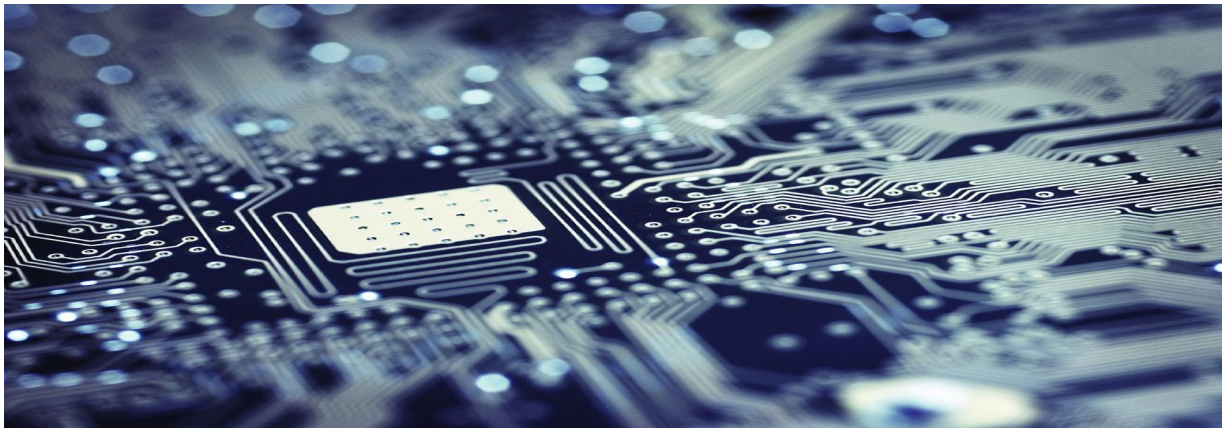
Assignment 2

Heuristic Evaluation



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Team Platypus Cognitive Walkthrough:

Link to the presentation:

https://docs.google.com/presentation/d/1L-Qr3FXkg8vlcjn9CTJ7YQ0jnj-zBaNd7SY8udJu9uI/edit#slide=id.p

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The Keweenaw Time Traveler Project:

This project enables historians,history professors,students, tourists,archaeologists to explore the history of the rich Keweenaw Peninsula. User of the Keweenaw Time Traveler can look through the history of any place in the keweenaw using the geographical location of the place. The Archives include a set of pictures,maps,and other historically significant information. The data available through this App will help the use track the history of the Keweenaw through the years and will better the learning experience for the students.

Keweenaw Time Traveler Design:

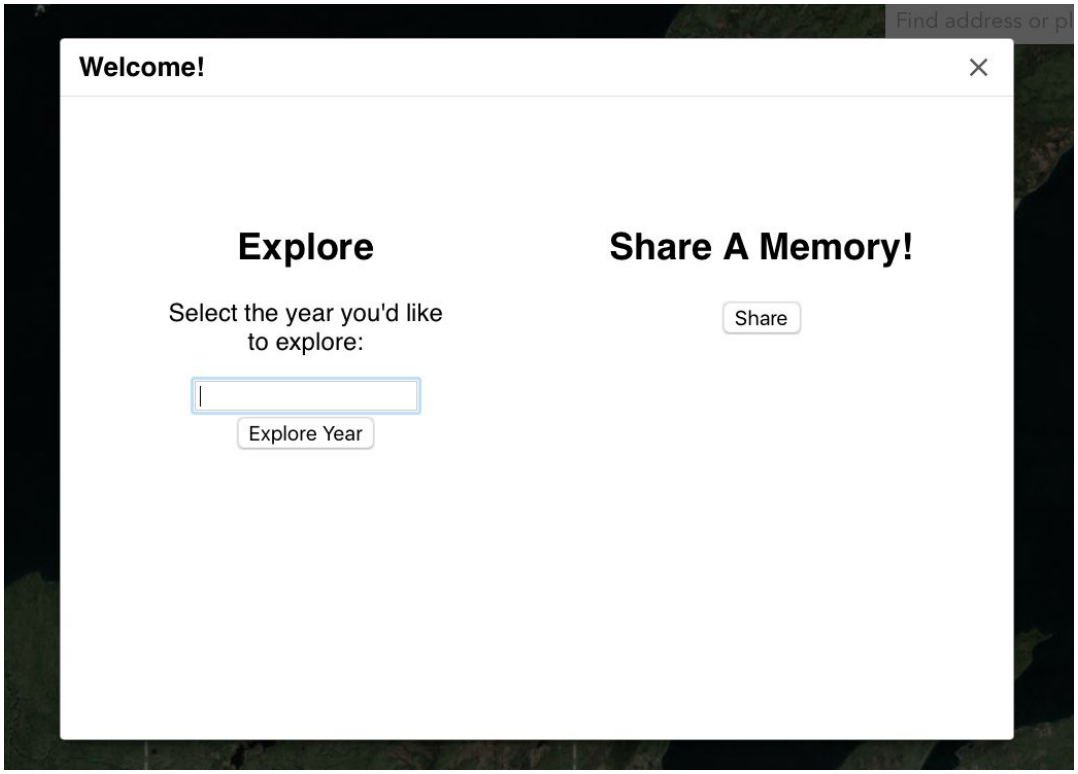
User of the Keweenaw Time Traveler App would first see the Welcome page. The welcome page has two options on it. One of the options is called Explore and the other one is called Share a memory. The two options displayed are for two distinct users of the app. The explore option is used by people wanting to explore the history of the keweenaw and the Share a memory option is used by people who want to contribute to the archive.

If the user chooses to Explore then the user has to choose a year that he/she wants to explore and click the explore button. This takes the user to the next page. On the next page a map is displayed with different pin points and the user can click the pin point he/she wants to reveal the historically significant documents that are associated with the place. The User also has an option to Filter the results depending upon the season eg: Summer . Finally in the next page the User can View the Points of his/her interest.

In an alternate situation where the user wants to submit an entry such as a picture he/she clicks the share button under the share a memory title. Then the user is directed to the next page on this page the user is asked to fill out a form through which the system gathers information about the person and the post. This information includes the name of the person,the title for the post he/she wants to make,the description of the post that the person is making the, the significant date of the post and then the user uploads the picture. Next the user is navigated to the next page where the point which he/she has submitted is saved and shown on the page.

UI Domain:

The Keweenaw Time Traveler is a mobile-web application used to track draw up the archives from the database when required by the user. These archives are the documentations for the history of different places in the Keweenaw. The UI for this app should be very simple and user friendly as the users of this app come from myriad walks of life. The UI of this app uses many utilities such as buttons,drop down menus, maps,search bars etc.



List of heuristic usability principles for the designs

UI domain:

- **Visibility of system status:**
    - user should receive appropriate feedback for each of his/her actions in a fair amount of time, so that the user can finish his/her tasks efficiently.
    - In the Keweenaw Time traveler App the user can be provided a feedback once he/she submits the photo successfully.
    - In-case there is a situation where the submission cannot be made because the user loses connection while uploading the file. A provision to inform the user that the submission was not made could be beneficial to make the app more user friendly.
    - While the user is waiting for the picture to load a progress bar would also be advisable.

- **Match between system and the real world:**
    - The User Interface should be such that it makes it easy for the user to navigate through the app without being instructed. If the app is to complicated to use the user will most likely lose interest and develop an aversion towards the app. The app should follow the logical order and the natural flow of the real world so that the user has to make minimum effort to use it.

- In the keweenaw time traveler app to maintain the natural flow of the real world the homepage uses Explore and share a memory as titles this makes it very easy for the user to understand the function of the buttons provided as compared to submit or search.
- It might be worth considering that the app should be multilingual as the users of this app might be tourists and might not speak English.

- **User control and freedom:**
  - If the user does an action that was not intended wants to undo an action that h/she has done then the user should be given the power to do so.
  - The App should have a back button to redirect the user to the previous page
  - In-case the user uploads a wrong picture then the user should be able to see the picture before submitting it and there could be a discard button so that the user can upload the correct picture again.
  - While uploading a picture if the user tries to exit the app it is most likely that this was by mistake a prompt could be provided to make sure that the user really wants to exit the app.

- **Consistency and standards:**
    - The app should maintain the same meanings for the buttons,actions and situations. The app should use platform conventions. This helps to eliminate ambiguity from the mind of the user.
    - In case of this app the user may or may not be technically profound so the technical language used in the app should be kept under check.

- **Error prevention:**
    - We should make sure that we eliminate errors from the app for this we must make sure that error causing actions are not taken while the user is using the app. This can be done by informing the user of situations where an error is triggered.
    - For the Keweenaw Time Traveler app if the app specifies the type and the max capacity of the file that can be uploaded the probability of the user committing an action which will cause an error is minimized.
    - The if the GPS location of a certain point could be misplaced by the user the app should ask for a confirmation about the GPS location from the user.

- **Recognition rather than recall:**
    - The main objective should be to ensure the ease of the user. In order to do this it is necessary that the user doesn't have to remember his

actions from the past to do his present actions. An app should be designed such that the user does not have to remember his/her actions.

- The system should be able to remember the name of the user and the details for multiple posts for the same place and same event.

- **Flexibility and efficiency of use:**
    - The User experience is made easier,faster more efficient and the actions of the user can be altered as and when required.
    - The data should be efficiently entered into the system, the photos uploaded should be uploaded quickly and one must try to avoid lag for this efficient databases need to be used.

- **Aesthetic and minimalist design:**
    - The design of the app should be pleasing to the eye and should provided minimal icons for navigating through the app.
    - The Users should be able to see the explore and Share a memory titles distinctly differently. Using a color scheme to differentiate the two may prove helpful.
    - The various pinpoints on the map for different towns or regions could be color coded.

- **Help users recognize, diagnose and recover from errors:**
    - The errors occurring should be explained to the user in lucid language so as to facilitate the understanding and thereof solving of the problem causing the error.
    - If the INTERNET connection is lost then the app should notify the user and the user. A checkpointing principle can be applied where if the user has filled the form when the INTERNET connection fails the information is saved and then once the connection is back on the user can upload the image.
    - Another issue can be of an invalid year if the user enter an invalid date then he/she should be notified that the date is invalid.Validation plays an important part in this process.

- **Help and documentation:**
    - Providing concise,lucid and convenient documentation to the user aids the usability experience.
    - A help icon can be added to the app to make it easy for the users to understand the flow of the app. If the help is a pictorial representation of the flow then it is much easier for the users to understand and use the application.

List of usability problems generated from the heuristic evaluation

- **Redundant entries**
    - There might be entries which are unnecessary or superfluous. The App needs to keep precise entries so that the database is used efficiently.

- **Loading times**
    - Another major concern is the loading time the loading time of the App decides the efficiency and the user-friendliness of the app. The loading time is Dependant on the database architecture that is used.

- **Input formatting**
    - As a user types something into an input field the value should be adjusted automatically, adding things like punctuation and dashes, trimming spaces, removing unexpected characters, and changing the word-casing. The input for the form should be such as to make the experience very user friendly. On the other hand the format for the photo to be uploaded also needs to be specified.

- **Photo quality**
    - The photo quality of the upload should be maintained and depleted through the process of uploading it . There might also be a provision made so that users can upload only good quality photographs.

- **Cluttered mobile view**
    - The mobile View of the app should look neat and tidy.

- **Robots and Spam**
    - Since there is no provision for validation of the user anyone can submit the photographs moreover there can be anyone who submits on someone else's name or gives a wrong GPS tag or submits fake information there is no way of validating the person or information submitted to the app. All these actions can be taken using a program which is programmed to attack an app called as a robot. To avoid this authentication such as captcha should be placed to identify a human.
- **Help documentation:**
    - provide a feedback once User submits the photo successfully.

- **Informing the user that submission cannot be mad**
- **Progress bar for loading the picture.**
- **Explore and share a memory should be in contrasting colors**
- **The app should be multi-lingual**
- **User should be able to see and discard a picture before loading it.**
- **Prompt for users trying to exit or trying to meddle with the uploading or a picture.**
- **Confirmation for GPS location from the user should be obtained.**
- **The system should be able to remember the name of the user and the details for multiple posts for the same place and same event.**
- **Color code different regions on the map**
- **Lucid language for interrupt handling.**
- **The user should be notified about the loss of the INTERNET connection and using check pointing principle the data that is saved until that time remains unharmed in this situation.**
- **Notification for user entering invalid time or date**
- **on can be added to the app.**

Identification of critical usability concerns

- If the user has entered wrong information, there is no way to cancel it.
- If the INTERNET connection breaks down or is slow then the user has is not notified. The user has to restart uploading the document and start the process right from scratch.
- When the user has to upload multiple images he/she has to do it one after another the app does not allow the user to upload multiple images at once in varying formats.
- The format for the image and text entries is not validated neither is it specified.
- Spam attacks and people uploading inappropriate or images with bad quality.

Illustrate the critical usability concerns with a short story

Mr Saraf is an alumni of Michigan Tech from years ago. He comes back to campus to visit while he is on a trip to the upper peninsula. He has a flare for photography and hence has a collection of many pictures from the region of Hancock and Houghton from his university days. Mr Saraf is now old . He decides to upload pictures that he has clicked and hence makes digital copies of his pictures by scanning them. Mr Saraf scans the pictures using a PPM format. He uses the app and then he clicks on share a memory. The app navigates to the next page where he begins to enter his data,but since Mr Saraf is old his vision is impaired and thus he enters his information wrongly and instead of entering the month date year he enters the date month year ,since there is no prompt to validate the date he continues with the process,Mr Saraf has 10 pictures to upload and the digital copies are in the PPM format he starts uploading them one at a time,the images don't get uploaded Mr. Saraf is frustrated. The INTERNET connection Mr saraf is using is slow and it breaks down,Mr saraf gets no notification of this and gets even more agitated. When INTERNET connection is functional Mr saraf has to start the process right from the beginning. Mr saraf then tries to look through pictures others have posted and goes to the explore tab the pictures posted on one of the point is of a cat Mr saraf thinks this app is actually not very effective and decides to uninstall the app from his smart phone.