BEWD – Final Project Getting Started

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AGENDA

- Plan your app
- User Stories
- Wireframes / Paper Prototype
- User Testing
- Database Schema

PLANNING

BEFORE YOU CODE

We are going to borrow some best practices from project managers and UX designers to help us plan our final project.

- Planning before code will help prevent uniformed (and expensive) decisions.
- Thinking deeply about how you want your app to function will help provide direction.
- Visualising your application flow will simplify implementation.

USER STORY

“As a user, I want to take a photo of my lunch and share it with the world” - Simple User Story for Instagram.

- User stories are used with agile software development methodologies as the basis for defining the functions a business system must provide, and to facilitate requirements management.
- A user story captures the 'who', 'what' and 'why' of a requirement in a simple, concise way, often limited in detail by what can be hand-written on a small paper notecard.
- User stories are written from the perspective of the user (a regular user, admin user, or otherwise), not the developer.

USER STORY

HOW WE WILL USE THEM

- We are going to write user stories to help define what functionality we need to build.
- We can also use them to determine what functionality we will build during this course and what we will build beyond BEWD.
- In addition, we will create paper prototype for our web applications and diagram the database schema from our user stories.

USER STORY

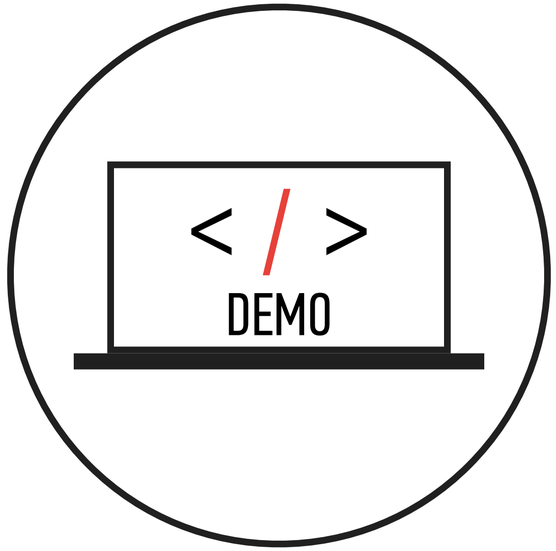
BASIC RULES

This is a user story template:

» "As a <*type of user*>, when I <*perform some action*> then I should see <*something happen*>."

Example User Story for Amazon:

» *"As an Amazon user, when I add a movie to my Amazon Wish List, then I should see the movie when I visit my Wish List page."*
» *"As an Amazon user, when I add a movie to my Amazon Wish List, and click 'Share to Facebook', then my Facebook friends should see a story about the event in their Facebook newsfeed."*



User Stories

WIREFRAMES

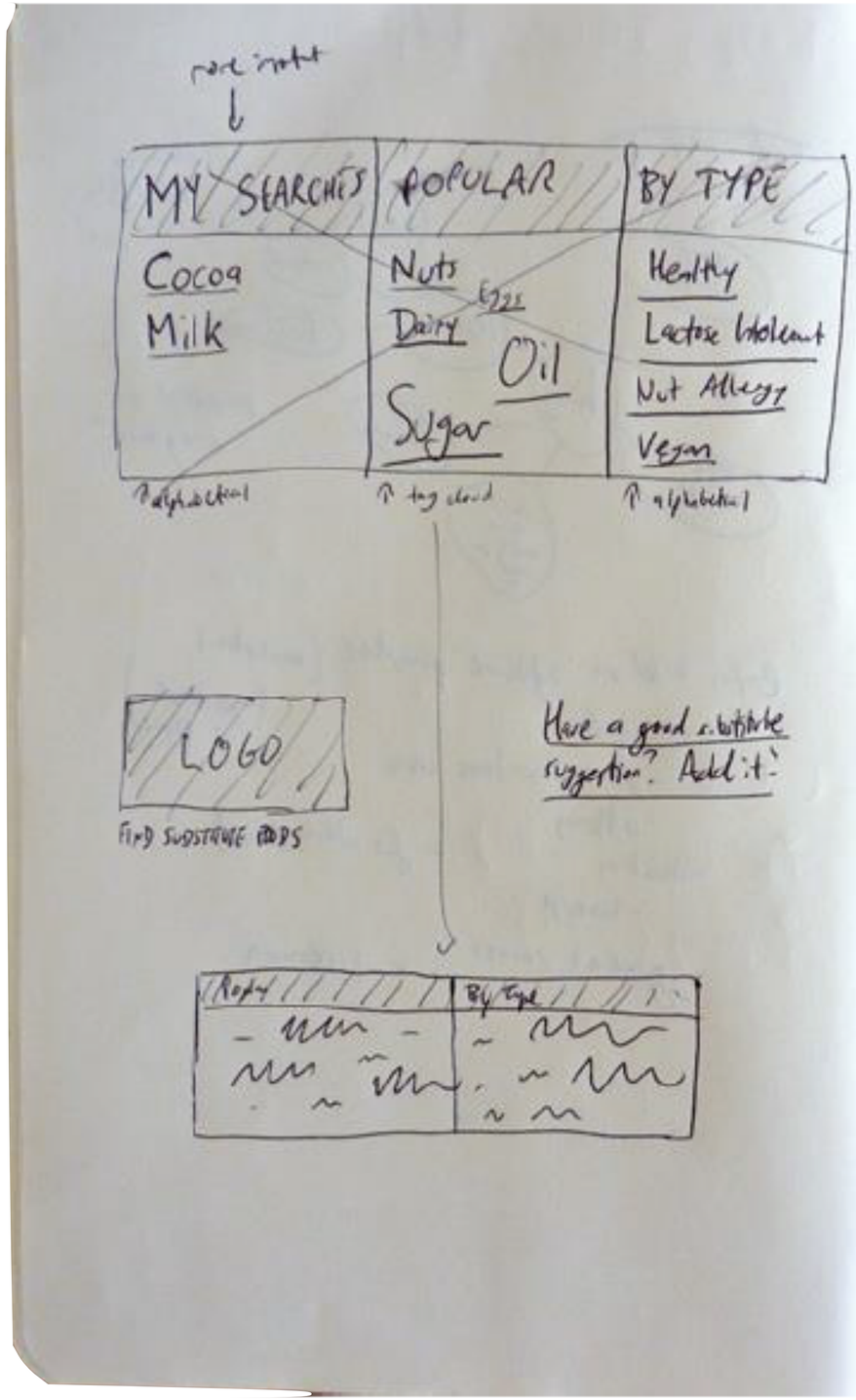
AND PAPER PROTOTYPES

Wireframes are a key tool in communicating the content and layout of a web page.

» Simple mock ups showcasing how the site will look.
» Some will use digital tools to create wireframes, others will draw them on paper.

They can be used by:

» Project Managers to review plans with stakeholders
» Programmers to develop functionality
» Graphic designers to produce designs


MY SEARCHES
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BY TYPE
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Milk
Nuts
Dairy
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FIND SUBSTITUTE FOODS
Have a good substitute suggestion? Add it!
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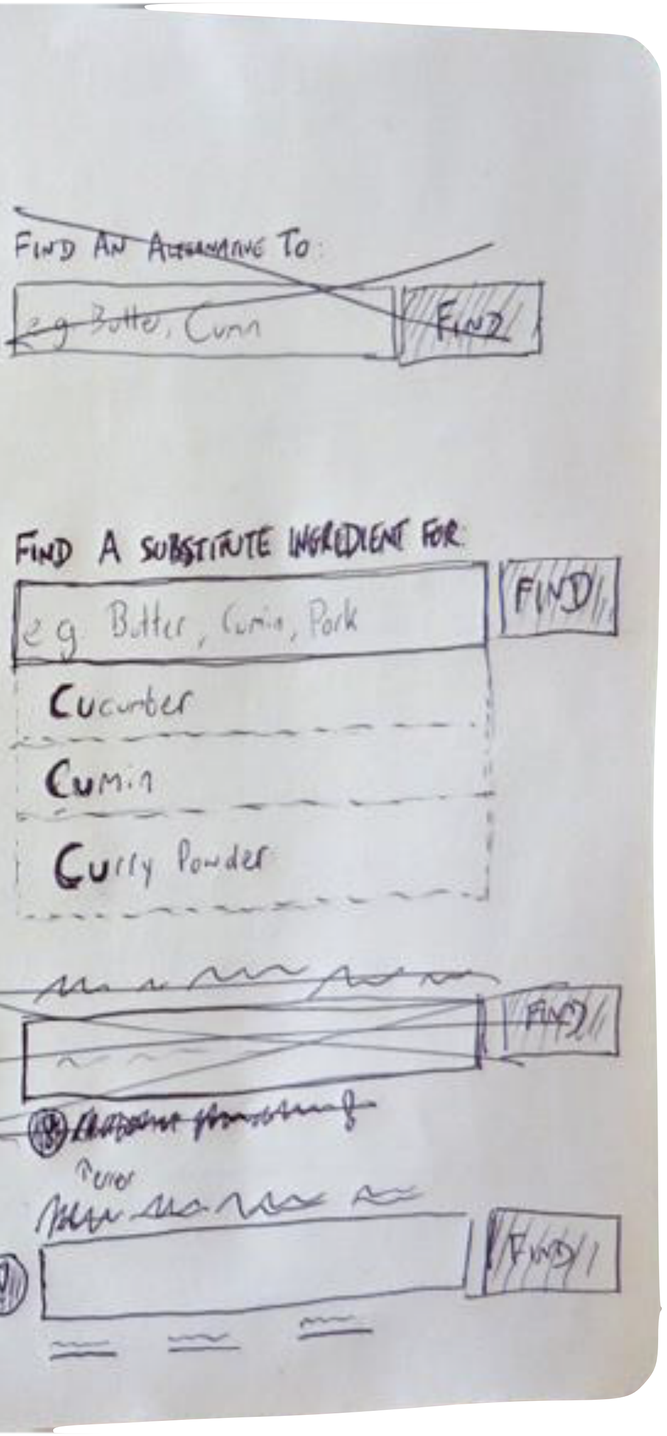
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The irony of digital photos of paper is not lost on me.
Nav Map
LOGIN
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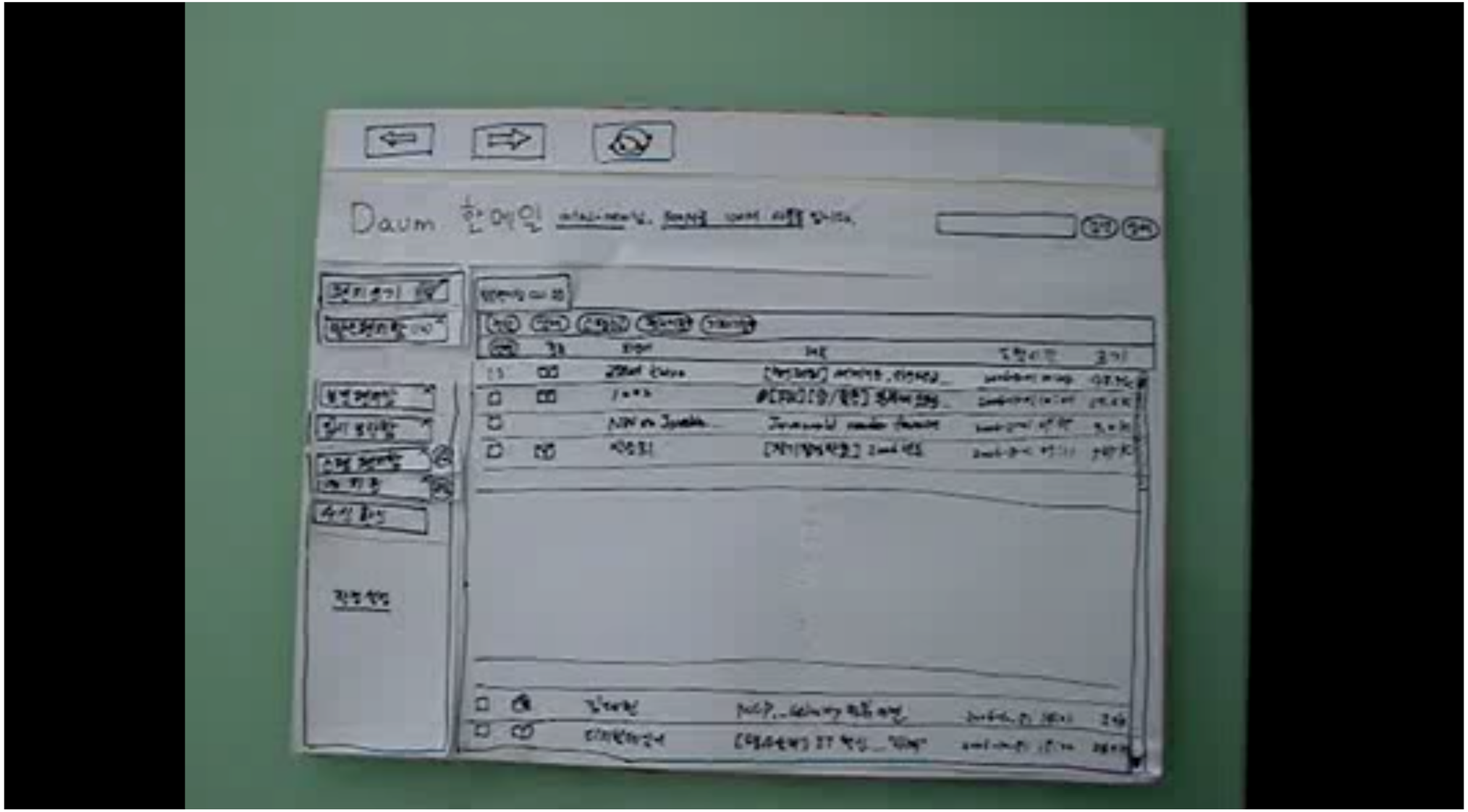


Hanmail Paper Prototype
https://www.youtube.com/watch?v=GrV2SZuRPv0

WIREFRAMES

HOW WE WILL USE THESE AND PAPER PROTOTYPES?

- We are going to create simple prototypes using pen and paper. This is the fastest way to test your ideas.
- However, doing so enables you to seek out the help of others to test your application, rather than just reviewing it yourself…
- One methodology to solicit feedback for your app is User Testing.

TESTING

DEFINING USER TESTING

» A simple method to evaluate a product by testing out a sample of the user experience on users.

TESTING

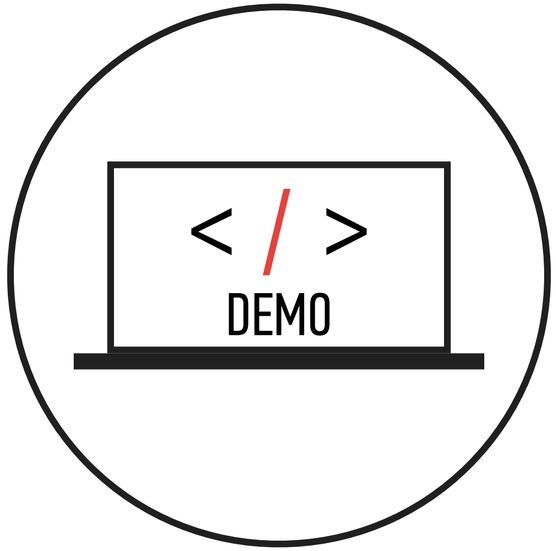
HOW WILL WE PERFORM USER TESTING?

» During this class we will use our paper prototypes and test our ideas and layouts. This will help us define and scope functionality.

TESTING

HOW IT WORKS

- Your tester will use your paper prototype as if it were a real web application.
- Ask them to speak their thoughts aloud as they are testing.
- Take notes about what they find confusing, and make changes after you've tested all users.
- Experts say you only have to test 5 people to find 95% of the problems with your design.



Wireframes & User Testing

TESTING

VALIDATING BEHAVIOUR WITH CUCUMBER

- Cucumber is a tool that implements a Behaviour Driven Design (BDD) workflow
- Create files which define features, and scenarios based from user stories
- These scenarios can be executed as tests to assert the functionality is as expected

TESTING

VALIDATING BEHAVIOUR WITH CUCUMBER

Example feature & scenario:

```
# features/coffee.feature

Feature: Serve coffee
    Coffee should not be served until paid for
    Coffee should not be served until the button has
been pressed
    If there is no coffee left then money should be
refunded

  Scenario: Buy last coffee
    Given there are 1 coffees left in the machine
    And I have deposited £1
    When I press the coffee button
    Then I should be served a coffee
```

TESTING

BUILDING CUCUMBER SCENARIOS

Each step in a feature needs a matching step definition written in Ruby. These consist of a keyword, a string or regular expression, and a block:

```
# features/step_definitions/coffee_steps.rb

Then "I should be served coffee" do
  @machine.dispensed_drink.should == "coffee"
end
```

TESTING

BUILDING CUCUMBER SCENARIOS

Example feature & scenario:

```
Scenario: eat 5 out of 12
  Given there are 12 cucumbers
  When I eat 5 cucumbers
  Then I should have 7 cucumbers

Scenario: eat 5 out of 20
  Given there are 20 cucumbers
  When I eat 5 cucumbers
  Then I should have 15 cucumbers
```

TESTING

BUILDING CUCUMBER SCENARIOS

This can be simplified and the repetition removed, by using a *Scenario Outline*. The outline runs the scenario for each row in the table (except the first!)

```
Scenario Outline: eating
  Given there are <start> cucumbers
  When I eat <eat> cucumbers
  Then I should have <left> cucumbers

  Examples:
    | start | eat | left |
    |  12   |  5  |  7   |
    |  20   |  5  |  15  |
```

User Stories

Create at least 5 user stories for your final project

Wireframes

From your user stories, wireframe at least 4 pages.

User Testing

Complete user testing with at least 2 people in your class.
Take notes on how your app could be improved.

Database Schema

Use your user stories to draft a list of models and attributes needed for your project.
Draw a diagram of your model associations including foreign keys.

RESOURCES

TIPS, TRICKS & ADVANCED READING

How To Start

» How to start a Rails app (Stack Overflow)
http://stackoverflow.com/questions/1594010/how-do-you-plan-your-rails-app)

User Stories

» User story template
http://www.mountaingoatsoftware.com/blog/advantages-of-the-as-a-user-i-want-user-story-template
» User Stories Applied (Chapter) by Mike Cohn
http://www.mountaingoatsoftware.com/system/asset/file/259/User-Stories-Applied-Mike-Cohn.pdf
» Why user stories make sense (article)
http://agile.dzone.com/articles/why-user-stories-make-sense?mz=123873-agile

RESOURCES

WIREFRAMES AND PAPER PROTOTYPES

» Prototyping Tutorial
http://www.usabilitynet.org/tools/prototyping.htm

» Wireframing (Tutorial)
http://webdesign.tutsplus.com/tutorials/workflow-tutorials/a-beginners-guide-to-wireframing/

» Wireframe (Definition)
http://web2usability.wordpress.com/2009/01/07/definition-usage-wireframe/

RESOURCES

CUCUMBER & BDD

» Cucumber documentation
http://cukes.info/
https://github.com/cucumber/cucumber/wiki
https://github.com/cucumber/cucumber/wiki/Step-Definitions

» To use Cucumber with Rails you need the *cucumber-rails* gem
https://github.com/cucumber/cucumber-rails/