User Experience in the Software Development Lifecycle

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UX in the SDLC

Agenda

- User Experience
  - the User Landscape

- SDLC
  - Is there room for UX?

- Agile
  - Is there time for UX?

- Methods and Techniques
  - Nuts and bolts

- Customer Experience
  - Moving Forward

If the user can’t use it, it doesn’t work
UX and the User Landscape

UX is a Discipline

- describes the **overarching perceptions** a person has while interacting with a (software) system

- puts users at the heart of the design process in order to ensure a **useful**, **intuitive**, and **appealing** experience

- combines science and art to create interfaces that **balance** user and business goals
UX and the User Landscape

Expectations with Public Users

• Users don’t exist in a vacuum
  – Experiences from other parts of their lives – shopping websites, banking sites, news sites

• Users don’t like change and new things
  – Change disorients users, new navigation confuses users

• Users don’t want to read
  – Sentences and paragraphs get skipped entirely
UX and the User Landscape

Know your Users

• User research with members of the public is tough!
  – We are looking for depth to understand needs
  – Plan for one-on-one user interviews
  – Interview people who can tell you about user problems
  – Conduct contextual interviews if the setting is important
SDLC – Is there Room for UX?

SDLC v. UCD

- Software Development Lifecycle
- User Centered Design Activities

Which is more important?
SDLC – Is there Room for UX?

UX Lifecycle

- Define
  - Problem Statement
  - Competitive Analysis
  - Stakeholder Goals
  - Scope
- Research
  - Stories
  - Task Analysis
  - Personas
  - Focus Groups
- Evaluate
  - Usability Testing
  - UI Review
  - Validation Metrics
- Develop
  - Prototypes
  - Styles
  - Patterns
  - Page Specs
- Design
  - Mockups/Storyboard
  - UI/Visual Design
  - Navigation
  - Validation
Agile – Is there Time for UX?

UX Activities in Agile framework

• UX prelim activities in Agile framework
  – User analysis up front
  – Conceptual model of design
  – Pattern Library or Style Guide

• UX in the design/development
  – Sprint ahead/paired sprint
  – Consider design spikes

Plan for good UX using any methodology
Agile – Is there Time for UX?

SSA Core Agile Process for External Projects
A UX Perspective

Agency Planning

SITAR
High Level Business Goals
Budget
Release Schedule
Vision
Customer Needs

ARTIFACT
Business Process Description

Business Process, Vision, and High Level Capabilities analysis will drive Release Planning,
User Stories, and the Product Backlog.

Release Planning

Release 1 - Q1
Authentication
Collect Customer Information

Release 2 - Q2
Apply for Benefits
Help
Extended Functionality

Release 3 - Q3

Release schedule is based on user stories and product vision. Not all releases will go into
production immediately.

Sprint Planning

SPRINT
0
1 - 3 months

Location Logistics
Decide on 1st Release Date
Decide on Sprint length
Create the Product Backlog

User Research
Begin Recruiting Users
High-Level Navigation
Conceptual Modeling

Architecture
Tech Stack
Security
Databases

High Level Requirements
Business Process Design
Product Backlog Items
User Stories and Acceptance Criteria
Agile – Is there Time for UX?

**SPRINT 0**
1 - 3 months
1. **Location Logistics**
   - Decide on 1st Release Date
   - Decide on Sprint length
   - Create the Product Backlog
2. **User Research**
   - Begin Recruiting Users
   - High-Level Navigation
   - Conceptual Modeling
3. **Architecture**
   - High Level Requirements
   - Business Process Design
   - Product Backlog Items
4. **Tech Stack**
   - Security
   - Databases
5. **User Stories and Acceptance Criteria**

**ARTIFACT: Conceptual Model**
Defines basic screens, interactions, and navigation. Informs Sprint Planning.

**ARTIFACT: Data Model**
Defines User Stories, Product Requirements, and Acceptance Criteria.

**ARTIFACT: Product Backlog**

**SPRINT 1**
1. **Design Interactions**
   - UX SKETCHES

**SPRINT 2**
1. **Design Interactions**
   - Focused Evaluation
   - UX SKETCHES

**SPRINT 3**
1. **Design Interactions**
   - Focused Evaluation
   - UX SKETCHES

**SPRINT 4**
1. **Design Interactions**
   - Focused Evaluation
   - UX SKETCHES

**SPRINT 5**
1. Holistic Usability Evaluation
2. UX Support

**SPRINT 6**
1. UX Support
2. UX Support

**DV**
1. Databases
   - Code Planning
   - Security
2. Screen Development
   - Code Review
   - Testing

**BA**
1. Requirements
   - Product Backlog
2. Requirements
   - Product Backlog
3. Requirements
   - Product Backlog
4. Requirements
   - Product Backlog
5. Requirements
   - Product Backlog

**SC**
1. Daily Meetings
   - Plan User Recruiting Logistics
2. Daily Meetings
   - User Recruiting Logistics
3. Daily Meetings
   - User Recruiting Logistics
4. Daily Meetings
   - User Recruiting Logistics
5. Daily Meetings
   - Lessons Learned Logistics

**UX**
1. Design Interactions
2. UX SKETCHES
3. UX SKETCHES
4. UX SKETCHES
5. UX SKETCHES
6. UX SKETCHES

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   - Lessons Learned Logistics
Methods and Techniques

User Centered Design

- Planning
- User Research
- Design/Develop
- Evaluate
Methods and Techniques

User Research

Juan Martinez

“I live in a rural town in Texas and the closest SSA Field Office is 3 hours away.”

Characteristics:
- 55 years old
- Lives in rural town in Texas
- Cattle Farm Manager
- Married
- U.S. Citizen
- Accesses internet via smartphone usually, desktop rarely

Attitude:
Juan is a cattle farm manager who lives in a rural town in Texas. He is looking forward to starting a family. Juan speaks both Spanish and English, but prefers reading and writing in Spanish, especially when completing official documents or at banking machines. Juan owns a computer, but doesn’t use it much. He relies heavily on his smartphone, but will occasionally use his old desktop.

Juan’s Scenario:
Juan needs to submit paperwork for a new position at a neighboring farm tomorrow. Juan tried to locate his Social Security card, but thinks he may have misplaced it when he reorganized his files last month. Juan heard that he could apply for a new card online which is a relief, since he needs his replacement card tomorrow, and the closest field office is 3 hours from his town.

Juan’s mother misplaced his card frequently, and requested several replacement cards for him while he was growing up. The last card he received was his 10th.

Focus:
- Lockout—lifetime maximum of 10 has been met
- Needs card urgently for job
- Applying for self only
- Lives far from field office
- Bilingual

Christina Stancel

“As a single Mom of teenagers, I’m all about getting things done efficiently.”

Characteristics:
- 55 years old
- Lives in Chicago
- Master Degree
- Divorced
- Mother of two teenagers
- Accountant
- Accesses internet via smartphone or tablet

Attitude:
Christina is very busy. Her time is split between working taking her teenagers to their activities, training for her first 5k run and reading. She looks forward to the weekends, but finds that she is just as busy on the weekend. Her goal is to get through her to-do list as quickly as possible. She registered last month for a MySSA account so she could start reviewing her earnings statement in preparation for retirement.

Christina has found herself relying more and more on her smartphone to keep her organized and in communication with friends and family. In addition, she recently purchased a tablet to replace her aging laptop and hasn’t regretted her decision. She conducts all of her business online when possible. She was delighted to discover that she could renew her vehicle registration online, as opposed to going to the DMV.

Christina’s story:
Christina recently realized that her passport had expired. In order to renew her passport she needed her Social Security card, which was lost in a recent move. She wants to get them replaced with the least amount of effort.

Focus:
- Getting replacement card for self only.
- Not time critical.
- Has MySSA account.
Methods and Techniques

Design/Develop

SSA Web Standards

Create Relationship

Social Security

Example

Address (US)
Pattern ID: uief-addr-US Created

[Owner's] Addr
[Instruction Text]

Street Line 1
Street Line 2
City/Town:

Search for Available Users By:

Rationale

When to use
Use the Address

As used at SSA

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<th>UEF ID</th>
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5.19.3. UEF Patterns (footnotes in table below refer to preceding screenshot)
Methods and Techniques

Evaluate

- **Eye tracking equipment and software**: Currently being used for usability of web pages to analyze human behavior, user experience, and consumer responses. User is given a specific task and the eye tracker records all visual movement until task completion, allows us to determine where users are focusing, if they are performing as expected, provides data for design decisions.

- **Features**: Ability to track by gaze duration or frequency, can show path of eye movements, study design can specify areas of interest. Can further analyze data by slicing according to project needs (age group, gender, disability, etc.)

- **Mobile**: Additional hardware available to test mobile and handheld devices.
Evaluate – What are we looking for?

**Effectiveness**
Was the user able to complete tasks **successfully** and **accurately**?

**Efficiency**
Was the user able to complete tasks **quickly** and **easily**?

**Engaging**
Did the user have a **satisfying** and **pleasant** experience using the interface?

**Error tolerance**
Did the interface help the user to make **few errors** and **recover easily** from them?

**Ease to learn**
Was the user able to learn what to do because the interface was **predictable** and **consistent**?
Customer Experience – Moving Forward

Becoming customer centric

Sources of Dominance

- Age of Manufacturing (1900–1960)
  - Ford
  - RCA
  - GE
  - Boeing
  - P&G
  - Sony
- Age of Distribution (1960–1990)
  - Walmart
  - Toyota
  - UPS
  - CSX
- Age of Information (1990–2010)
  - Amazon.com
  - Google
  - Intuit
  - MBNA
- Age of the Customer (2010+)
  - Contenders include:
    - Southwest Airlines
    - USAA
    - Amazon.com
    - ?

"Once again, two sites from Social Security Administration lead the pack, with Extra Help with Medicare Prescription Drug Plan Costs and SSA Retirement Estimator coming in with a 90 for the quarter."
Questions?

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