



The University of the West Indies
Cave Hill Campus
Faculty of Science and Technology
Department of Computer Science, Mathematics and Physics
SWEN1005: Mobile Web Programming
Assignment Two
A Mobile-First Website

INSTRUCTIONS

1. You are going to create a mobile-first website for SWEN1005: Mobile Web Programming, this site will provide:
Information about the BSc. Software Engineering program via a link to the website
 - The course content for Mobile Web Programming
 - Links to course material (lecture notes, slides and recordings)
 - Links to lab assignments
 - The course assessment schedule
 - Recommended text and readings
 - Sample completed projects and labs
2. As the user traverses your mobile website, they should be able to visit the BSc. Software Engineering program website by clicking on the UWI logo at any time from any page.
3. Use appropriate category names to allow the user to fully traverse the website, however, do not use any more than five categories.
4. Employ an appropriate information architectural pattern and maintain consistency throughout your site. Advise the user when they are about to leave your site to visit external content. However, please keep external content to a bare minimum. For example, present the session recordings as YouTube embedded content.
5. Maintain a consistent theme throughout your website.
6. You may reuse content from the eLearning platform at your leisure. However, you are reminded that the use of material beyond what is provided by the lecture or external links will constitute plagiarism.

Requirements:

Mobile Information Architecture

Key points to remember about your design, you will want to create your content and pages with these points in mind, keep it:

- Clear
- Concise
- Familiar
- Responsive
- Consistent
- Attractive
- Efficient
- Forgiving
- Simple

[9 marks]

Tips:

- ✓ **Keep categories to a minimum** – again the simpler things are, the better the UX on mobile. That doesn't mean abandon useful data but do think about the fact that people get lost more often the farther they drill down for information. 5 levels is enough on the desktop, with mobile you almost certainly want to aim for less.
- ✓ **Keep content and categories together** – no empty pages, no empty links. If a user clicks on a navigation item, it must deliver some relevant content too.
- ✓ **Keep links to a sensible number too** – don't overwhelm the user with dozens of links. Ideally, keep the number of links displayed to fewer than 10.
- ✓ **Prioritize by popularity** – "deck placement" is vital to controlling the simplicity of the experience. The more popular something is within the app or site; the more vital it is that you make it easy to get to. However, this can have an impact on the success of new features or content; as it will be placed lower in the deck and become harder to find. You may need to strike a careful balance between the two.
- ✓ **Label navigation items clearly and concisely** – this applies to links as well as menu options; this is very important on phones with very small screens.

[5 marks]

Patterns to choose from:

Hierarchy

The hierarchy pattern is a standard site structure with an index page and a series of sub pages. If you are designing a responsive site you may be restricted to this, however introducing additional patterns could allow you to tailor the experience for mobile.

Hub & Spoke

A hub and spoke pattern gives you a central index from which users will navigate out. It's the default pattern on Apple's iPhone. Users can't navigate between spokes but must return to the hub, instead. This has historically been used on desktop where a workflow is restricted (generally due to technical restrictions such as a form or purchasing process) however this is becoming more prevalent within the mobile landscape due to users being focused on one task, as well as the form factor of the device, making a global navigation more difficult to use.

Nested doll

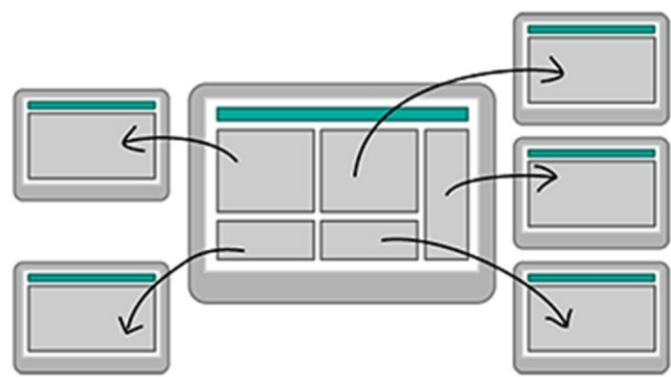
The nested doll pattern leads users in a linear fashion to more detailed content. When users are in difficult conditions this is a quick and easy method of navigation. It also gives the user a strong sense of where they are in the structure of the content due to the perception of moving forward and then back.

Tabbed view

This is a pattern that regular app users will be familiar with. It's a collection of sections tied together by a toolbar menu. This allows the user to quickly scan and understand the complete functionality of the app when it's first opened.

Bento Box/Dashboard

The bento box or dashboard pattern brings more detailed content directly to the index screen by using components to display portions of related tools or content. This pattern is more suited to tablet than mobile due to its complexity. It can be really powerful as it allows the user to comprehend key information at a glance, but does heavily rely on having a well-designed interface with information presented clearly.



[5 marks]

Mobile First Techniques

Mobile-First = Content-First
If your site is good on a mobile device, it translates better to all devices. More important, though, is that the mobile-first approach is also a content-first approach. Mobile has the most limitations, screen size and bandwidth to name a few, and so designing within these parameters force you to prioritize content ruthlessly.

The mobile-first approach organically leads to a design that is more content-focused, and therefore user- focused. The heart of the site is content — that is what the users are there for.

1. **Content Inventory** — This is a tabular document containing all the elements you want to include.

Example:

Index	Navigation title	Page title	Comments
0.0	Home	SWEN1005	Index or homepage
1.0	Course Content	Course Content	
1.1	Web Standards	Web Standards	
1.2	Types of Apps	Types of Applications	
1.2.1	Native Apps	Native Applications	
1.2.1.1	Examples	Sample Applications	
1.2.2	Mobile Responsive	Mobile Responsive ...	
1.2.2.1	Examples	...	

[16 marks]

- 2. **Visual Hierarchy** — Prioritize the elements in the content inventory and determine how to display the most important elements prominently.
- 3. **Design with the smallest breakpoints and then scale up** — Build the mobile wireframe first, then use that as the model for larger breakpoints. Expand the screen until there is too much white space.
- 4. **Enlarge touch targets** — Fingers are much wider than pixel-precise mouse cursors, and so need larger elements on which to tap. At the time of this writing, Apple recommends 44 pixels square for touch targets. Give hyperlinks plenty of space, and slightly enlarge buttons, and make sure that these items easy to select.
- 5. **Do not count on hovers** — It almost goes without saying, but designers often rely on hover and mouseover effects in their interactive work. If you are thinking mobile-friendly, don't. There is no hover control for fingertips yet.
- 6. **Think “app”** — Mobile users are accustomed to motion and a modicum of control in their experience. Think about off-canvas navigation, expandable widgets, AJAX calls, or other elements on the screen with which users can interact without refreshing the page.
- 7. **Avoid large graphics** — Landscape photos and complex graphics do not display well when your screen is only a few inches across. Cater to mobile users with images that are readable on handheld screens.
- 8. **Test it in a real device** — Nothing beats discovering for yourself how usable a website is (or isn't). Step away from your desktop/laptop computer and load up your product on a real phone or tablet. Tap

through pages. Is the site easy to navigate? Does it load in a timely fashion? Are the text and graphics easy to read?

Mobile Application

Include the assignment as an example for the appropriate labs or course content sections. For web-based applications, the page should be included, for other applications a download link should be provided.

[20 marks]

Mobile Ready Content

All of your pages must use:

HTML5 Semantic elements and basic JavaScript

- <main>
- <header>
- <footer>
- <article>
- <summary>
- <details> ...etc.

Avoid <aside> for Mobile first content

[10 marks]

HTML5 mobile responsive elements

[5 marks]

CSS mobile responsive modules

- Grid View / Flexbox
- Media Query with breakpoints for phones, tablets and desktops

[10 marks]

At least three HTML5 APIs (Either in an app or on a page)

- Geolocation
- Drag and Drop
- Session and Local Storage

[20 marks]

To be submitted

1. A folder containing all of the webpages and resources required to give full functionality to your website. You must include and separate .css page for your main styles and .js page for your main scripts. For Assignment One you **may** include new HTML/CSS and JS files, but you do not need to resubmit the images. In either case include documentation to indicate what you have done, or how you have included your first assignment.

Due Date

Early Submission Date

Before midnight April 13, 2023

Bonus of 10% added if assignment grade is above 70%

Submission Date

Before midnight April 14, 2023

NO LATE ASSIGNMENTS ACCEPTED