	BITM 2313 **HUMAN COMPUTER INTERACTION**

LAB 4: TRANSFORMING THEORY TO PRACTICE (PART 1)

BITM 2313	**SEMESTER 2**	**SESSION 2020/2021**

1.0 OBJECTIVE

To extract the design principles and identify user experiences on a variety of platforms.

2.0 INTRODUCTION

Currently we not only have multiple operating systems, these operating systems come to us from very different types of computing platforms and interfaces: hand held, laptop, desktop, tv, watch, anything that talks to a network. Different devices housing different platforms with different conventions and different purposes, but ultimately they exist to serve it's users, delivering information, entertainment and allowing them to accomplish daily tasks.

Designing products and experiences for this whole new set of platforms is a huge challenge and ultimately can either be a ticket to your product's demise or key for success. The fundamental goals of design systems are efficiency and consistency. These goals take on a different shape when we start thinking about multiple platforms. For designer, they will have to adapt an application's UI and UX to another platform while ensuring a consistent design language across the platform.

3.0 DESIGNING USER INTERFACES OF MULTI-PLATFORM APPLICATION

The muti-platform design of the application is determined by the guidelines with each platform. This can be useful if the application has complex functionality and the goal is to let the platform-specific users easily get to know these features.

Below are the principles of cross platform development (Dion Almaer, 2015):

- **Always understand the platforms**
It is smart to get people engaged and productive, but it is wrong to ignore the platform affordances, which will lead you to a destiny of a poor product for your users. If you are developing a product for iOS, the team should have a deep understanding of the platform and its capabilities. Once you understand the platform, your users, and your products you can get the best experience possible.

- **Don't build the same experience for mobile and desktop**

The mobile experience may be very different than your desktop one. For example, when building out the mobile applications for a shopping company, the developer focused much more on the in-store use cases. No one walks into the store with their laptop after all. This meant that the mobile applications were vastly different to the mobile website, which was more focused on e-commerce.

- **The user experience has to be responsive**

The view layer should render natively, as that is what gives you the right level of responsiveness. This doesn't mean that you can't power the view tier in a leveraged manner though.

- **Your architecture should be flexible and future proof**

What if that one piece of the UI isn't fast enough, is there a way to get closer to the metal? How hard is it to drop down to that level to make it happen?

- **Be able to test as much as you can**

A huge number of experiments are enabled to be run concurrently, which has huge changes throughout the product and organization. You can go from hypothesis to data and back again quickly. Rather than argue forever about a feature, just get it out there and see. The Web platform is fantastic at allowing these tests, so what is your strategy for running them on mobile? The app that you ship in the app store is a platform to run your experiences. That platform should have a configuration system, A/B testing system, and a great analytics system that all work together as a three legged stool.

4.0   LAB ACTIVITY

In a group of four students, choose <u>one</u> multi-platform application provided below:

i.   **Identify the differences of interaction design between the platforms.**
ii.   **Give your opinion about user interface multi-platform design adaptation for both platforms. For example:**

   a. **Presentation – the perceivable aspects, including media and interaction techniques, layout, graphical attributes**
   b. **Dynamic behavior, including navigation structure, dynamic activation and deactivation of interaction techniques**
   c. **Content, including texts, labels, and images.**

iii.   **Based on your supporting findings/reasons on user experience, which platform you think is the best.**

Multiplatform Application 1 : Google Maps

Figure 1 shows an example of the same task on two different platfroms. The task is showing spatial information. Figure 1(a) is the version for a desktop device, which covers a wider spatial area and also provides an overview highlighting where the detail view is located. Figure 1(b) shows the version for the mobile device highlights the current position of the mobile user, showing a smaller area with touch control for changing the zoom level.
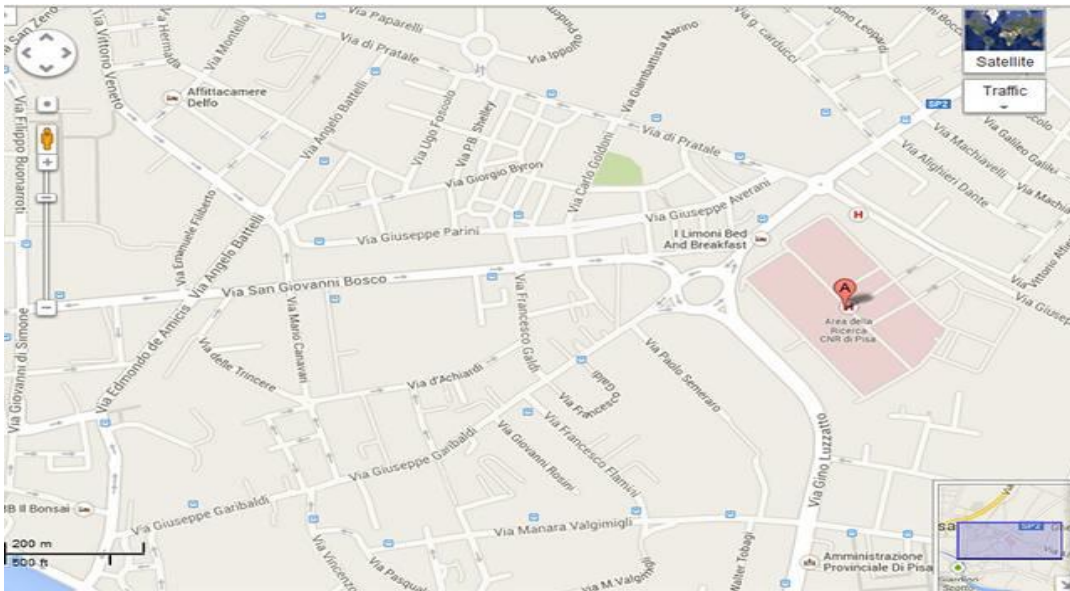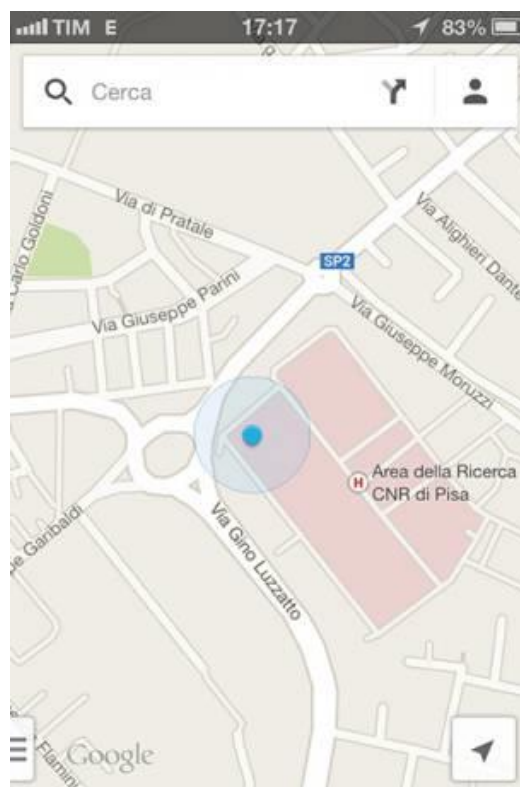

Figure 1(a): Google Maps – Desktop Version (https://www.google.com/maps)

Figure 1(b): Google Maps – Mobile Version
(https://play.google.com/store/apps/details?id=com.google.android.apps.maps&hl=en&gl=US)

Multiplatform Application 2 : Malaysia Airlines

Figure 2 shows a second example of the same task with diffferent user interfaces, and some different subtasks.
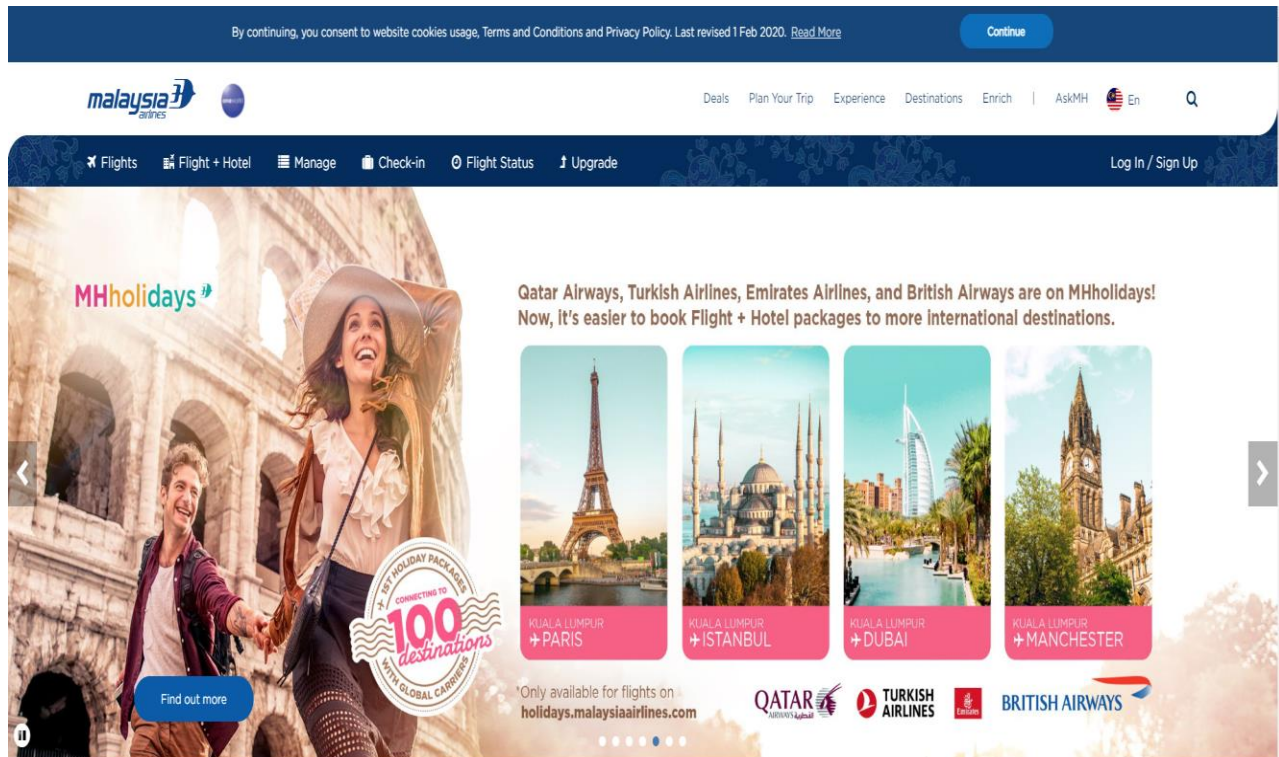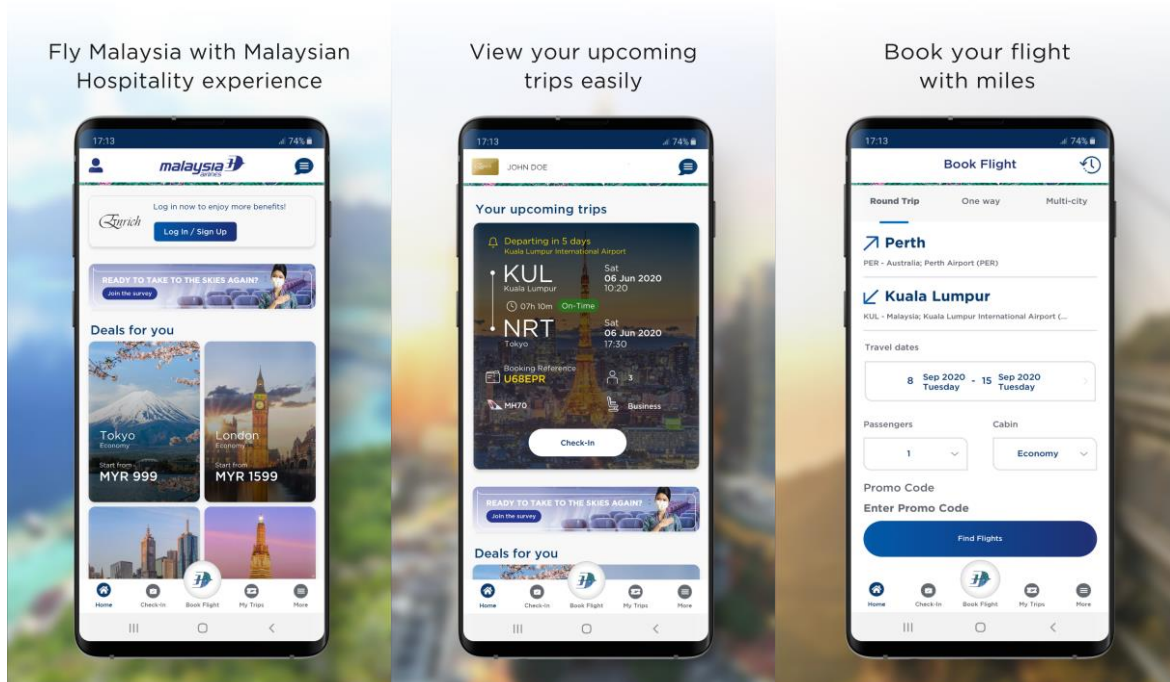

Figure 2(a): Malaysia Airlines - Desktop Version
(https://www.malaysiaairlines.com/my/en.html)

Figure 2(b): Malaysia Airlines - Mobile Version
(https://www.malaysiaairlines.com/uk/en/experience/mobile-experience/malaysia-airlines-app.html)