St. Francis Institute of Technology

Department of Computer Engineering

Academic Year: 2020-2021 **Semester: VIII**

Subject: Human Machine Interaction

Class / Branch / Division: BE/COMP/A

Experiment No:- 10

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AIM : Design mobile app or mobile website

I - THEORY :

In this ever changing technology landscape, mobile apps have become an integral part of our daily life and that today the market is almost crowded with various types of mobile applications. Businesses that never thought of developing a mobile app are now considering it and are jumping on the bandwagon.

Mobile App Development Category Based on Technology:

The applications can be easily classified on the basis of technologies that are used to build them and the platforms that the apps can actually run on.

Native:

These apps are developed by using a single mobile operating system and so they are considered as native, that is specific for a particular device or platform. The most popular operating systems are the Android, iOS and Windows. The main benefit of creating a native app is the high performance that it delivers and at the same time ensures a better user experience as the developers use the native device UI. These apps have a clear tendency to reach out to target customers.

Mobile Web:

These are software based applications that function in a similar manner as native applications. It uses a browser to run and is mostly written in JavaScript, CSS or HTML5. They require minimum device memory and can work on PC web browsers and also a range of mobile devices that has different operating systems. The users can access them simply like a normal web page and also install them on their home screen by using very less device memory.

Hybrid:

These can be defined as the combination of the best of web and native applications. They are built by using the multi-platform web technologies and possess both the pros and also the cons of native and web mobile apps. They are usually fast and relatively easy to create. The single, reusable code based for all the platforms ensures a low maintenance cost and also smooth updates. But they at times lack in speed and performance.

Mobile App Development Category Based on Functionalities:

The 5 most important categories of mobile apps will help you to determine or even choose the best group to which your product will belong:

Lifestyle:

They have become very popular in the recent years and are the ones that support individual facets that define your lifestyle. Some common applications are related to fitness, travel, music and etc. They help the users to find what they like or dislike and help them do what they like the most to remain healthy and active.

Utility:

These are the apps that we use the most and many of them come pre-installed on the device and serve only a single function. We use them only for short periods of time for example, we only use a calculator to solve an equation or to calculate something. Some common apps in this category include reminders, calculator, weather, flashlight and etc.

Social Media:

These are some of the most popular applications available and most of us check it every day. Since we want an easy access to them, the applications should be very fast, fun filled and continually expanding the features that they support. They allow you to share a product or new item with your social network and make it easy for the users to share anything that they are actually passionate about. Examples are Instagram, Pinterest, Facebook and etc.

Productivity Based Applications:

This is another most popular category and they help the users to accomplish their task efficiently and quickly. The features help the users to remain competitive in the market and come up with different ways to do things that no one else is doing. For e.g. products Google and Apple like Docs, Sheets, Wallet/ Pay and etc.

Gaming and Entertainment:

This is the most used category of the App store and comes with various innovative features that are related to advanced technologies like augmented reality and Virtual reality. Some entertainment apps come in the form of games, music, videos and other related events.

II - OBJECTIVE :

To understand mobile app development category based on technology and functionalities

and create mobile app or mobile website.

III - PROCEDURE :

1. Open the justinmind tool and select the prototype that you want to create(options like desktop, mobile,tablets, etc.)
2. Now a blank screen will be visible.
3. You can select elements like Headers, Text, Paragraphs, Images , Videos, etc. and start creating your prototype.
4. You can add input fields, buttons, tables, links , shapes as well.

5. Once you draw a shape, on the right hand side you can edit its configuration in properties page.
6. Configuration will contain font size, style , color, Background colors, borders and more.
7. Above the configuration in the screens panel you can create multiple screens and then link the panels with buttons or text links.
8. Things to keep in mind while designing
    a. Choosing a proper menu structure suitable for the application
    b. Proper ordering and grouping of menus
    c. Use of line separators
    d. Providing short cuts for menus using keyboard equivalents
    e. Use of keyboard accelerators
    f. Choosing appropriate menu titles.
    g. Use of intent indicators
    h. Providing defaults
    i. Use of toggle menus wherever required.

IV - TOOL :

Name : Justinmind

Justinmind is a prototyping and wireframing tool for the creation of high-fidelity prototypes of web and mobile apps. It's known for its ability to render realistic versions of a finished product as well offering collaboration, interaction and design features. Overall, it's grown into one of the most popular prototyping tools in the industry. Software prototypes and wireframes created with Justinmind can be shared on the cloud and simulated with mobile devices. The prototyping tool also generates HTML for entire prototypes.

V - IMPLEMENTATION :

Using the justinmind tool we will be implementing a Internship management admin portal wherein the data of the students can be analysed and managed.

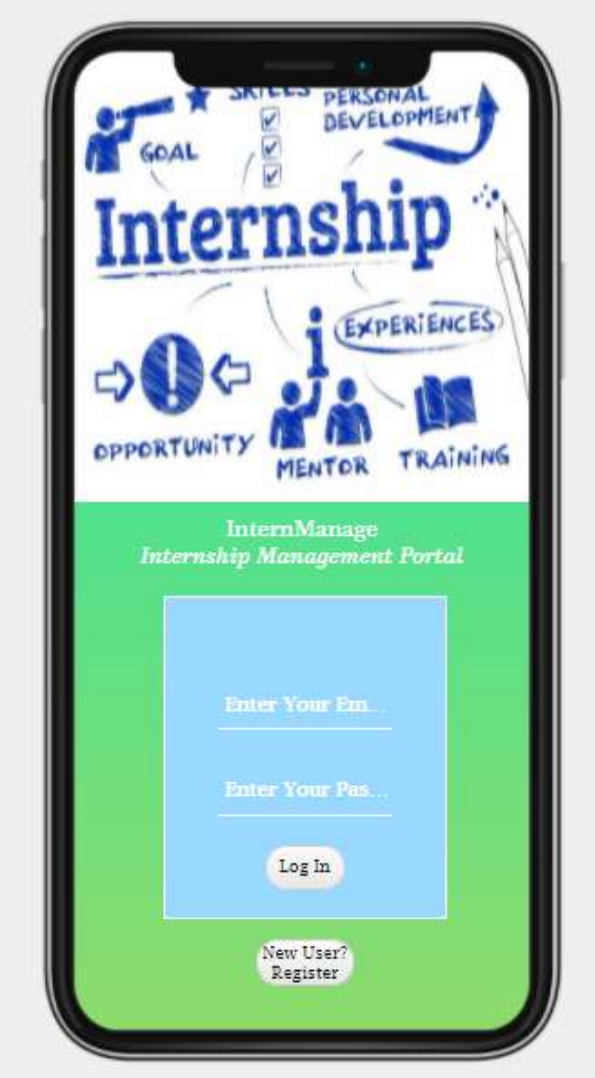

Figure 5.1 : Login Page

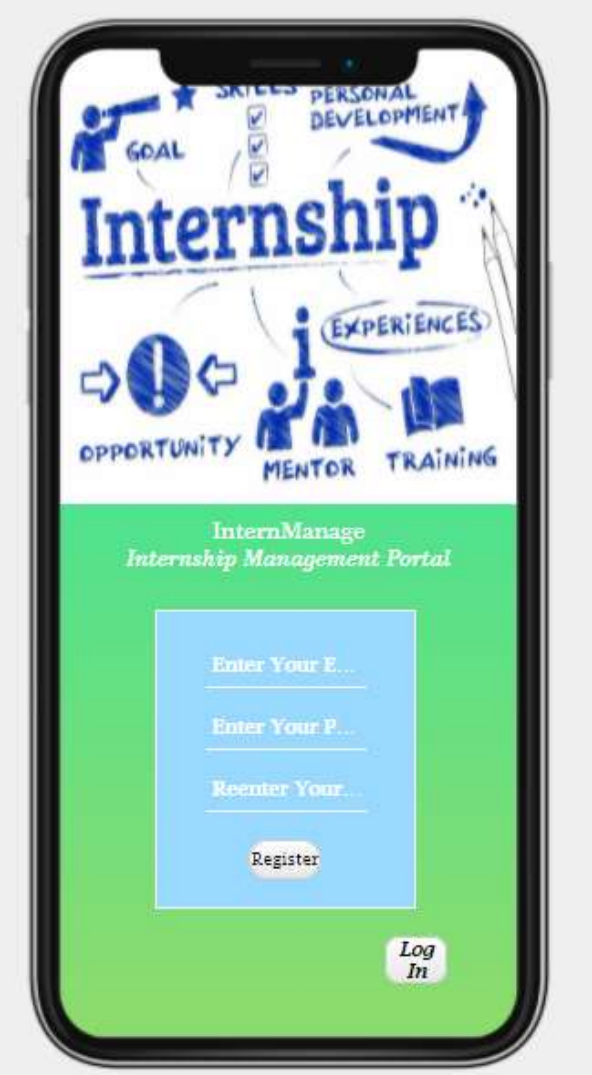

Figure 5.2 Registration Page

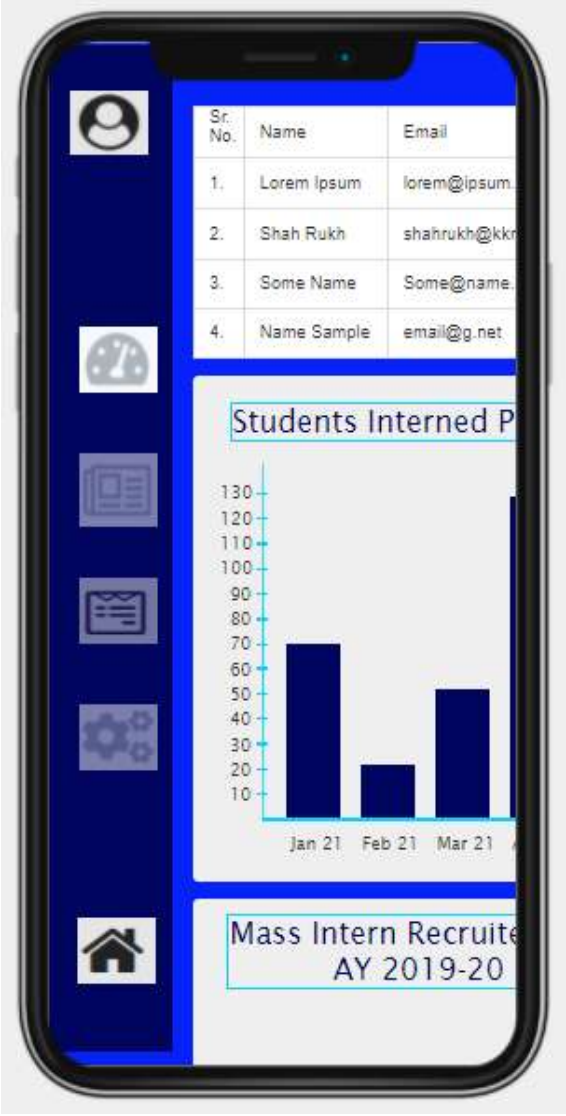

Figure 5.3 : Dashboard Page

Figure 5.4 Dashboard page after scrolling the page

Figure 5.5 : Add Data Page

Figure 5.6 Add Data page after scrolling the page

Figure 5.7 : Nav Bar

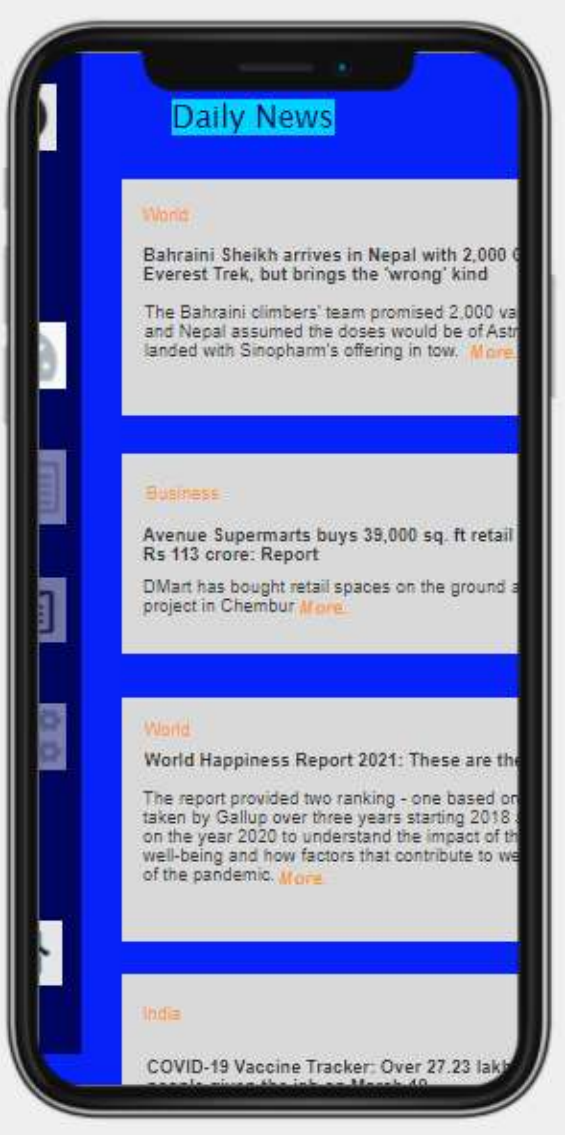

Figure 5.8 News Page (Scrollable)

Figure 5.9 : Settings Page

Figure 5.10 Settings page after scrolling the page

VI - CONCLUSION :

From this experiment we learnt about designing in mobile phones. It is very important to properly design the interface in mobile devices compared to web interfaces since the screen size is very small so the fonts, icons have to be properly used. We implemented an Internship management application by using Justinmind tool.

VII - POST LAB QUESTION ANSWERS :

1. What is the role of mobile platform?

Answer :

A mobile platform's primary duty is to provide access to the devices

- To run software and services on each of these devices, you need a platform, or a core programming language in which all of your software is written.
- Like all software platforms, these are split into three categories: licensed, proprietary, and open source

2. What is mobile web widget?

Answer :

A mobile web widget is a standalone chunk of HTML-based code that is executed by the end user in a particular way. Basically, mobile web widgets are small web applications that can't run by themselves;

- They need to be executed on top of something else
- Opera Widgets, Nokia Web RunTime (WRT),Yahoo! Blueprint, and Adobe Flash Lite are all examples of widget platforms that work on a number of mobile handsets.

Q3 What Is Mobile Information Architecture?

- The structural design of shared information environments
- The combination of organizations, labeling, search, and navigation systems within websites and intranets
- The art and science of shaping information products and experiences to support usability and findability
- An emerging discipline and community of practice focused on bringing principles of design and architecture to the digital landscape

VIII - REFERENCES :

1. https://en.wikipedia.org/wiki/Justinmind_(prototyper)

2. https://www.justinmind.com/