Assignment 1: Yuvraj Geet Singh Chopra

Introduction

This report is a comprehensive evaluation of the Cineplex website (www.cineplex.com) in terms of its design, how users interact with the website and where the website fails or succeeds in human computer interaction. This study includes a Heuristic evaluation based on Nielsen's Heuristics and then a usability study performed on two different users to gauge how real life users would interact with the website and the connections between the heuristic evaluation done earlier and their experiences in using the website. This would further help us understand and suggest possible changes to the website which could improve user experience and make it adhere to good practices of Human Computer Interaction.

Heuristic Evaluation

The following Nielsen's heuristic violations were found on the website after rigorously navigating through various aspects of the website.

1. **Violation**: The button named "Event Cinema" on the home page is unclear in its meaning
    Heuristic(s) violated: Match between system and the real world (2)
    Severity: 3 - Major usability problem: important to fix, so should be given high priority
    Solution: Change the button name to "Special Events" or something similar since it shows a list of special screenings in theatres when clicked.
    This is a major usability problem since it leaves users confused on its functionality. Since it is actually used for displaying current special screenings going on, it is important to change the name of the button because there is a higher chance of people missing the screenings by not clicking on the button.

2. **Violation:** The drop-down menu for listing theatres throughout the website is not sorted according to any category.
    Heuristic(s) violated: Match between system and the real world (2), flexibility and efficiency of use (7)
    Severity: 3 - Major usability problem: important to fix, so should be given high priority
    Solution: The drop-down should display the nearest theatre to the user currently on the website, or should have another valid grouping if the user does not give permission to access their location.
    This is a major usability problem as the drop down shows random theatres at the top which does not make sense if, for example, the user is in Toronto and the first theatre that shows up is in Halifax. This would also make the user do unnecessary work to complete their task.

3. **Violation:** The movie lists on the website (drop-downs and otherwise) have no other sorting option other than latest release date, especially for viewing a list of non-English movies.
    Heuristic(s) violated: Match between system and the real world (2), flexibility and efficiency of use (7)

Severity: 3 - Major usability problem: important to fix, so should be given high priority
Solution: Add grouping options for displaying a list of movies, especially movies based on language.
This is especially important if users want to watch a movie in any other language besides English. It is really hard to find all movies in any other language and some movies could not be found at all due to this issue.

4. **Violation:** In the movie details page, there are two potential ways to reserve tickets for the movie.
   Heuristic(s) violated: Aesthetic and minimalist design (8), consistency and standards (4)
   Severity: 1 - Cosmetic problem only: need not be fixed unless extra time is available on project
   Solution: Remove one method for booking the tickets, mainly the one which is at the end of the page since it is redundant.

5. **Violation:** The movies under "Coming Soon" do not all show a release date. The release is visible on the main page for only some movies and for some you have to click on the movie to see the date in its details page.
   Heuristic(s) violated: flexibility and efficiency of use (7), consistency and standards (4)
   Severity: 2 - Minor usability problem: fixing this should be given low priority
   Solution: All movies should have their release date listed at the same place. If there is no slated release date for the movie yet, it should be mentioned there in place of the date.
   This could be misleading to users as not seeing a date in its place would immediately make them assume that the release date is not set yet however opening the movie page would show them a date.

6. **Violation:** The website's UI design is not consistent throughout all pages. The /showtimes URL has a slightly different UI while the /people URL has another slightly different UI, in terms of flatness, shadows etc.
   Heuristic(s) violated: Aesthetic and minimalist design (8)
   Severity: 1 - Cosmetic problem only: need not be fixed unless extra time is available on project
   Solution: The UI elements on all pages should be consistent so as to follow a constant design scheme throughout the website.

7. **Violation:** The button labeled "Showtimes" under each movie forces a needless error since you must enter a theatre first before you can see show times for a movie
   Heuristic(s) violated: error prevention (5), user control and freedom (3)
   Severity: 2 - Minor usability problem: fixing this should be given low priority
   Solution: The button should be removed or it should display all possible show times of the movie in nearby theatres.
   Since clicking the button produces an error and there is another way to accomplish the task, there is no need for this button. The issue is not significant enough to cause a huge usability issue since there is already a way to accomplish this task in another way.

8. **Violation:** Entering a movie name incorrectly on the Showtimes page does not show if it is incorrect. Moreover, a movie has to be clicked on the drop down for it to be selected, simply clicking enter after entering a movie name does not select it, even if it is correct.
   Heuristic(s) violated: error prevention (5), Visibility of the system status (1)
   Severity: 3 - Major usability problem: important to fix, so should be given high priority
   Solution: There should be an error displayed if a movie name is incorrect and users should be allowed to select/autofill movie names by only entering a phrase and not the complete movie name.
   This is a major issue since navigating through the above-mentioned page is a very big hassle due to the problem mentioned and it should be fixed appropriately.

9. **Violation:** The page for the TimePlay app shows a button stating that it can be downloaded on Mac OS but it is a link for the iOS app. In fact, there is no Mac OS app for TimePlay.
   Heuristic(s) violated: Match between system and the real world (2)
   Severity: 4 - Usability catastrophe: imperative to fix this before product can be released
   Solution: The button name should be changed to iOS to indicate the correct OS.
   This is a usability catastrophe since wrong information is presented and this is unacceptable from a well renowned company like Cineplex.

10. **Violation:** The "Format" button is unclear in its meaning on the home page.
    Heuristic(s) violated: Match between system and the real world (2)
    Severity: 2 - Minor usability problem: fixing this should be given low priority
    Solution: The button should be renamed to "Sort" or something to that effect to indicate a clearer purpose.
    This is only a minor problem since the button presents unclear information based on its title but after clicking on it users can get an idea as to what it is supposed to be. Therefore, it should be fixed, but with low priority.

Usability study methodology

After undergoing a comprehensive heuristic evaluation, I underwent a usability study with two real users, both UofT students and around my age, to understand if there is a connection between the evaluation and this usability and how they interact with the website. The study included formulating a conceptual model from each user and then making undergo a set of tasks. Three tasks were done individually by each user while 3 tasks were done together by them. The individual tasks involved using two methods, the silent observer method and the think aloud method, while the tasks to be performed together used the constructive interaction method. Both users performed the study really well and there a lot of interesting observations from the same. A pre-test evaluation was done before the test which helped me identify the potential strengths and weaknesses of the website. These tasks were set while keeping that evaluation in mind. Both users were given the set of 6 tasks that are as follows –

Task 1 (Individual): Select a movie
Your friend just messages you that she wants to watch a movie with you in the next couple of days. She asks that she wants to see "the new Jack Black movie" at preferably, the

Scotiabank Theatre. Assuming there are no time constraints on your end, try to find a movie show that best suited to the specifications mentioned above.

Rationale: This task would test how easy it is to find the movie with a specific cast member name known to the users. One user did not know who Jack Black was while the other know who he was. This task also tests how the users would interact with the website when a movie is not in a theatre since the pre-test evaluation showed that there was no show in the Scotiabank Theatre.

Task 2 (Individual): I wanna watch Aquaman!
You are a real DC movies fan and cannot contain your excitement for the new Aquaman movie. Find and report the release date for the movie, through the Cineplex website.

Rationale: This is a trivial task with more than one way to complete it. The idea behind giving this task was to see the different approached users used to find the release date since the movie is set to release in December.

Task 3 (Individual): Win free stuff!
You recently saw an ad in the movie theater that you can play a series of games in the theater and based on your answers, win prizes for the same. The app is called TimePlay and it can be installed on your phone. Find a way to install the app and know more about it through two ways – 1) using the search bar 2) without using the search bar. Report on the following – Which platforms can you download it on?

Rationale: This task involves searching for a feature of the website that has limited prominence and is not as common as searching for a movie. This task would help understand how easy it is to find information about things that are not the main feature of the website, which would be movies in this case.

Task 4 (Together): What to watch?
You're done with all your assignments for the coming month and want to spend your free time watching a movie. However, you don't feel like watching an English movie, but a Hindi one. Find a list of all the currently playing Hindi movies that you can see in the coming days.

Rationale: Since it was found that there is no grouping of movies, it would be helpful to see if users could find all Hindi movies currently playing and how they would go about accomplishing the same task.

Task 5: 4DX or IMAX?
You want to watch a show of The Nun. Try to figure out the best possible show you can watch, in terms of the viewing experience. Assume that you do not know what the different viewing experiences are and you would have to learn more about them to decide which one is potentially the best. Also, assume that there are no price and time boundaries.

Rationale: Since there are a lot of movie viewing experiences to choose from, this task would help identify how the users derived at a "best" experience and if that is the intended best experience as per the company.

Task 6 (Together): So, let's watch a movie!

Simulate a real movie booking experience between the two of you, the constraints being that you want to watch the movie in the next two days, and between 2PM and 3PM. Assume that you can travel to any theatre and all of them are at equidistant from you. Select a movie in which you can reserve the seats and proceed to book it (Stop when you land on the credit card page)

Rationale: This is a simple task in which the primary focus is to acquire knowledge through the users' constructive interaction. This would tell a lot about what a user is thinking when they are booking a movie and if they encounter any usability issue in the actual booking process.

Observations

Conceptual Model
Most of the conceptual model formed by both the applicants was accurate except for their understanding of the "Format" button and the "Corporate Sales". The "Format" button is supposed to sort the movie lists based on viewing experience, however both the users' interpretation was that it changes the layout of the movie list, something to the effect of changing between lists and grids etc. Both the users had the correct idea about the Corporate Sales button, i.e. it is used for bulk sales but they were not sure about it. Also, both users did not "have any idea of what "Event Cinema" means" to a point where they did not even try answering it. User 2 said that the Theatres button would be used to "search for theatres". The rest of the model formulated by both users was accurate. Both users also guessed right when they said that the main logo on the site is clickable and it redirects them to the home page.

Tasks – Individual
Task 2 was straightforward for the users, however, user 2 had a doubt about the release date since it did not explicitly mention it. Task 1 went smoothly, in the sense that both users successfully realized that the movie is not playing at the theatre mentioned. The main problem with Task 3 was the method to search for the TimePlay page without using the search bar. Both users were shocked to see that the link for the page was inside the Theatre button, which is why they took so long to find it, because they did not expect it to be there and did not bother looking it over there.
User 1: "Is it even possible to look for it?". User 2: "I don't see why it would be in theatres". User 2 also tried to complete the search terms using autofill but that was not a feature. Both users also reported that it could be downloaded on Mac OS and not iOS.

Tasks – Together
For Task 4, they ended up using the search bar to search "Hindi" and then they found a list of movies, which was not according to how I thought they would do it. User 2: "I spelled Hindi wrong" – but the search produced correct results. It was hard to see if the movie was currently playing or not. For Task 5, It went normal and they reported that the best available option was 4DX. For Task 6, it also went smooth, except they would have preferred if they could have chosen a movie by time. They also added a Superticket by mistake and did not realize until they saw the price for their tickets. User 1: "How do I add two users?". User 2: "Click Add twice". User 1 also thought that all seats were booked instead of the fact that all seats were empty.

Interpretations

System strengths – The search bar proved to be important in helping users accomplish the tasks. There is a good amount of information and documentation on the website, although it is sometimes difficult to look for it. "It is not terrible, but it is not great". The website is good for non-excessive tasks and if you know what movie you want to watch it does the job very effectively.

System weaknesses – The biggest weakness of the website was organization of the movies and theatres. The top navigation bar was very cluttered and some of the heads in it did not make sense. Also, the website is not good for browsing movies and/or theatres, e.g. when you want to choose a movie to watch or a theater to watch it in. Another common problem with the website is that many buttons are unclear in their meaning and this confuses users, even if they correctly assume its function.

Suggested Improvements

Based on all the above studies and factors I propose the following design changes to website.

1. **Make the search bar more prominent and search results more efficient**
   It can be clearly seen in the usability study that users prefer to use the search bar for most tasks. If the search results can be optimized and the search bar made more accessible, users would have a more efficient use of the website.
2. **Change the OS name on the download page of the TimePlay webpage.**
   As mentioned before, it is a usability catastrophe if wrong information is presented to the user. This creates a low image of the company presenting the information and it is very disappointing to see such a mistake. The button name should therefore be changed to iOS instead of Mac OS.
3. **Better organization of data like theatre names and movies.**
   One of the most important features of the website is the movie booking process. Therefore, it is important to have good organization of the theatres and movies so the users can make an informed and possibly better decision.
4. **Better access to documentation on the website.**
   There is information about everything on the website, however, it is not at the right place. If this could be corrected, navigating the website would become a breeze.
5. **A more improved navigation bar**
   A navigation bar is one of the most important part of a website. A good bar can effectively redirect users to the page they want to visit. As we saw in the usability study, the navigation bar is cluttered in inefficient. If resolved they could have better sorting of categories and could potentially remove links to pages that are rarely visited by users.

Conclusion

This comprehensive study revealed a lot of interesting observations, some of which I did not know were actual usability problems. I was able to find a variety of heuristic violations and usability problems in the Cineplex website. This shows the importance of doing usability studies, since a very prominent website like Cineplex could produce so many violations by a relatively low level usability study and heuristic evaluation. This study proved useful to find major and minor faults in the website and how and with what priority should they be corrected. Usability studies should therefore be conducted on all products with a UI as they can provide valuable and hidden information to shortcomings of the product.

Appendix 1: Lesson Learned

This study was my first usability study and I learned a lot from it. I learned that users are not that hard to find to complete a study as I was able to get the first two friends I asked for the study. I learned that the Think Aloud method was, naturally, the better one out of the individual task methods since you can easily gauge what the person is currently thinking and why they did the certain UI action. All my tasks from the study except task 2 provided valuable information to me and helped me understand the website's UX design. While task 2 was a valid task, it did not end up providing any new information as both users just used the search bar to search for the movie, something which I did not account for. I would add some more actions to the task in the future. One more thing I learned was that your expected task results may change over time due to a variety of reasons. For example, in Task 5, the show times reduced of the movie The Nun changed from when I made the task to when the users performed it and there ended up being only 2 different viewing experiences instead of the planned 4. All in all, the study was really useful and I would definitely use it in the future for personal projects!

Appendix 2: Raw Data

Scribble notes during the interview (Raw and unedited) –
questions –
task 1
how did you find the "Jack Black" movie
task 3 –
which method was easier and why
timeplay shows up in the theatres button which is not obvious, very counterintuitive
task 4 –
do you think you could have done this in a better way / what was the biggest problem with this task
task 5 – how did you derive on "x" to be the best viewing experience

general
categorize movies.. finding all movies in Canada/ toronto
conceptual model –
Cineplex logo main logo
corporate sales (bulk purchase) no idea.. buy lot of movie tickets   esports – sports
theatres choose theatres
event cinema no idea format change layout
format change layout of the movies
(i) is a popup and not a button
tickets information (I button)
movie poster can be enlarged
click add twice
all seats looked booked
superticket
remove go back….
scroll through images, movie details one after the other
home
no autofill In movie searches

STUDY PROTOCOL

Project Title: "Interviews and Observations of University of Toronto students"

Investigators: Yuvraj Geet Singh Chopra (geet.chopra@mail.utoronto.ca)

Background and purpose of Research: The purpose of our study is to understand two University of Toronto students to help us derive requirements for the design of novel interactive computational media that are intended to be useful to these users. A brief description of our design concept is: We are using the Cineplex website (www.cineplex.com) for conducting a usability study on the users and their interaction with this website.

Participant selection and eligibility: Participants will be chosen from the set of University students. They will be identified selected according to their age group and their relative knowledge of the website. In general, they will be characterized by their age group, relationship to the experimenter and ease of access to the location of the study.

Procedure: We will brief participants about the purpose of the study, explain the attached consent form to them, and ensure that they consent to participate and sign the consent form. We will then engage the participants in an hour-long, semi-structured interview and task study. We will also with their permission make observations as follows: Take notes on what the users are currently doing and what their inputs about the system in general are.

Voluntary Participation & Early Withdrawal: The participation in this study is entirely voluntary, and participants are free to cease participation at any time, for any reason, without the need to give any explanation. At their request, we will delete any of their data and it will not be used in our analysis or any subsequent reports or presentations.

Relationships: Our relationship to the participants may be described as follows: Friends.

Risk and benefit: There are no anticipated risks associated with participation in this study, beyond those associated with everyday use of computer (e.g. participants may feel that they have wasted their time). The only benefit will be to contribute to the education of the investigators.

Compensation: Participants will receive no compensation.

Information sought: The information to be sought is described in the attached <whatever study instrument will be used, such as a protocol for asking questions in a semi-structured interview>.

Privacy and confidentiality: Information will be kept confidential by the investigators. Names or other identifying or identified information will not be kept with the data. The only other use will be to include excerpts or copies in the assignment submitted, but names and other identifying or identified information will not be submitted.

CONSENT FORM TEMPLATE

Consent Form: CSC428H1 Fall Usability Study

I hereby consent to participate in a study conducted by Yuvraj Geet Singh Chopra for an assignment in University of Toronto Computer Science 428, Human-Computer Interaction.
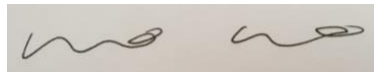
I agree to participate in this study the purpose of which is to understand the interaction of the Cineplex website between the users and the system and derive requirements for the design of novel interactive computational media that are intended to be useful to the same set of users.

I understand that

- the procedures to be used involve using a computer to access the website while performing a set of tasks to understand the way the users interact with the website.

- I will receive no compensation for my participation.

- I am free to withdraw before or any time during the study without the need to give any explanation.

- all materials and results will be kept confidential, and, in particular, that my name and any identifying or identified information will not be associated with the data.
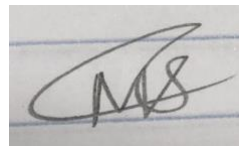
Federico Pizarro Bejarano

Participant 1's Digital Signature

Maitreyee Sidhaye

Participant 2's Digital signature

Yuvraj Geet Singh Chopra

Experimenter's Digital Signature

Dated

23rd September 2018

Note: The first set of signatures in the original document got lost and hence I had to take them again and insert them as photos.

Recording link – Recording is very raw and was done ONLY for the purpose for personal reference and accurate representation of facts.
https://drive.google.com/file/d/1795dmDw5hHvP8cbLdtz3K6eRUPV2IV42/view?usp=sharing