**27th Sep Assignment:**

1. **Differences between front end and back end**

| **Basis** | **Front End** | **Back End** |
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| **Definition** | **Front end development involves the effective implementation of visual components of a web application** | **Back end development involves the effective implementation of functions of a web application that includes databases, server management, etc.** |
| **Skills Required** | **The skill set required for the front end includes HTML, CSS, SASS, JavaScript, etc.** | **The skill set required for the back end development includes Python, Ruby, Java, PHP, etc.** |
| **Independence** | **Front end development cannot work independently except in the case of static sites.** | **Back end development works independently of the front end** |
| **Goal** | **The goal of the front end development is to ensure that the application is accessible by everyone.** | **The goal of the back end development is to ensure that the application runs under all the provided cases, be scalable, and work efficiently.** |
| **Development Team** | **The work of the front end development team is to design and develop the appearance of the application based on the user’s input and test it.** | **The work of the back end development team is to assist the front end in linking pages up, provide security and support to the users.** |
| **Frameworks Used** | **AngularJS, React, vue.js, etc.** | **Django, Flask, CakePHP, Laravel, Ruby on Rails, etc.** |
| **Additional skills** | **A good understanding of UI and UX designing.** | **Logical reasoning and problem-solving.** |

1. **Differences between UI/UX**

| **Basis** | **UX** | **UI** |
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| **Purpose** | **Design a complete product from a human-first perspective.** | **Create a product’s aesthetic experience from a human-first perspective.** |
| **Application** | **Digital and physical products** | **Digital products only** |
| **Focus** | **A fully immersive, pleasant user experience from start to finish.** | **A series of visual touchpoints that let users easily interact with the product.** |
| **The Creation Process** | **Developing structural design solutions that address potential issues consumers may encounter with the product.** | **Combining buttons, color palettes, images, and typography.** |

1. **Differences between library and framework**

| **S.No** | **Framework** | **Library** |
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| **1.** | **It comprises of lot of APIs , compilers , support programs , libraries etc.** | **It is a collection of helper modules , classes , objects , functions , pre-written code , etc.** |
| **2.** | **It is difficult to replace frameworks.** | **A library is easy to be replaced with another library.** |
| **3.** | **A framework development requires a lot of code that decrease performance and increase the load time.** | **Building a library requires less code , so there is better performance and fast load time.** |
| **4.** | **Including framework into an existing project is impossible.** | **Libraries can be integrated easily into existing projects to add some specific functionality.** |
| **5.** | **Framework examples are AngularJS , Spring , NodeJS , etc.** | **Library examples are JQuery , React JS , etc.** |

1. **ReactJS / AngularJS whether library or frameworks**

**React JS is a library and Angular JS is a framework.**

**5. Differences between mobile applications and web applications.**

| **Mobile Apps** | **Web Apps** |
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| **Need to download via an appropriate app store, which makes them less accessible to users.** | **Web applications are accessible instantaneously on browsers.** |
| **Flexible User interfaces and support complicated functionalities.** | **Can’t support complicated functionalities.** |
| **Patches/ Updates need to be downloaded from Play Store.** | **Updates/ Patches are applied straight to the entire web app.** |
| **While mobile application needs installation, they give faster navigation with shorter load times by obtaining the system’s resources.** | **Web application speed can depend on the internet connection quality, with poor connectivity leading to failing to load or extended loading times.** |
| **The build cost for mobile apps is higher than a standard web application.** | **The development cost for web apps is lesser than a common native mobile app.** |

**6. Differences between website and webpage.**

| **Website** | **Webpage** |
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| **Website is a collection of webpages displayed on the web with a client-like browser.** | **It is part of website that includes information and content and is displayed on the browser to user.** |
| **It contains more than one web webpages that contain information.** | **It is a single document display on the browser.** |
| **It is a combination of webpages created using HTML and CSS.** | **Information is usually written in HTML language.** |
| **It requires more time to develop the website as compared to webpages.** | **It requires less time to develop a webpage as compared to the website.** |
| **There is no extension included in the URL of the a website.** | **URL of webpage include extension.** |
| **It is complex to create the structure of the website and its programming.** | **It is quite easy and simple to develop web page after website structure is being created.** |

**7. Frameworks for javascript**

1. **Angular JS**
2. **Vue.JS**
3. **Ember.JS**
4. **Meteor**
5. **Mithril**
6. **Node.JS**
7. **Polymer**
8. **Aurelia**
9. **Backbone.JS**

**8. Libraries for python**

1. **Tensor flow**
2. **Matplotlib**
3. **Pandas**
4. **Numpy**
5. **Scipy**
6. **Scrapy**
7. **Scikit learn**
8. **PyGame**
9. **PyTorch**
10. **PyBrain**