INFORMATION

MIT   Addresses & Phones   Emergency Contacts

MIT

Firstname Lastname

MIT ID: 991234567
Reg Type: Regular

Year: 3
Degree: SB

Major: 10 B
Advisor: Bob Principato

2nd Major: 6
Advisor: Richard Burton

Minor: History

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MIT OFFICE of the REGISTRAR
REGISTRATION

| WebSIS Home | **Registration Home** | Subject Selections | Log Off | Help |

Welcome Seth Winerman!

REGISTRATION STATUS

Edit Subject Selections — Advisor Approval — Submit Registration

INSTRUCTIONS

1. View and edit your subject selections. As you modify your choices, bear in mind that if you do not register as a full-time student your financial aid, loan deferments, compliance with immigration regulations and eligibility for varsity athletics may be affected. Important information about full-time status is available here.

2. Meet with your academic advisor and make any final adjustments to your subject selections. Once your academic advisor has approved your selections, no further edits may be made.

3. After you have obtained your academic advisor's approval, clear any registration holds and complete the registration process by reviewing your address and contact information, and agreeing to the terms of registration.

4. Note that failure to complete the registration process by the specified deadline may result in late fees and loss of student status. Visit the Academic Calendar for dates that are pertinent to this registration period.

5. After completing the registration process, you may change your registration via the Add/Drop/Change process.

| MIT Info | Addresses | Emergency Contacts |

MIT Info

280 x 350

Seth Winerman
MIT ID: 991234567
Reg Type: Non-resident

Year: 3
Degree: SB

Major: 10 B
Advisor: Bob Principato

2nd Major: 6
Advisor: Richard Burton

Minor: History

MIT
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Middle: Usability Testing

* Find out what to keep,
change & remove
* Build user acceptance
& good will now

End: Validate

* Business Goals
* User Goals
* Success Metrics
* Front-end UI sign-off

User Experience Design

What It's Like Working With Us

User Stories

Personas

Dean & Associate Dean
Front-of-class Lecturer
Team Researcher
Project Facilitator
Advisor

Scott Learned
Professor, CSAIL

- Uses Power Point, Email, Online syllabus, online class handouts, Stellar
- IS&T site visit trigger:
- May be interested in working with IS&T to develop online course content
- Software: MatLab, Adobe Illustrator, calendar, email, MS Office
- Scott forwards his email to the lab server where he has much more disk space. "I trust it more."
- "For all solved [IT] problems there should be a web-based description of the problem and its resolution. People would be able to solve their own problems."
- "I've given up on the Help Desk."
- "Needs to have a quicker response time. [There should be] a separate Help Desk just for Faculty."

Notes: Faculty
- May have grad students or admin assistants to take care of them
- Might need service or resources for
  - research or to
  - run a class

Get MIT identity
- MIT ID Number
- Athena/Kerberos Account
- Certificates (MIT & Personal)

Set-up Email Account
- Exchange Email Account
- Email Client (Windows & Macintosh)
- Webmail

Connect On-campus
- MIT Networks (office, classroom/labs, off-campus, on the road)
- Athena Clusters
- Telephone Service (Traditional & VOIP)
- Mobile Devices

Find Education Resources
- Stellar LMS
- Software
- Athena Computing
- Open Courseware
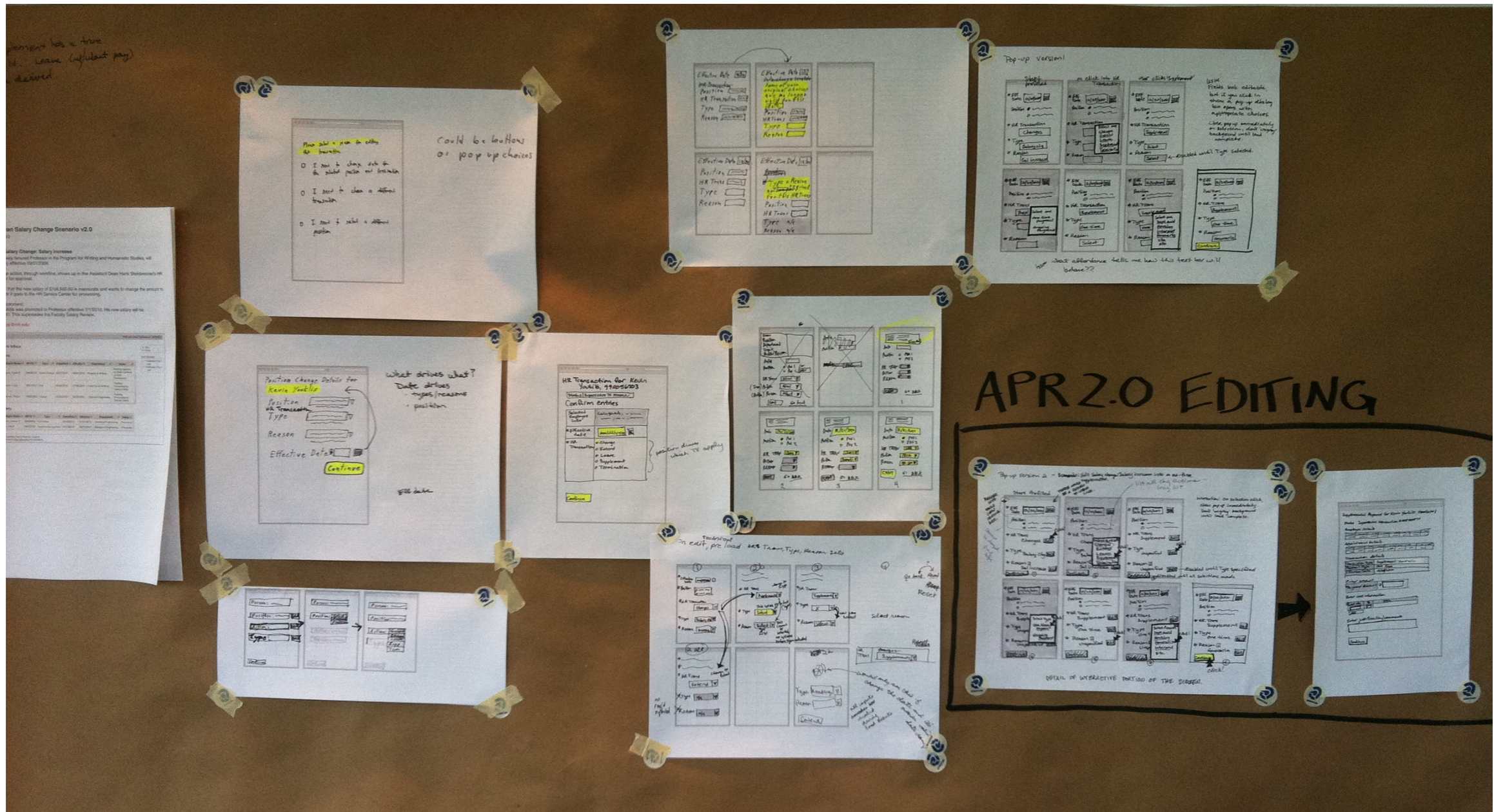- Academic Computing Coordination Group (ACCORD)
- WebSIS
- MIT Libraries

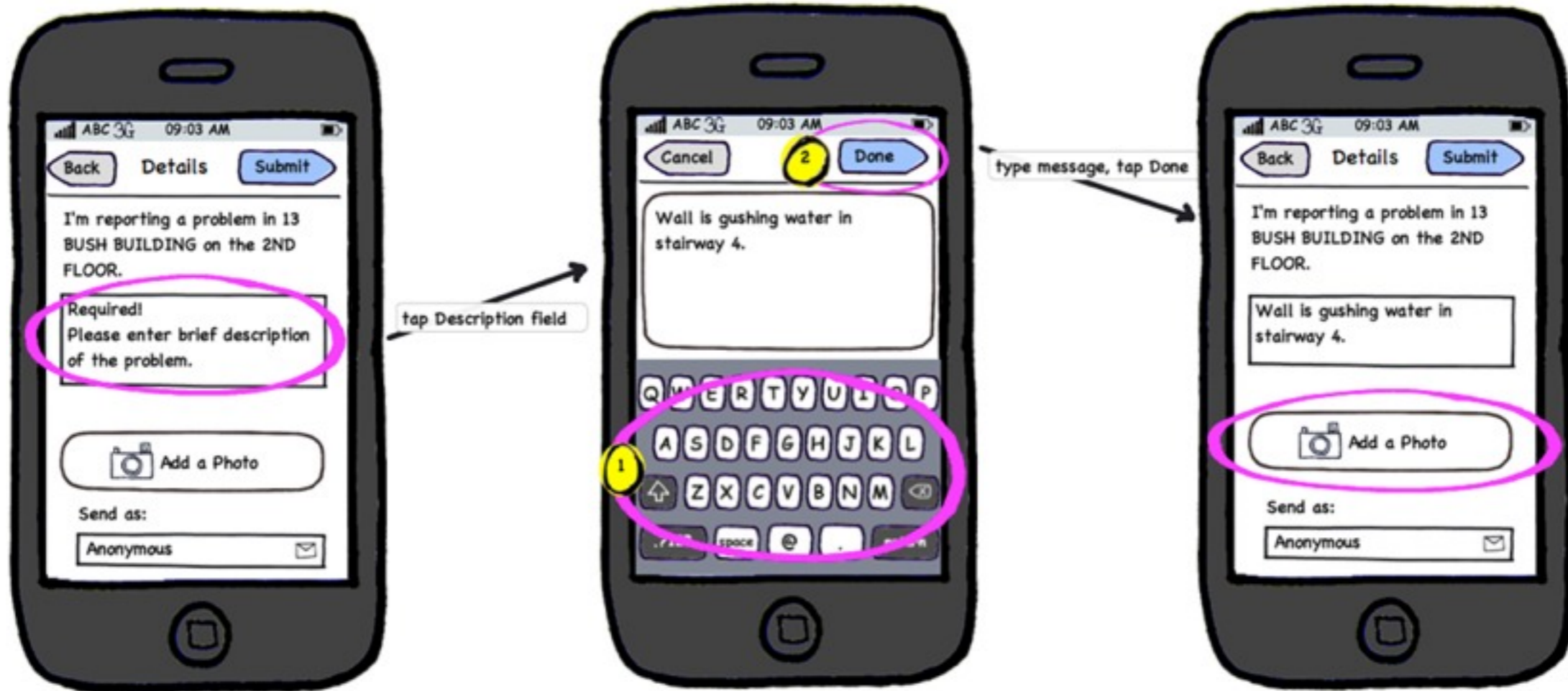**Find Accessibility Resources**
- ATIC Lab

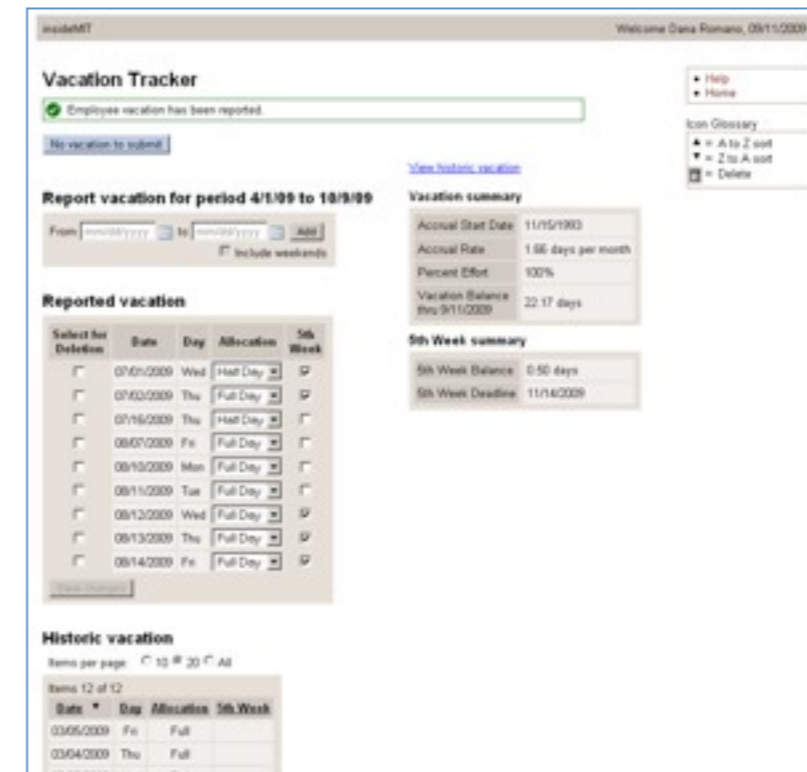**Find Computing Help Resources**
- IS&T Help Desk
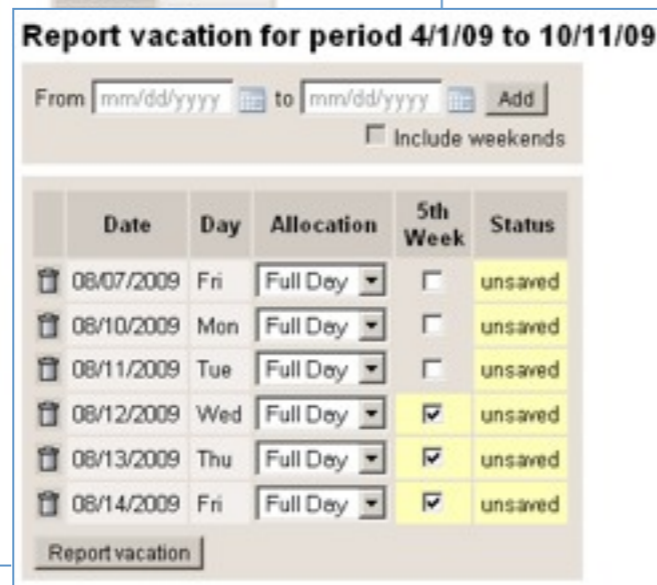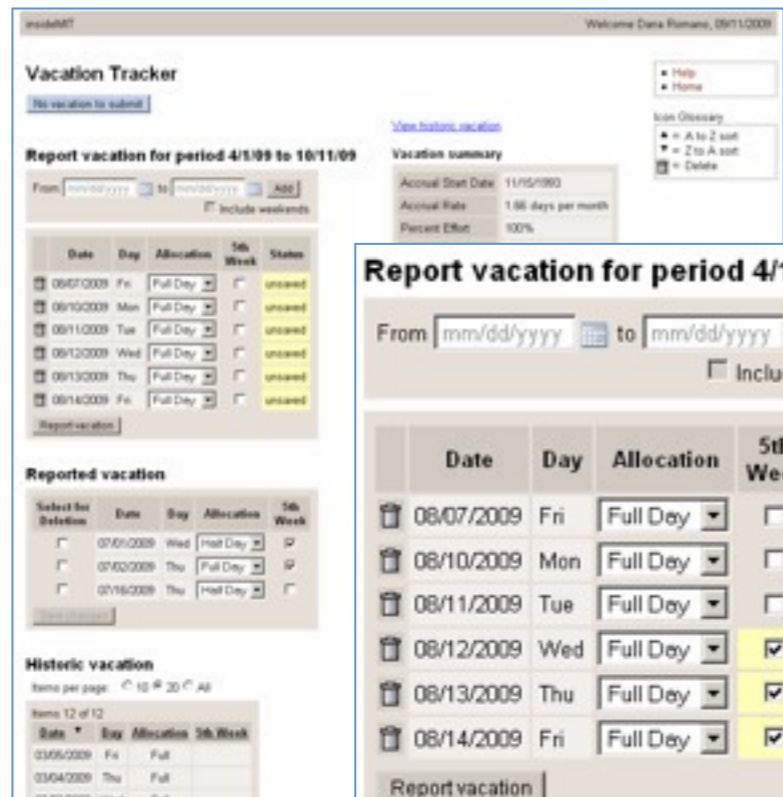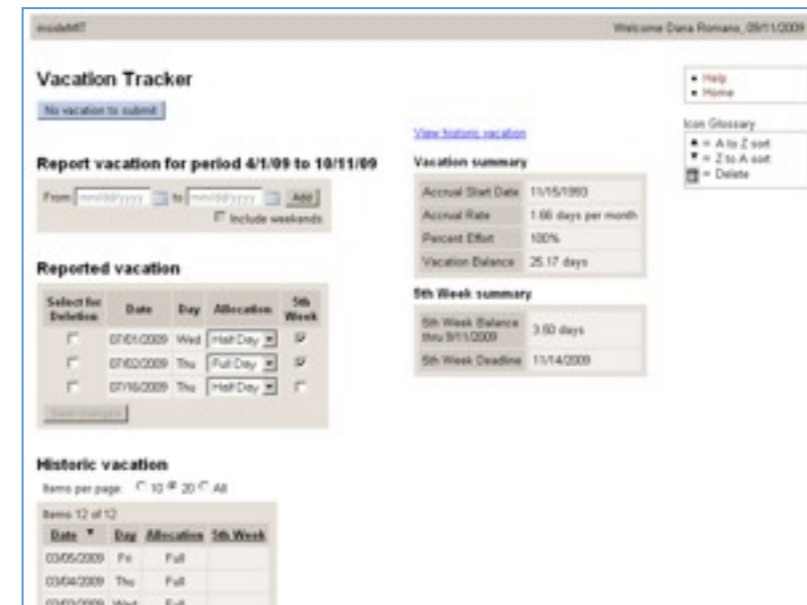
Directed Design Sessions

Mockups

Black Hat Sessions

Clickable Wireframes

User Stories for Service Portfolio

Thank you!

Systems Engineering
UX Design Team
se-uxd@mit.edu