BumpTop Desktop

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Milestone: 3 - Evaluation Plan

Purposes

BumpTop Desktop primarily tries to make the desktop environment a more fun place. I need to find out parameters which make BumpTop Desktop more fun rather than a 2D desktop, and how are they going to affect the performance of the user, and figure out if any specific group of people are more interested in BumpTop Desktop. If I manage to specify the group of people who are more interested, and the features they think is more attractive, then I can find out which aspects of the BumpTop Desktop should be more developed, and what group of people should be targeted as audiences of this product. I need to know how different features of BumpTop Desktop are going to affect the performance of users then I can balance performance and amusement of them to get the best result. My purposes of this evaluation can be listed as follows in summary:

- What are the fun features
- How these features affect the performance
- What is the targeted group of audience.

Limitations

Of potential threats to the reliability and validity of the evaluation is the small group of experimenters. The group of experimenters which I plan to use consist of 12 people, 4 people in 3 categories. Using this small group of experimenters I may not be able to specify exactly what type of computer users are more interested in BumpTop Desktop, and this may lead to wrong decisions in further development of the application.

Audiences

- Average users like aged parents who occasionally use computers for casual purposes like watching videos, musics and etc.
- Non-gamer experts like Computer Science students and those who work with their personal computers on a daily basis
- Gamers who have a good experience with video games, specially 3D games which are tightly related to the BumpTop Desktop 3D features, like camera, navigation and etc.

I’m selecting 12 people, 4 from each of these groups to see how they evaluate different features of the application. Then I can address a more specific group of people by this application or define different configuration templates in the application for each society.

Evaluation Scenario

At first user learns about the new features introduced by the BumpTop Desktop, and will have a couple of minutes to train with them. This should take about 5 minutes.

At the evaluation the experimenter is invited to complete a couple of tasks using the BumpTop Desktop. these tasks are divided into three sessions. At first the user works with a desktop which contain a few number of items, and he/she has to find and move required items to the required positions. The second session is in a desktop containing more number of items and the third one is a much more crowded desktop and user need to get use of the pile system and the camera operations to overcome the task.

For each experimentation session following data will be collected by the software:

- The type of PC (Desktop/Laptop) which is used
- Resolution of the Desktop

- Type of user (Average/Non-Gamer Expert/Gamer Expert)
- Type, time and accuracy of each task.
- Count and type of camera operations used for each task.
- The whole screen of the BumpTop Desktop is captured as a video file by the application.
- The face of the experimenter will be captured.

In the end the user is asked to answer a questionnaire. According to the budget and other limitations of the evaluation some descriptive questions are asked too (either through an interview or the questionnaire).

According to the time limitations of the evaluation I've decided to record the screen to visually compare some specific aspects of them with each other.

I'm recording the face of the experimenter by my laptop's webcam when he is doing the experiment, this video and the video of the application's screen together will help me to find out when the user has had most fun.

Instrumentation
I intend to setup my cubical at DISCUS Lab to run the experiment in the case of a desktop PC using a 19" wide monitor and a wireless mouse, under the Ubuntu 10.04 using the classic Gnome windowing system. Using this monitor I have the option to run the experiment in different resolutions to see how the results change depending to the size of the desktop.
I am going to setup my laptop to run the experiment in the case of a laptop PC. A Lenovo G570 featuring a very standard interface, 15.6" monitor and a two button touch-pad, which implements the middle mouse button by pressing both left and right buttons simultaneously.

Sample
I'm candidating the following group of people as average users:
- Pooyan Zahedi (Ph.D. Student of Chemicals at UofS)
- Hessam Younesi (Ph.D. Student of Chemicals at UofS)
- Mitra Masnadi (Ph.D. Student of Chemicals at UofS)
- Laleh Mjhn (Ph.D. Student of Pure Mathematics at UofS)

I'm candidating the following group of people as non-gamer experts:
- Mohammad Hashemian (M.Sc. of CS from UofS)
- Farzaneh Jenaban (B.Sc. of CS from Iran)
- Eishita Farjana (Ph.D. Students of CS at UofS)
- Michael Bullock (M.Sc. Studenta of CS at UofS)

I'm candidating the following group of people as gamer experts:
- Ariyan Zohoorian (M.Sc. Student of CS at UofS)
- Faham Negini (M.Sc. Student of CS at UofS)
- Jeffrey Svajlenko (M.Sc. Student of CS at UofS)
- Meysam Shahidi (M.Sc. Student at UofS)