week 1

Static pages tend to be simpler to create as the content is presented the same regardless of the user/visitor. They are created with HTML, CSS, JavaScript, etc. and because of the simplicity are easier to learn, set up and apply. They also tend to be easier to troubleshoot when something doesn’t work as intended.

Dynamic web pages are more complex but also allow for more visitor dependent customization. Content of these pages can be different for distinct types of users (i.e. retailer’s vs wholesalers). They are written in languages like CGI, AJAX and ASP and tend to require greater planning to develop. They are also more complex to troubleshoot as there are more variations that could have created an error.

* Sources:
  + [Difference between Static and Dynamic Web Pages – GeeksforGeeks](https://www.geeksforgeeks.org/difference-between-static-and-dynamic-web-pages/)

[Links to an external site.](https://www.geeksforgeeks.org/difference-between-static-and-dynamic-web-pages/)[Static vs. Dynamic Websites: Here’s the Difference (hubspot.com)](https://blog.hubspot.com/website/static-vs-dynamic-website#:~:text=The%20difference%20between%20static%20websites,different%20information%20to%20different%20visitors.)

Static webpages as the name static implies are fixed…somthing is in one place.  Regarding websites, what remains static is the code.  Static websites are built with minimal features and interactivity, they do not change, static websites are good for websites that do not need many updates.

Dynamic websites are created from server responses to requests.  These site are written in languages like javaScript, PHP, and Python.  What is displayed is based on what the user has input, or what data is in the database.

Dynamic websites are more interactive, more data can be processed using an interactive dtabase.  Dynamic websites work better when large amounts of data are involved.

In all static websites work better when you are keeping the site simple with small amounts of interactivity.  Static websites load faster but do not provide the functionality of a dynamic website.  Dynamic websites do not function as fast as static websites, can require more complex development and upkeep.

Week 2:

Post # 2:

* What are some examples of well designed or poorly designed forms that you have run into on websites?   
    
  Well-designed forms are crucial for a positive user experience on websites, while poorly designed ones can lead to frustration and abandonment. Here are some examples of both: **Well-Designed Forms:**
  1. **Simple and Clear Contact Forms:** These forms usually have a clean layout, clear labels, and concise fields for name, email, subject, and message. They often provide helpful hints or validation messages as you fill them out.
  2. **Progressive Disclosure:** Complex forms are broken down into multiple steps or sections. Each step is presented one at a time, reducing cognitive overload and making the process seem less daunting.
  3. **Auto-Detection and Formatting:** For phone numbers or credit card inputs, well-designed forms automatically detect the type of input and format it accordingly. For example, as you enter a phone number, it automatically inserts dashes.
  4. **Error Handling:** When users make errors, the form provides clear, specific error messages near the relevant field and offers guidance on how to correct them. It doesn’t rely solely on generic error messages at the top of the page.
  5. **Mobile Optimization:** Forms are responsive and work well on mobile devices, with appropriately sized fields and easy navigation using touch input.

**Poorly-Designed Forms:**

* 1. **Cluttered and Overwhelming:** Forms with too many fields crammed onto a single page can be overwhelming. This is especially true if the labels are unclear or if there’s no indication of which fields are required.
  2. **Confusing Navigation:** Some forms lack a clear progression, making it difficult for users to understand where they are in the process and how to proceed.
  3. **Lack of Feedback:** If a user makes an error but the form doesn’t provide clear feedback on what went wrong, users may become frustrated and abandon the process.
  4. **Unoptimized for Accessibility:** Forms without proper HTML markup for screen readers or keyboard navigation can exclude users with disabilities.
  5. **Captcha Overload:** Excessive use of CAPTCHAs can annoy users, especially if they are difficult to solve. Overly complex CAPTCHAs can also exclude people with visual impairments.
  6. **Hidden Requirements:** Some forms hide important requirements deep in the terms and conditions or don’t make it clear what data they are collecting and why.
  7. **Long Load Times:** Forms that take a long time to load can frustrate users. This can happen if there are too many scripts or if the website’s server is slow.

In conclusion, a well-designed form is user-friendly, intuitive, and responsive, while a poorly designed form can lead to user frustration, high bounce rates, and lost conversions. Designing forms with the user in mind, providing clear feedback, and optimizing for different devices and accessibility needs are essential for a positive user experience.  
  
Reference Links:  
<https://www.w3.org/WAI/standards-guidelines/wcag/>

[Links to an external site.](https://www.w3.org/WAI/standards-guidelines/wcag/)  
([https://material.io/design Links to an external site.](https://material.io/design)  
(<https://www.smashingmagazine.com/>

[Links to an external site.](https://www.smashingmagazine.com/)  
(<https://www.nngroup.com/>

* [Links to an external site.](https://www.nngroup.com/)

Google does an excellent job with their input forms in their online store (store.google.com) especially as it pertains to things like purchasing devices (i.e. phones). The forms are integrated into the site excellently and convey the same design language and styling as other elements. It also feels less like a dry sign-up form and more link an interactive process to help you refine your purchase (as intended). I believe some of the features that for me make up an excellent form are the ability to disappear into the site and feel like part of the site’s functions and style, ease of use and clear instructions that not only let you know what information is needed but what it’s for and how it will be used.

What makes a webform hard to use?

* One that does not tab through the fields correctly in desktop mode. In the past, I have gone through forms filling out fields on a desktop browser and used the tab button to move to the next field only to be taken to 2 or 3 fields away.
* Mobile webforms where payments happen where the number pad is not popped open to make it easier to enter in your credit card – so unnecessary.
* Too little difference in the webform’s font color and background color. It makes it harder to read and fill out.

What makes a webform easy to use?

* Well laid out fields that move between when using something other than a mouse to navigate between fields
* 10 key pad that pops up when you are required to enter a credit card.
* Easy to read fonts in colors that don’t make my eyes and head hurt to look at.

Hello Class and Professor,

        There are two sites that I use a lot. The first site is Amazon. They use a lot of input on their site. One input they use is to be able to search their site for what ever you are looking for, but this I feel is hard to use as you can be looking for external hard drive and the search will pull up hard drives that need to be installed into computers too and not just the external hard drive. The other inputs they use are easy to use as those are for putting in your shipping information, billing information, and payment information.

            The other site I use a lot is Gamefly. The inputs that this site use is very easy to use. It is not just your shipping information, and payment information either. When you search for a game, it gives you the game in all platforms or you get to pick what gaming system you are wanting the game for and it only pulls up the game you are looking for and it shows you if there are others in the series and you can also look for more than games but movies too.

            Both of these two sites use the inputs on their sites. As you can see when it comes to shipping, billing, and payment information both sites use the inputs very well. When it comes to searching for something one site uses the inputs better than the other one. I myself like when I can search for something and only get what I am looking for and not getting something to pop-up when searching for something that I am not wanting. It is hard to go through products to find what I am looking for when you get something like the external hard drive search to where you are also looking at hard drives you install into computers and laptops when that is not what I put in the search input.

**Week 3**

* What kinds of data are collected on visitors, and how does the site use that data?

The specific types of data collected from visitors and how a website uses that data can vary widely depending on the website’s purpose and policies. However, here are some common categories of data collected and their typical uses:

1. **Personal Information**:
   * **Name**: Some websites collect your name for personalization or account creation.
   * **Email Address**: Often used for account registration, communication, and marketing purposes.
   * **Phone Number**: May be required for account verification or communication.
   * **Address**: Collected for shipping or location-based services.
2. **Browsing Data**:
   * **IP Address**: Used to determine your approximate location and diagnose technical issues.
   * **Cookies**: Small files stored on your device that track your browsing behavior, preferences, and login status.
   * **User Agent**: Information about your web browser and device, which helps optimize the website for your platform.
   * **Page Visits**: Records of the pages you view and the time spent on each page.
3. **Transactional Data**:
   * **Payment Information**: Collected for processing payments for products or services.
   * **Purchase History**: Stored to facilitate returns, refunds, or recommendations.
4. **User-Generated Content**:
   * **Comments**: If you leave comments or reviews, the website may collect and display this content.
   * **Uploads**: If the website allows you to upload files or media, they will store these files.
5. **Analytics Data**:
   * **Traffic Patterns**: Information on how users navigate the website.
   * **Demographics**: Data that provides insight into the age, gender, and interests of visitors.
   * **Referral Sources**: How users found the website (e.g., search engines, social media, direct links).
6. **Social Media Data**:
   * **Social Media Profiles**: If you log in using a social media account, the website may access some of your profile information.
   * **Social Sharing**: Data related to content you share on social media platforms.

* What concerns do you have (if any) about your security and privacy on the Web?  
    
  Here are some potential security and privacy concerns that they might need to address:
  1. Data breaches: Any system that collects and stores data, like user queries or interactions, is at risk of data breaches. Protecting against unauthorized access and maintaining strong encryption protocols is crucial.
  2. Privacy of user data: Maintaining the privacy of user interactions and data is essential. Developers need to ensure that sensitive information is handled appropriately and in accordance with data protection regulations.
  3. Misuse of the system: There’s a risk that users could misuse the system for malicious purposes, such as generating harmful content or engaging in illegal activities. Monitoring and moderation mechanisms may be necessary to mitigate this risk.
  4. Ethical concerns: AI systems like mine can inadvertently generate biased or harmful content. Developers need to continuously work on improving the ethical and responsible use of AI and mitigating biases.
  5. Cybersecurity threats: Like any online service, the servers hosting AI models like mine are vulnerable to cyberattacks, including DDoS attacks, malware infections, and other security threats.
  6. Identity verification: Ensuring that users are who they claim to be is a challenge, as it’s possible for individuals to impersonate others or use the system for deceptive purposes.
  7. Compliance with regulations: Developers must comply with various regulations, such as GDPR in Europe or HIPAA in the United States, to protect user privacy and data rights.
  8. User consent and transparency: Maintaining transparency about data usage and obtaining proper user consent is essential for ethical and legal reasons.
  9. Ongoing updates and maintenance: Keeping the system secure and up to date with the latest security patches and improvements is an ongoing challenge.
  10. Accountability and responsibility: Developers need to take responsibility for the consequences of their AI systems and have mechanisms in place for addressing issues and receiving feedback from users and the public.

In summary, while I don’t have personal concerns, the developers and operators of AI systems like mine need to be vigilant about these security and privacy concerns to ensure that users are protected and that the system operates responsibly and ethically.

* **What kinds of data are collected on visitors, and how does the site use that data?**
* **Are you surprised at what is collected and how it is used?**
* **What concerns do you have (if any) about your security and privacy on the Web?**

Every single day I use the internet to either look read my e-mails, do my banking, pay bills, read my on-line copy of today’s newspaper, do DeVry homework, and of course, use either MS Bing or Google to look up anything from Web Application/Design tutorials to cooking recipes to research a product.  I have known for ages now that they collect information on me and my browsing habits.  Do I visit their privacy policies page?  Hardly ever, but after doing research on these topics, I did go on MS privacy page and clicked certain settings to restrict the information about me that is collected or passed on to other 3rd parties.  As some of you might have experienced already, I was looking online at loveseats to add to my living room furniture and the next day loveseat ads are appearing everywhere as soon as go online.  Ugh.  So, I really do have to pay closer attention to the privacy policies of all the sites I regularly frequent for security and privacy concerns.  Google probably knows what I had for breakfast this morning!

From visiting MS main privacy page, these are the following types of data collected by MS on visitors. but it can vary depending on the other websites and the purpose.  Some common types of data that websites may collect include:

Hello,

**Discuss ethical issues on user monitoring. How is this done legally? (Please answer this from the perspective of monitoring on the server, not an employee being monitored when he or she goes to particular websites.)**

Ethical issues in user monitoring can violate the integrity and credibility of data results without the consent of a user. In order to monitor legally, I think that the monitors have to obtain informed consent, ensure confidentiality, and protect vulnerable groups such as children, women, and people with disabilities. Another form to monitor legally is the ethical considerations that work to ensure that the data collected is accurate, valid, and reliable. This is done by following ethical principles and standards to ensure that the data collected is representative of the target population and is not influenced by bias or external factors. Of course, there are many other ethical ways to monitor legal risk management as well.

Luli, F. (2023). Ethical Considerations in Monitoring and Evaluation. Retrieved by https://www.evalcommunity.com/career-center/ethical-considerations-in-monitoring-and-evaluation-me

From what I have seen with the companies I have worked for is that most of the monitoring that is done for the server is done with putting restrictions on sites that the company does not want their employees or visitors to go to while on the network. Most of the information that is monitored besides sites is also if any personal information used while on the network for any reason at all. The traffic is one of the biggest thing that is monitored too so that if there is an attack or breach those who are in charge of keeping an attack out or a breach from happening, they can take action when they see the traffic when it is higher than most.

            There is not much that surprise me about information that is collected and how it is used when it comes to data and monitoring information either. There are times when it is used for good and sometimes if unlucky it is used for bad. When it comes to my security and privacy on the Web, I try not to use sites that I do not know and I for sure do not make payments on a website that I do not know. I do not even buy from sites or apps like Etsy. I have had my roommate make more than a few charges on the site and had her bank information taken to where she had to get a new debit card so that her money would not be stolen. It is hard to stay safe but I try to do the right thing and when paying for products on the Web, I make sure the site has https in the front of it or I pay in person for the things I am needing and wanting.

**Week 4**

Hello Professor & Class.

A “data-driven” website is a type of website where the content and information displayed on the site are dynamically generated and updated based on data stored in a database or other data sources. In a data-driven website, the content is not hardcoded into the web pages themselves but is retrieved from a data source and displayed to the user in real-time.

Key differences between data-driven and non-data-driven websites are:

1. **Content Flexibility:** Data-driven websites allow for more flexible content management. Content can be easily updated, added, or modified without significant changes to the website’s code. Non-data-driven websites typically require manual coding to update content.
2. **Scalability:** Data-driven websites are well-suited for handling large volumes of content or products. They can efficiently manage and display extensive datasets. Non-data-driven sites might struggle with managing numerous items or pages.
3. **Personalization:** Data-driven sites can offer personalized content to users based on their preferences or behavior, as data can be used to customize the user experience. Non-data-driven sites provide a uniform experience to all users.
4. **Efficiency:** Data-driven websites often separate content from presentation, which can lead to more efficient site maintenance. Non-data-driven sites may require editing each page individually.

In summary, a data-driven website relies on data sources to dynamically generate content, offering advantages in flexibility, scalability, personalization, and efficiency compared to non-data-driven websites, where content is typically hardcoded into web pages.

* How does it differ from non-data-driven web sites (are there such things)?  
  Data-driven websites differ significantly from non-data-driven websites, and both types exist:
  1. **Data-Driven Websites:**
     + **Dynamic Content:** Data-driven websites display dynamic content that is generated or retrieved from a data source, such as a database, API, or content management system (CMS). Examples include e-commerce websites that display product listings, social media platforms with user-generated content, and news websites with constantly updating articles.
     + **Flexibility:** Content is separate from presentation, making it easier to update and manage. Changes to content often do not require altering the website’s code.
     + **Scalability:** Data-driven websites are well-suited for handling large amounts of data or content, making them efficient for websites with numerous pages or products.
     + **Personalization:** They can offer personalized experiences to users based on their interactions and preferences.
  2. **Non-Data-Driven Websites:**
     + **Static Content:** Non-data-driven websites display static content that is hardcoded directly into the web pages’ code. The content remains the same until manually updated.
     + **Limited Flexibility:** Content changes typically require modifying the website’s code or HTML files, which can be time-consuming and error-prone.
     + **Less Scalable:** Non-data-driven sites may become impractical for large-scale content management, as each page or element may need individual attention.
     + **Limited Personalization:** These websites generally offer a consistent experience to all users without personalized content.

Examples of non-data-driven websites include simple informational sites, personal blogs, and small business websites with relatively static content that doesn’t change frequently. In summary, data-driven websites leverage databases and dynamic content sources to provide flexible, scalable, and personalized experiences, while non-data-driven websites rely on static content and are generally less adaptable and dynamic. Both types serve various purposes depending on the content and functionality requirements.

 Ref:  
[Data Driven Websites and Dynamic Web Pages (create-website.org)](https://create-website.org/concepts/data-driven-website.html)

Hello Professor and Class!

After some research online, I saw there is tons of information about data-driven websites but I believe when we mention “non-data driven” websites, we are typically talking about static websites where the content is directly coded into the web pages.  These static websites display the same content to all users and do not have the ability to retrieve or update data dynamically from a database.   The main difference with a data-driven website is the content is not hardcoded into individual web pages.  Instead, the website retrieves data from a database and presents it to the users in a structured and organized manner. This allows for flexible content management, easy updates, and personalized user experiences.

Data-driven websites dynamically generate content based on user interactions or specific queries. They can display personalized information, perform calculations, and show real-time data.  “Non-data-driven” websites provide static content that remains the same regardless of user interaction.  However, because data-driven websites utilize programming and database technologies to retrieve, manipulate, and display data to the users, they are more complex than static websites and require more time, effort, and technical expertise to develop from scratch.  Data-driven websites rely on databases such as MySQL to store, retrieve, and manage data.  This involves designing and creating database schemas, establishing connections, and writing code to retrieve and update data dynamically.  This database integration adds complexity to the development process.

Overall, data-driven websites provide flexible content management, dynamic content generation, interactive features, and scalability, making them suitable for e-commerce platforms like Amazon and banking, content management systems, social media platforms such as Facebook, and other websites that require frequent updates, user interactivity, and personalized experiences.  Non-data-driven or static websites, on the other hand, are more static in nature, lack interactivity, and require manual updates to the content.

Sources:

[Static vs. Dynamic Websites: Here’s the Difference (hubspot.com)](https://blog.hubspot.com/website/static-vs-dynamic-website)

[Links to an external site.](https://blog.hubspot.com/website/static-vs-dynamic-website)

[Data Driven Websites and Dynamic Web Pages (create-website.org)](https://create-website.org/concepts/data-driven-website.html)

What is a “data-driven” web site?

Simply put a data driven website is a website that utilizes data to provide information and interaction with a user.  I have heard many times that data is the new gold.   A data driven website uses that gold to help the user.  The site could provide data on a users purchase history, when they purchased an item and how much they spent on that item.  Data can be used to send emails to users based on their browsing of the website or send an email based on items they have not purchased yet but have placed in their cart.  (Thats happened to me before) Or it could update you that the price on the item in your cart has dropped.  In this day and age I believe it is hard to find a website that is not somewhat data driven.  If you use a website to search for items on that website even that can be considered as data driven.

* How does it differ from non-data-driven web sites (are there such things)?

This would be a static website that users would go to and just read data that stays the same or is periodically updated by the developer.

 In this day and age it is difficult to find a non data driven website.  As I discussed previously data is the new Gold so a website that has little interactivity and no dynamic data would be considered a bit lackluster.  An example I could see of a static website is a small restaurant that has a page that displays the menu (which could be updated periodically ),  the address and pictures of the food served.

[**Week 5: Data Validation – Team Oberon**](https://devryu.instructure.com/groups/112962/discussion_topics/2942582)

Data Validation – Team Oberon, Week 5

Data Validation Is Important

Maintaining the integrity and correctness of information in any system requires regular data validation. This is why it is essential:

1. **Accuracy and Reliability**: Appropriate data validation makes sure that the information contained in the database is both accurate and trustworthy. Making informed decisions is aided by this.
2. **Avoid Data Corruption**: Incorrect data can corrupt or distort other related data and relationships if it is placed into a database.
3. **User Trust**: Users have confidence in systems to deliver accurate information. By guaranteeing that users receive reliable and consistent results, data validation upholds this confidence.
4. **Maintain Data Integrity**: Validation makes ensuring the data satisfies the requirements for format, length, type, and other set criteria, maintaining the database’s integrity.
5. Cost Savings: Post-entry correction of inaccurate data can be costly in terms of both time and resources. Validation can aid in preventing these pointless costs.
6. **Security**: Attacks like SQL injection may exploit some erroneous data or malicious inputs as a channel. Validation done correctly can reduce these vulnerabilities.

Consequences of Failing to Ensure Data Accuracy

1. **Compromised Decision-Making**: Business decisions that are based on inaccurate data may result in unfavorable consequences and be expensive.
2. **Loss of Trust**: If users consistently run into bugs or inconsistencies, they may lose faith in your system.
3. **Data Anomalies**: Inaccurate data can produce anomalies such as duplicates, orphans, or missing data, which might impair data analysis.
4. **Increased Maintenance Costs**: Fixing mistakes that have already occurred in a system takes extra effort and money.
5. Potential Security Risks: Systems may be vulnerable to security risks if data is not validated.

**Data Validation Methods**

1. **Type Checking**: Verify that the data is the appropriate type (text, integer, date, etc.).
2. **Range Checking**: Verify that the lowest and maximum values of numerical values are within permissible bounds.
3. **Pattern Matching**: Make sure data adheres to a specified pattern by using regular expressions; this technique is particularly helpful for emails, phone numbers, etc.
4. **List Checking**: Evaluate information in comparison to a list of permissible values.
5. **Consistency Checking**: Make that the data is accurate and consistent across related fields. For instance, the start date and finish date cannot be sooner than each other.
6. **Checksums and Hash Verification**: These techniques can aid in assuring the accuracy of data, particularly during data transfer.
7. **Database Constraints**: To protect data integrity, use primary keys, foreign keys, unique constraints, and other database techniques.
8. **Data Cleaning Tools**: Make use of specialized equipment and programs that can check databases for irregularities and discrepancies.
9. Use input masks to direct users into inputting data into forms in a correct and consistent format.
10. **Manual Review**: Occasionally, especially for difficult or important data, a human review is necessary.

Data validation is crucial to assuring the correctness, integrity, security, and usability of systems and is not just a “good-to-have” in this regard. Data that has been properly vetted lays the groundwork for strong and reliable systems that can consistently serve consumers and companies.

Top of Form

Bottom of Form