Unit 2 Module 2: Web Design For Humans

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Web Development with PHP

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Outline

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User Interface Design

User interface design is the process of creating an aesthetically pleasing, intuitive design.

- **Usability:** Refers to how intuitively or easily your media item is navigated and processed
- **Visualization:** Creating visually interesting and aesthetically pleasing media items while avoiding potentially distracting or unnecessary "bells and whistles."
- **Functionality:** Refers to the features of your media item and how useful they are for supporting a given task
- **Accessibility:** Provide for increased functionality to support users with certain disabilities.

Please add all four of these terms to your lexicon.

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User Experience Design

The User Experience (UX) a multi-faceted field of computer science. UX design encompasses all aspects how the end user interacts with the program, from the interface to the documentation.

> *"UX design begins by learning about the business model, doing user research and understanding how a service can fit into the users' lives in a meaningful way. Thus UX design has a crucial part in defining the business strategy, providing baselines for business decisions with such design deliverables as personas or user stories. A UX-driven process doesn't end with the UIs either, it's also about testing with people, supporting development, making ongoing adjustments even after the launch."* [1]

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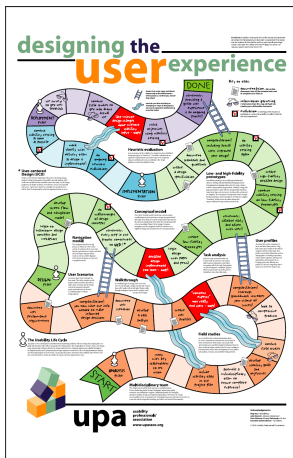
User Experience Design Game

Figure 1: User Experience Design Game [1]

Marketing & Social Networking

Marketing your web site consists of answering a few key questions:

- Who is your audience?
- What is your market?
- What is the site's purpose?

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Armed with this information, create profiles on social networking sites that excite and entice users to your web site. Track what sites your users are coming from and give them reasons to come back by keeping content updated regularly and possibly by running or sponsoring special events.

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Mathematical Review

Before having a look at how search engines work, consider a set of integers such as $S = \{1, 1, 2, 3, 5\}$. We say that $3 \in S$ (read as "3 is an element of S") because 3 is in the set S. We say that $4 \notin S$ (read "4 is not an element of S") because 4 is not in S.

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To sum all the elements in a set, we use the Greek letter Σ to denote we are summing the elements. Specifically:

$$\sum_{x \in S} x = 1 + 1 + 2 + 3 + 5 = 12$$

We shall see this notation as we learn the PageRank algorithm.

PageRank Algorithm

Search engines fundamentally work by quantifying how "worthy" a page is. Google's PageRank algorithm ranks pages by how "worthy" the page linking to you is, with a penalty for excessive outgoing links. [2]

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$$P(x) = \sum_{x \in B_x} \frac{P(y)}{L(y)} \tag{1}$$

Equation 1 evaluates the reputation of who links to you, $P(y)$, and penalizes that neighbor for having too many outgoing links, $L(y)$. This is then summed across every page that links to you.

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Larry Page & Sergey Brin

Vitæ

Larry Page *and* **Sergey Brin** *developed the PageRank algorithm while graduate students at Stanford University. They co-founded Google in 1996 using Stanford University's servers. The company was later moved to a friend's garage in 1998 in Melno Park, CA. The name "Google" is derived from a misspelling of the word "Googol",* 10^{100}*, or a 1 followed by 100 zeros.*

Search Engine Optimization

As can be seen in Equation 1, the best way to get highly ranked on Google is to be linked by other highly ranked pages.

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The three components of an effective search engine optimized page are:

1. **Consistency**: Use <meta> tags to give search engines important keywords and summary of the page. **Use the keywords in the first paragraph of the page.**
2. **Organic**: Keep the site continuously up to date. Both users and search engines will come back for more.
3. **No Free Lunch**: Avoid scam SEO vendors who promise impossible claims. Let the site evolve over time.

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