WEB DEVELOPMENT

Scrum: designing an building the backlog
Announcements

- Demo Tuesday, March 25
  - Design
    - Sketch of pages to be implemented
    - Notes on what the pages do
  - Backlog
    - $5 \times$ 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

- Web Site Design
  - Artistic Design
  - Usability Design

- Software Design
  - Software Architecture
  - Software Design
  - Backlog
Software Architecture

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

- 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

- Log in
- Sign-up

Home
  - Location

Request
  - Description
  - Reward

Offer
  - Description
  - Reward

Offers
  - Search

Requests
  - Search

Talk

Contact
Pages to Implement

- Login: Users can log in
- Sign-up: Users can create and 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

CSC 210
### Home Page

<table>
<thead>
<tr>
<th>Home</th>
<th>Create Request</th>
<th>View Requests</th>
<th>Create Offer</th>
<th>View Offers</th>
</tr>
</thead>
</table>

Image

Descriptive text
Login

Username: [Input Field]
Password: [Input Field]

Create New Account
Log in
New Request

<table>
<thead>
<tr>
<th>Home</th>
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<th>Create Offer</th>
<th>View Offers</th>
</tr>
</thead>
</table>

Image

Description:

Reward Offered:

New Request
View Requests
New Offer

<table>
<thead>
<tr>
<th>Home</th>
<th>Create Request</th>
<th>View Requests</th>
<th>Create Offer</th>
<th>View Offers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Image</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Description:  

Reward Requested:  

New Request
View Offers

<table>
<thead>
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Image

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User Stories (Agile Requirements)

- 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

- 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

- 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:
Adding Tests

☐ As a user, I want to be able to choose between adding a request, an offer, and look at requests or offers.

Priorities

- 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

- Example Backlog
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

- 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

- Estimating time
  - When will the project be done?
  - How much will be done by the due date?

- Group velocity
  - Stories per sprint:
    - \( \frac{\#\text{Stories}}{\#\text{Stories per sprint}} = \#\text{Sprints to completion} \)
    - Sprints to due date * Stories per sprint = \#Stories completed
  - Stories per sprint = \#Stories complete / \# sprints
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

- 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.
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 says:

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

- 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.
Discuss questions with your Scrum Team
Quiz 1

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

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 story
And the answer is …
Quiz Answers

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