

User Experience in the Software Development Lifecycle

THE VALUE OF PERFORMANCE.

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Agenda

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

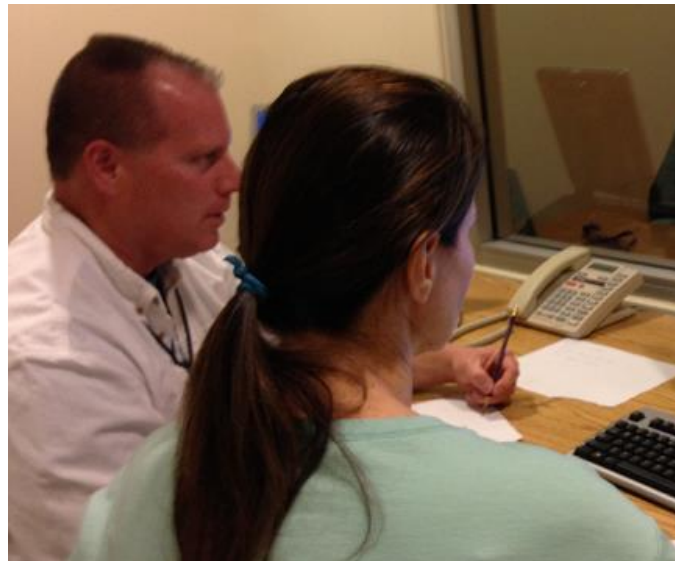
Expectations with Public Users

- 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?

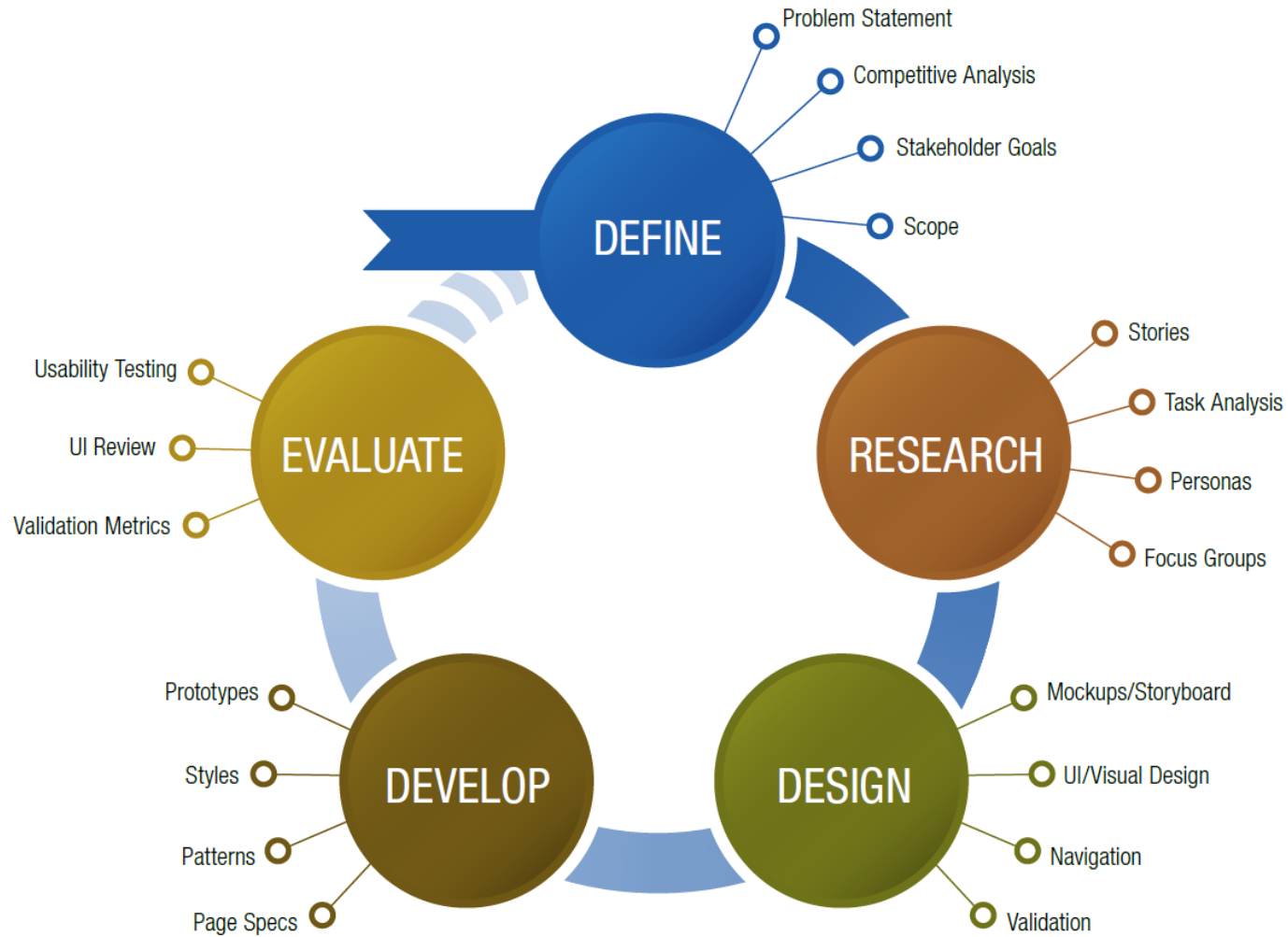
SDLC v. UCD

- Software Development Lifecycle
- User Centered Design Activities

Which is more important?

SDLC – Is there Room for UX?

UX Lifecycle



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



Core Scrum



User Experience



Development



Business Analysis

Agency Planning



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

Release 3 - Q3

Help
Extended Functionality

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

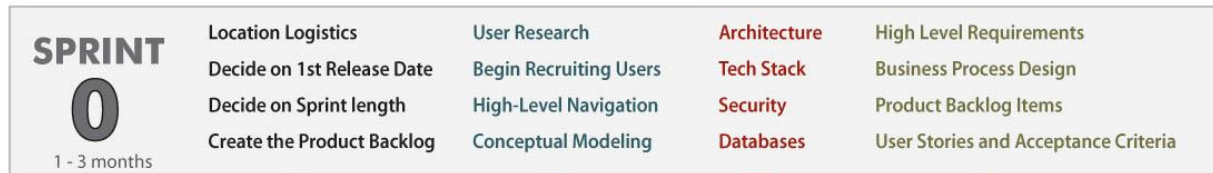
High Level Requirements

Business Process Design

Product Backlog Items

User Stories and Acceptance Criteria

Agile – Is there Time for UX?



ARTIFACT Conceptual Model

ARTIFACT Data Model

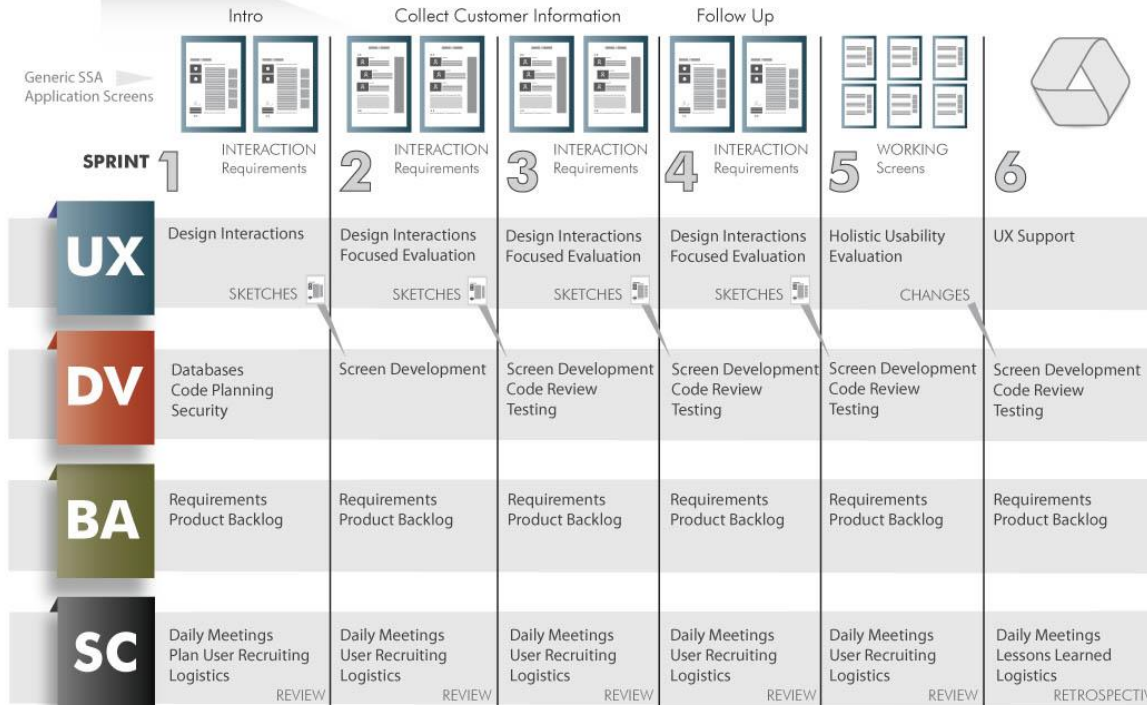
ARTIFACT Product Backlog



Defines basic screens, interactions, and navigation. Informs Sprint Planning.



Defines User Stories, Product Requirements, and Acceptance Criteria.



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:

- 35 years old
- Lives in rural town in Texas
- Cattle Farm Manager
- Married
- U.S. Citizen
- Accesses Internet via smart phone usually, desktop rarely

Attitude:

Juan is a cattle farm manager who lives in a rural town in Texas. He got married and 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 smart phone, 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 reorganizing his files last month. Juan heard that he can 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 smart phone 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 smart phone 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 needs 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
Setting Standards for an Exceptional User Experience

Address (US)
Pattern ID: uef-in-adrsUS Created in...

Example

[Owner's] Address
[Instruction Text]

Street Line 1:
Street Line 2:
City/Town:

Rationale

When to use
Use the Address

Considerations

- Using separate...

As used at SSA

Street Address:
Street Line 1
Street Line 2
City/Town:

[View Larger](#)

Create Relationship

Username: S.JONES01 Organization: Angular Services
First Name: Susan State/Territory: MD
Last Name: Jones Function: CE Admin Staff

Search for Available Users By:

Username: Organization Name:
Last Name: Organization Type:
First Name: State/Territory:

User Type(s):
 CE Medical
 MER Billing
 CE Billing

Search Cancel

...ational address patterns

```

<uef:address citySizeDom="20" streetLineSize="3"
stateListName="mailSta
territoriesIncluded="t
fieldNameCityDom="city
fieldNameZip="zipRequi
patternLabelKey="adre
streetLineFieldNames="
    
```

5.19.3. UEF Patterns (footnotes in table below refer to preceding screenshot)

Footnote	UEF Pattern Name	UEF ID
1	Page Title	uef-1mplt-pgtitle
2	Header	uef-1mplt-hdr
3	Basic	uef-co-bsc
4	Text Box	uef-in-txtBx
5	Text Box	uef-in-txtBx
6	Text Box	uef-in-txtBx
7	Drop List	uef-in-drpLst
8	Form Controls (Bottom)	uef-na-frmBtm
9	Concrete Container	uef-co-concrete
10	State	uef-in-st
11	Text Box	uef-in-txtBx
12	Check List	uef-in-CHKLst
13	Concrete Container	uef-co-concrete
14	Help	uef-li-hlp

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



Methods and Techniques

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

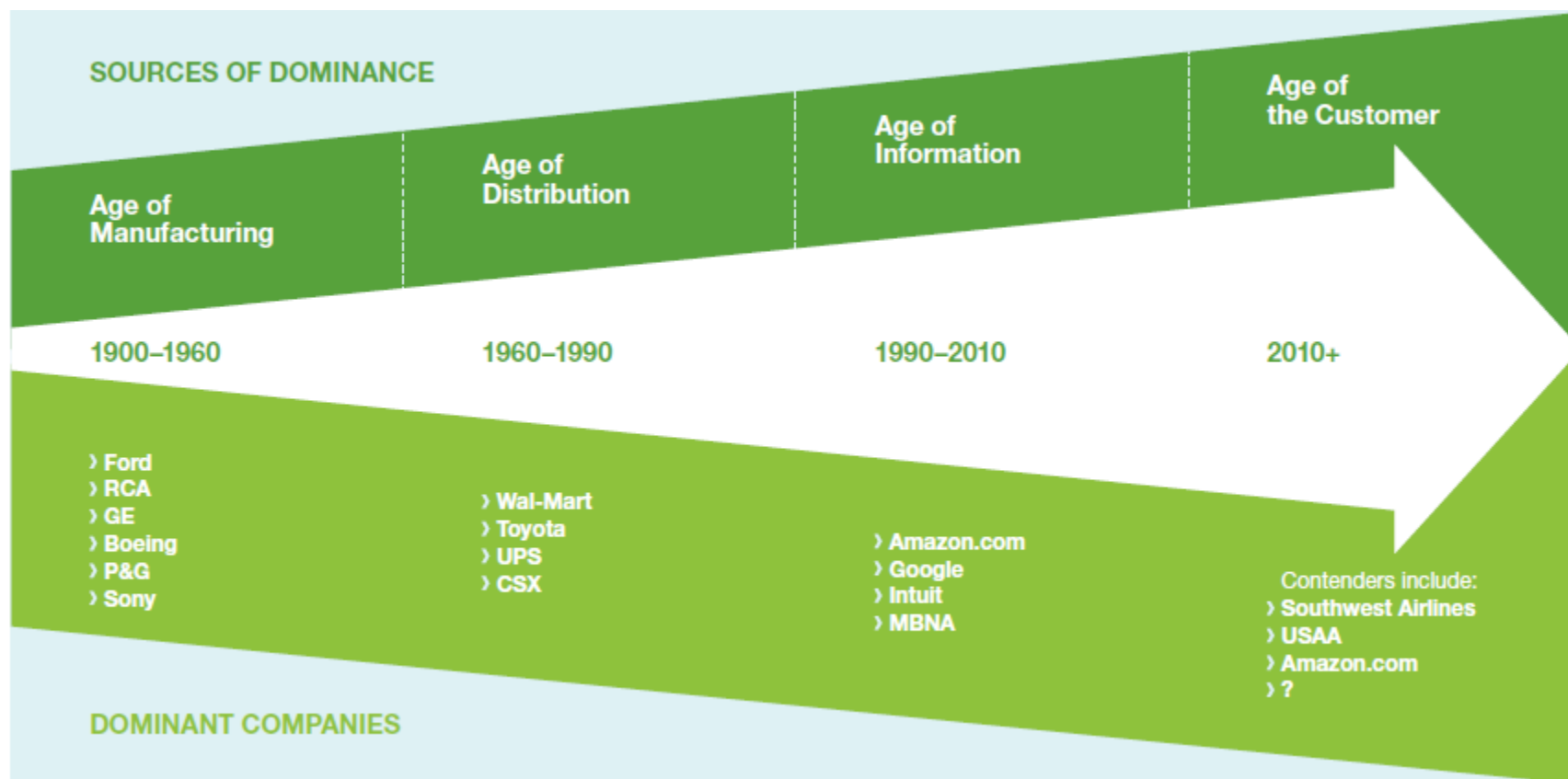
Did the interface help the user to make few errors and recover easily from them?

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



Source: Forrester Perspective: The Business Impact of Customer Experience, downloaded Jan 16, 2015 from <http://solutions.forrester.com/customer-experience/prove-roi-cx-report-49RA-1623IB.html>

Customer Experience –Moving Forward

American Customer Satisfaction Index



ForeSee: American Customer Satisfaction Index (ACSI) for e-Commerce/Transactional Federal Websites

Medicare Drug Subsidy	90
Retirement Estimator	90
MySSA	88
iClaim	88
BSO	87
Disability Report	83

“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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