

WEB DEVELOPMENT

Scrum: designing an building the backlog

Announcements

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- Demo Tuesday, March 25
 - Design
 - Sketch of pages to be implemented
 - Notes on what the pages do
 - Backlog
 - 5 * number of team member stories
 - E.g.
 - Four member team needs 20 stories
 - Five member team needs 25 stories
 - Six member team needs 30 stories

Two Types of Design

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- Web Site Design
 - ▣ Artistic Design
 - ▣ Usability Design
- Software Design
 - ▣ Software Architecture
 - ▣ Software Design
 - ▣ Backlog

Software Architecture

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- User Interface
 - ▣ Screens and Navigation
- Business Logic
 - ▣ What does the web site do?
- Database
 - ▣ What does the web site know

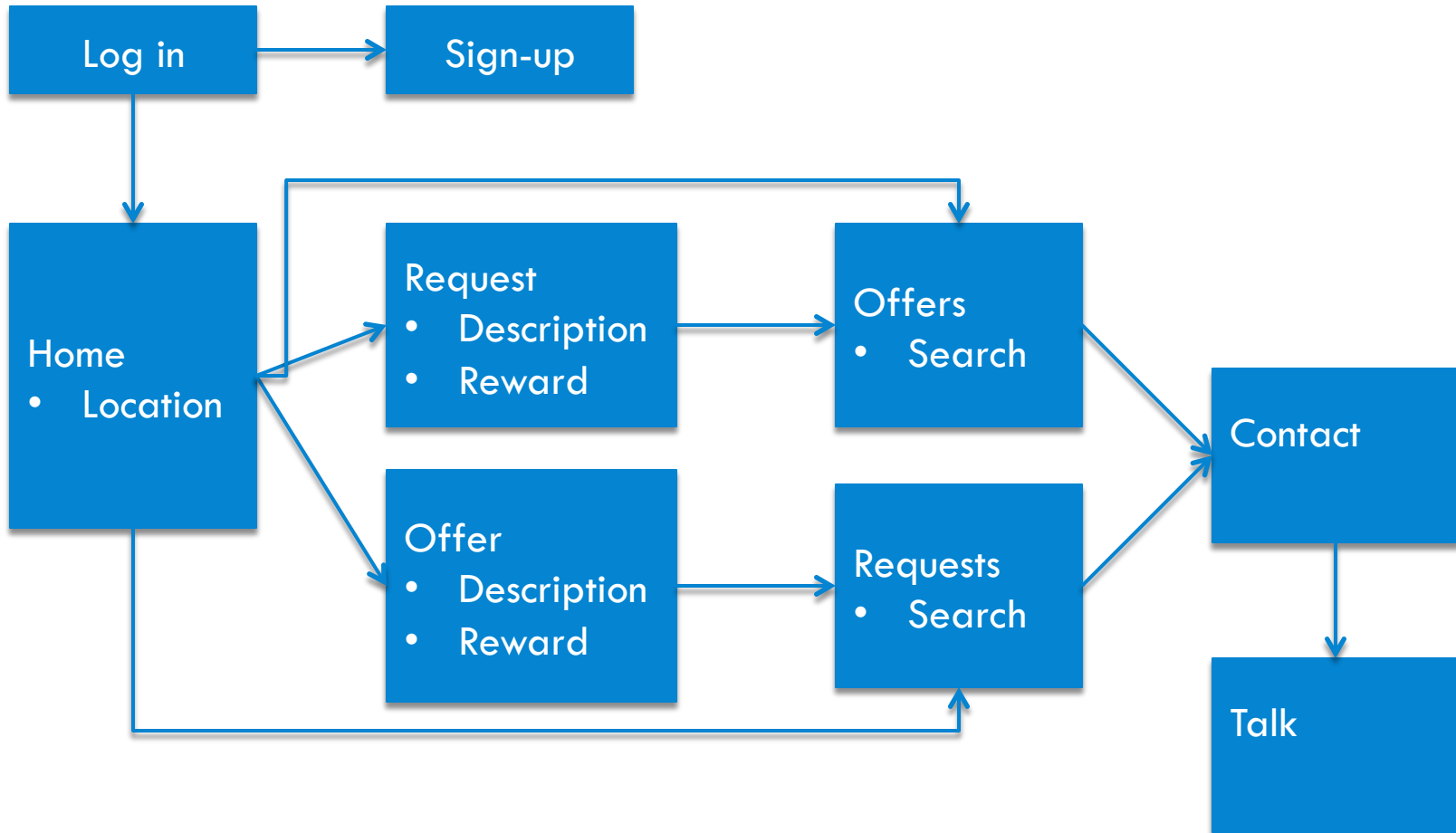
Software Design Tips

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- Work from the outside in
 - ▣ It is easier to imaging the user doing something than to imagine everything the computer is going to have to do.
 - ▣ You are more likely to avoid over design by working only on those things the user will see.
- Use YAGNI
 - ▣ You Ain't Gonna Need It

Design Sketch

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Pages to Implement

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- Login: Users can log in
- Sign-up: Users can create an account
- Home Page: Introduction, Route to rest of site
- Create Request: Post a request for help
- View Requests: See requests for help
- Create Offer: Offer help
- View Offers: See offers for help
- Contact
- Talk

Home Page

Home	Create Request	View Requests	Create Offer	View Offers
Image				
Descriptive text				

Login

Image

Username:

Password:

[Create New Account](#)

[Log in](#)

Sign up

First name:

Address:

Last Name:

City:

Email:

State:

Phone

Zip:

New Account

New Request

Home	Create Request	View Requests	Create Offer	View Offers
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Image

Description:

Reward Offered:

View Requests

Home	Create Request	View Requests	Create Offer	View Offers
<p>Image</p> <div style="border: 1px solid #0070C0; height: 116px; margin-bottom: 16px;"></div> <div style="border: 1px solid #0070C0; height: 116px; margin-bottom: 16px;"></div> <div style="border: 1px solid #0070C0; height: 116px;"></div>				

New Offer

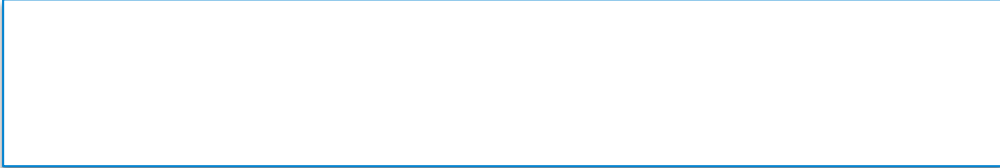

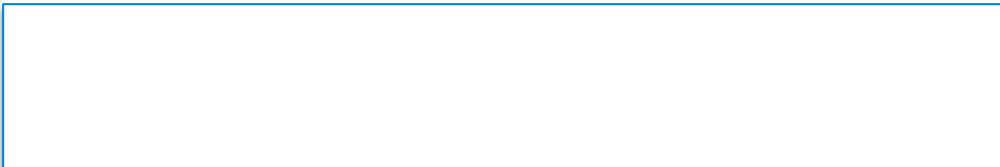
Home	Create Request	View Requests	Create Offer	View Offers
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Image

Description:

Reward Requested:

View Offers

Home	Create Request	View Requests	Create Offer	View Offers
Image				
				
				
				

User Stories (Agile Requirements)

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- As a <Type of User>, I want to <Do something on the website>, so I can <Accomplish a task I want to do>
 - ▣ Focuses development on the User Experience
 - ▣ Explicitly states the type of user and the task the user is trying to accomplish.
- Traditional requirement focused on the behavior of the system
 - ▣ E.g. The system shall require an eight character password.

Example User Stories for Login

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- As a user, I want to log in to the system, so I can post requests and offers.
- As a user, I want to know that the other users of the system are who they say they are, so I can avoid scams.
- As a user, I want to keep others from pretending to be me, so I do not get a bad reputation.

Adding Example

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- As a user, I want to be able to choose between adding a request, an offer, and look at requests or offers.
- See Home Page Sketch:

Home	Create Request	View Requests	Create Offer	View Offers
Image				
Descriptive text				

Adding Tests

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- As a user, I want to be able to choose between adding a request, an offer, and look at requests or offers.
- Four Navigation buttons: Home-disabled; New Request-opens New Request Page; View Requests-opens View Requests Page; New Offer-opens New Offers Page; View Offers-opens View Offers Page

Priorities

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- Once you have enough elements in the backlog, you can prioritize them.
- Priority is determined by
 - Business reasons
 - E.g., I need to demo this to the sponsors
 - E.g., I can go live once this is done
 - Development reasons
 - E.g., I cant test without this.
 - E.g., This may require a different approach

Backlog

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- Example Backlog

Development

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- Once you have a list of priorities, you can start developing.
 - ▣ Choose the amount you think you can finish in a sprint (a week in this class.)
 - ▣ Pick the highest priority item off the sprint list and do it first.
- At the end of the sprint demo what you have. (I.e., what is in the master branch.)

Agility

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- You need not have all of the stories done to start development.
 - You can add stories as they are needed.
 - If you have a question rather than a story, add a spike.
 - E.g., How do I set up MySQL?
 - E.g., How do the users communicate with each other?
 - E.g., What should the colors of the buttons be?
 - A story may be spiked. If there is information you need before you can work on the story, you spike it with a question and move on to the next story.

Management

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- Estimating time
 - When will the project be done?
 - How much will be done by the due date?
- Group velocity
 - Stories per sprint:
 - $\#Stories / \text{Stories per sprint} = \#Sprints \text{ to completion}$
 - $Sprints \text{ to due date} * \text{Stories per sprint} = \#Stories \text{ completed}$
 - $\text{Stories per sprint} = \#Stories \text{ complete} / \# \text{ sprints}$

Story points

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- But not all stories are the same.
 - ▣ Instead of stories per sprint calculate story points per sprint
 - ▣ Story points are an estimate of the difficulty of a story

Planning poker

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- Used to estimate story points
 1. Each member chooses a number from the Fibonacci sequence: 1, 2, 3, 5, 8, 13, 21, Large
 2. All members display numbers at the same time
 3. If there is disagreement discuss
 4. Repeat until agreement (or exhaustion)
- The value to the team is in the discussion
 - ▣ What are the assumptions that lead one person to choose 2 and another to choose 13.

Demo

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- At the end of a sprint, demonstrate what you have.
 - ▣ Show the product owner (in this class, me) what has been completed over the week and how it works.
 - ▣ The product owner can say:
 1. Good, carry on.
 2. This is not what I asked for.
 3. This is what I asked for, but not what I wanted.

Retrospective

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- After the Demo, the team asks
 - ▣ What went well?
 - ▣ What went poorly?
 - ▣ What will we do differently?
- Keep a list and look at it in the next retrospective after the next sprint.

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Standup

Discuss questions with your Scrum Team

Quiz 1

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1. Which is a story?
 - a. As an admin, I want to log in.
 - b. As an admin, I want to log in, so others don't break it.
 - c. I want to log in, so others don't break my DB
 - d. The system shall require a password
2. What are the four elements in a backlog?
 1. Priority, importance, difficulty, story
 2. Priority, story, example, test
 3. Importance, story, example test
 4. Difficulty, example, story, test

Quiz 2

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1. Priority is determined by
 - a. Business and development reasons
 - b. Difficulty and length
 - c. Story points and complexity
 - d. Complexity and order
2. If a story is blocked by something missing
 - a. Start a new sprint
 - b. Reprioritize with the PO
 - c. Add a spike; start the next highest priority story
 - d. Reprioritize the story; start the new highest priority

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And the answer is ...

Quiz Answers

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1. Which is a story?
 - b. As an admin, I want to log in, so others don't break it.
2. What are the four elements in a backlog?
 - b. Priority, story, example, test
3. Priority is determined by
 - a. Business and development reasons
4. If a story is blocked by something missing
 - c. Add a spike; start the next highest priority story