**Overview:**

Students work in partners to create a presentation on the subject of the accessibility and regional settings and options available in their assigned software application. The target audience for the presentation will be the ICS2O0 class and target length for the presentation will be 12 minutes (12 slides).

**Objectives:**

* To explore the Accessibility and Regional Equity options that must be considered when designing software applications
* To identify some common configuration options and settings that may be used when installing and running common software applications.

**Instructions:**

Work with a partner to research and prepare a presentation (12 min, 12 slides) on your assigned software application.

Share your completed presentation with Mr. Nestor ([p0079141@pdsb.net](mailto:p0079141@pdsb.net)) using Google Docs or using Email.

Presentations will be given in class starting Monday, March 18th.

**Presentation Outline:**

Wednesday - Thursday

1. General Application Overview
   1. Summarize the purpose of the application and what it does

The software application that I am talking about is google maps. Google Maps is a web mapping service that provides us with information about geographical regions and sites around the world. We can use it to navigate to destinations of our choice. It offers real-time traffic conditions and route planning by foot, car, bicycle. While it has road maps, it also provides aerial and satellite views. In some cities, regions and sites, Google Maps also provides a street view which is just photographs taken from vehicles. Google Maps has a route planner that offers directions. Google Maps for Mobile gives a location and navigation service for motorists that use the GPS location of the mobile device. In 2013, Google Maps was the world’s most popular app with over 54% of global smartphone owners using it at least once. Google Maps offers an Application Program Interface (API) that allows maps to be embedded on third-party websites. Much of the available satellite imagery is no more than three years old and is updated on a regular basis.

Now I will be talking a little bit about the history of Google Maps. Google Maps began as a C++ desktop program at Where 2 Technologies. In October 2004, the company was acquired by Google, which converted it into a web application and Google Maps was launched in February 2005. The service utilizes some JavaScript, XML, and Ajax which are coding languages. Google Maps for Android and iOS devices was released in September 2008 and features GPS turn-by-turn navigation along with dedicated parking assistance features.

* 1. Provide a screen shot of the application related to accessibility (see below)

The screen shot of the application: On Slides

* 1. Provide a screen shot of the application related to regionalization (see below)

The screen shot of the application: On Slides

Thursday - Friday

1. Accessibility  
   Accessibility options relate to supporting users with special needs so that they can make effective use of the application in spite of their physical impairment.
   1. Visually Impaired
      * Explain the issues or difficulties a visually impaired user might have using this application.

A visually impaired person can experience multiple problems with google maps. The first problem is that they may not be able to read the instructions on the phone or the computer properly. This can lead to them following the wrong instructions and then getting more problems to deal with. Another issue is if the person is completely blind, then they may not be able to type where they want to go and they won’t be able to follow any instructions shown on the device. The last problem that a person with a disability may face is that some of the routes that Google Maps gives may not be accessible by a visually impaired or blind person such as driving on highways. So, the person has to travel on public transit.

* + - Explain the options, settings, and other supports the application provides for visually impaired users.

The first setting is that the user can enable alerts about traffic, construction and crashes. This can be enabled by tapping sound on the top right of the application and then tapping alerts. To hear directions, the user can tap on the little speaker icon at the top right of the application. But the user may need help to enable these settings. Since Google Maps doesn’t have any options specifically designed for the visually impaired, Google has created new apps for those who are visually impaired while linking it to Google Maps. They will be doing this by creating 2 new android apps called WalkyTalky and Intersection Explorer. The apps will be specifically designed to help the visually impaired navigate. The new apps will use spoken directions directly from Google Maps and they will give the visually impaired the opportunity to explore the layout of streets before actually navigating them in the real world. Firstly, WalkyTalky is an audible directions app and it provides direct access to the walking directions of Google Maps. So, this app read the directions from Google Maps aloud but what makes it different from Google Maps is that it also says the names of the streets and intersections as you walk by them. This little feature really helps the visually impaired navigate easier. Secondly, Intersection Explorer is a touch exploration app and it is connected to the Google Maps location. So, it starts out at the current location of the user and the user can touch the screen and move their finger along to explore the neighbourhood. As the users explore, the app will speak out loud the street names and the directions to get there. If the user loses track of where they are on the screen, they can trace their finger in a circle on the screen and the app will call out each street that was passed as well as the compass directions. Both of these apps are free and they are connected to Google Maps. So, to summarize, Google Maps has settings for audio but they need to be enabled while Google has created 2 new apps for the visually impaired and they are connected to Google Maps.

* 1. Hearing Impaired
* Explain the issues or difficulties a hearing-impaired user might have using this application.

Some problems a hearing-impaired person with experience with this application is that while driving, they may not be able to hear the instructions Google Maps says while driving. Another problem that they may experience is that someone may hear the instruction but because of their bad hearing, they accidentally take the wrong route.

* Explain the options, settings, and other supports the application provides for hearing impaired users.

Since Google Maps doesn’t have any other options specifically designed for the hearing impaired, Google has created new apps called Live Transcribe and Sound Amplifier. Firstly, the app is Live Transcribe which gives the hearing-impaired text-to-speech capabilities, provides real-time captions for conversations that scroll on users’ phones. Live Transcribe works with 70 languages, some with multiple dialects, and also visually indicates the volume of the person speaking. This helps users know at what volume they should respond. This can give the instructions from Google Maps. Secondly, Sound Amplifier, which requires headphones, lets users amplify the volume of what they want to hear and reduce background noise. This can also give directions from Google Maps. These are different from Google Maps voice navigation because they are a lot louder and clearer. For someone who completely can’t hear, they will have to follow the directions shown on the screen. There is no need to set this up as Google Maps already shows the directions.

* 1. Motor Coordination (Use of hands)
     + Explain the issues or difficulties a motor impaired user might have using this application.

Some problems a motor-impaired person may have with this application is that they won’t be able to type their location of choice. They may not be able to change it or adjust the settings of Google Maps by themselves. This means that they may be left stranded and not be able to travel. Certain big cities like London aren’t usually known for being wheelchair accessible.

* + - Explain the options, settings, and other supports the application provides for motor impaired users.

There aren’t any options specifically designed for people who can’t use their hands but there is an option for someone who is motor impaired such as on a wheelchair. The option for solving this is that Google Maps has added a setting called wheelchair accessible for 6 major cities which are London, New York, Tokyo, Mexico City, Boston and Sydney. We can all help add more information about wheelchair accessible places so Google Maps and others have this knowledge and know how accessible a place. To use the feature of wheelchair accessible, set a destination as normal, then tap options, and then it can be found under the routes option. A user who cannot use their hands will need help choosing this setting.

* 1. Imagine that the application was designed for an impaired person from the ground up. Assuming that it would still be designed for non-impaired users, how might it be different from the current application?

First of all, it may have certain feature designs that are specifically made for people with disabilities. This means that some of the features would not be designed just for me so this may be inconvenient and I would likely not want to use it. It may be different for the current application because it will have a feature specifically designed for visually impaired such as louder directions, features for the hearing impaired such as directions being shown, and features for motor impaired such as wheelchair accessibility. But it may not have some of the features that Google Maps has for the convenience of the general crowd such as selecting bicycle routes.

Friday - Saturday

1. Regionalization  
   Regionalization options relate to supporting users living in different countries or speaking different languages. Regionalization also considers differences in date & time formats and different measurement units for temperature and distance.
   1. Language
      * Explain the issues or difficulties this application would present to a non-English speaking user.

Some of the problems that this application would present to the non-English users are the language. Google Maps is in English and there are many countries with people that don’t know or understand English but understand their own language and want to get around. They will not be able to do so unless they can understand what Google Maps is saying.

* + - Explain the options, settings, and other supports the application provides for different languages.

The options for this are that Google Maps allows the user to change the voice and the language. To do this, go on to the Google Maps application, tap the menu settings, tap navigation settings voice, and then choose a voice and language. But if the user is on a computer, then they need to click menu, then go to language and choose a language out of the 80 that are offered while other languages are being slowly added. The languages that Google Maps offers make it usable for billions of people.

* 1. Location
     + Explain the issues or difficulties this application would present to a user living outside of North America.

Some of the problems that this application would present to the users living outside of North America is the distance measurements, and that people can travel on pathways which aren’t roads or highways. The distance measurements can be a problem because someone may want to travel to a different country but they only know one distance measurement while the country that they are travelling to is using another distance measurement, this can lead to people feel dissatisfied and even lost. Secondly, people live in places where there aren’t just roads or highways, there may be trails or dirt pathways that they use to travel to different places.

* + - Explain the options, settings, and other supports the application provides for different locations.

There are 2 main settings that can be changed to solve this. Firstly, to fix the issue of distance measurements between metric and imperial, the user can click the legend at the bottom of the screen. This can toggle the distance measurement between metric or imperial or km or miles. Secondly, the option for a place with dirt or unpaved roads in bicycling. To enable this setting, click the dropdown menu and then select bicycling. This will show paths for trails, dedicated lanes, bicycle-friendly roads, and dirt/unpaved trails. What I noticed with this is that it is only in the cities of North America and not anywhere else. Google is planning on improving this for cities around the world.

* 1. Imagine that the application was designed by a company from a small country like Sweden. Assuming that it would still be designed for North American users, how might it be different from the current application?

The application will probably be moderately different. The main difference could be that it was only designed in detail for Sweden. The precision and detail of the map for other countries could be outdated and not convenient. I would probably not want to use it if there was another application about maps that was better. It may be different because the language options provided by that application may not be up to date or effective and grammatically correct as the current Google Maps. To summarize, there will be a lot of small differences but they add up and it will be clear that this application will be different from the current one.

**Topic Signup Sheet**

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