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TEAM VIEWER IPHONE APP

REFLECTION PAPER

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Introduction

TeamViewer – iPhone app is a mobile application developed by TeamViewer Inc. TeamViewer is a popular remote desktop access software and can be used to support friends and business. This iPhone app can be used to remotely access your PC in your iPhone. And one of the catching features is – “It is free for non-commercial use.”

This paper aims at studying the TeamViewer iPhone app in the following context –

- My personal experience as an enthusiastic first time user of this app
- Concepts of Conceptual models, Affordances, Feedback [Don Norman]
- Yerkes-Dodson law of performance [Norman K.]
- Conception of Timing Requirements [Johnson]

Description of the System

The TeamViewer app makes it incredibly easy to set up a Virtual Private Network which lets us take control of another PC from your iPhone. The app also enables you to transfer files to and from the remotely connected system. The conditions are that you should have the TeamViewer desktop software running on that system and you should know the id and password of that TeamViewer desktop client.

The installation process of the app is pretty easy. After you run the app, a simple blue home screen comes which asks you to enter the “TeamViewer ID”. This id is of the client that is running on the system you want to connect to. Once you are connected to the system, you can access the files, run the

applications and also transfer the files to this connected system through your iPhone itself. Also, once you are connected, this system will be moved to the Computers tab, which shows the currently online and offline system and friends you have connected to. But this option only works if you have the TeamViewer account.

You can also personalize the app (Change resolution etc.) by changing the settings of the app.



Connect Tab



Files you have transferred

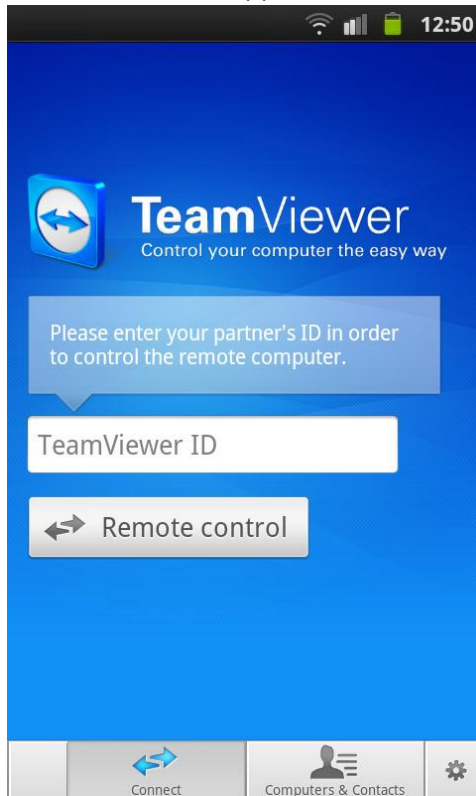
Computers Tab

Settings Tab

Experience with the System

This experience is about the time when I used this app for the first time. I had used the TeamViewer desktop software several times before, but as my travelling time was increasing I needed some app on my iPhone that could solve the conundrum. After some searching, I was exultant to find that TeamViewer itself had an iPhone app that caters to this problem.

I downloaded the app, on the bus, while I was getting late for the class and executed it for the first time



ever. As soon as the app opened it showed me the page and asked me to enter the "TeamViewer ID" for my partner. I tried entering my user id which I had created for my PC, but it did not work. I then tried entering the email address and other details and it did not work either. This made me frustrated and I minimized the app. After the class, I reopened the app and again looked at the screen. I was pleased to see the extra information on top of the id which came as a hover in few seconds. It gave me the clue that the TeamViewer ID is actually the partner id, and this I remembered to be the numeric value in my TeamViewer PC client.

I entered the ID and it then asked me for the password and I entered that as well. After this it took a time of 2-3 seconds and came back with the second screen. This screen showed the instructions for using the iPhone as the host for the remote client. It included visual instructions, which stated:

- tap to click
 - tap hold right click
 - drag for mouse movement
 - pinch to zoom
- two finger to scroll
 - double tap and drag for drag and drop

After reading the instruction, I clicked the Continue button. Instantly the screen of my home desktop appeared in front of me. This made me really pleased.

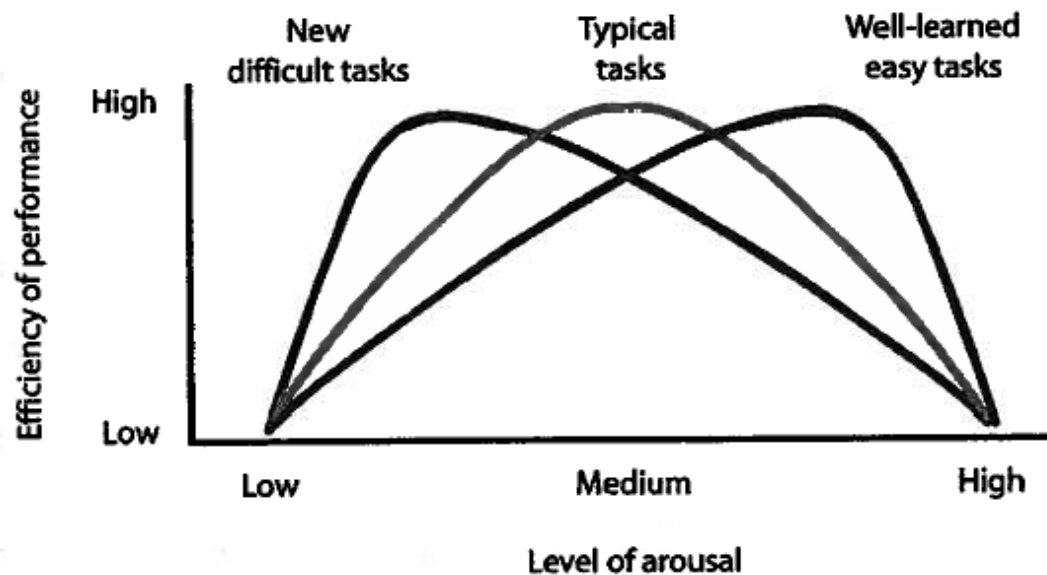
Next I started implementing the remembered instructions. After a few seconds I realized that the touch movement on the screen and the cursor movement on the remote desktop pointed to the two different locations and this made me really confused. Also if you have to click something then you have to click on the cursor location rather than the touch location and sometimes this action took more than 1 second to execute. Next I realized that the scrolling function worked backwards and this made me irritated and a while to adjust to this.

Then I tried writing and sending some emails and these worked fine, without any interruptions. This gave me immense happiness as I was able to find a solution to my problem of dis-connectivity from my home PC.

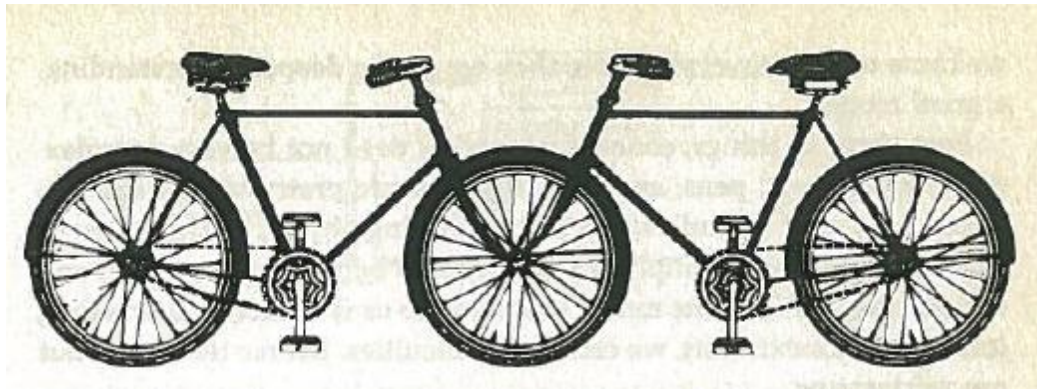
Key concepts for Analysis

The concepts that I am going to analyze are:

1. Yerkes-Dodson Law of performance: This law describes the relationship between the level of arousal and performance. At low levels of arousal we seek situations that generate motivation. At the upper end of the arousal or motivational level, we produce more stress and anxiety. Hence, we seek situations that disable motivational drive. This implies that for well-learned, easy tasks, moderately high levels of arousal are beneficial. For new, difficult tasks, such as writing a patch for a computer program that is malfunctioning, even moderate arousal can be distracting and reduce performance [Norman K.]. Below is the graphical representation for the Yerkes-Dodson Law of performance:



2. Timing Requirements: An interactive system's responsiveness—its ability to keep up with users, keep them informed about its status, and not make them wait unexpectedly—is the most important factor in determining user satisfaction. [Johnson]. Hence, Timing Requirements are some of the real-time **deadlines** that the interactive system should follow in order to synchronize well with the human users. The standard timing requirement for such an interactive system are as follows:
 - a. 0.1 Seconds to show response to users action [Johnson]
 - b. 1 Second is maximum expected gap in conversation, for more than this, display some indicators [Johnson]
 - c. 1 Second is the response time for humans to respond intentionally to an unanticipated event [Johnson]
3. Affordances, Conceptual models, Feedback: As described by Norman, affordance refers to the perceived and actual properties of something, primarily those that determine how the thing could possibly be used. E.g.: A door knob affords turning. Conceptual models are used to help us know and understand the subject matter they represent and they exist only in mind [Wikipedia].

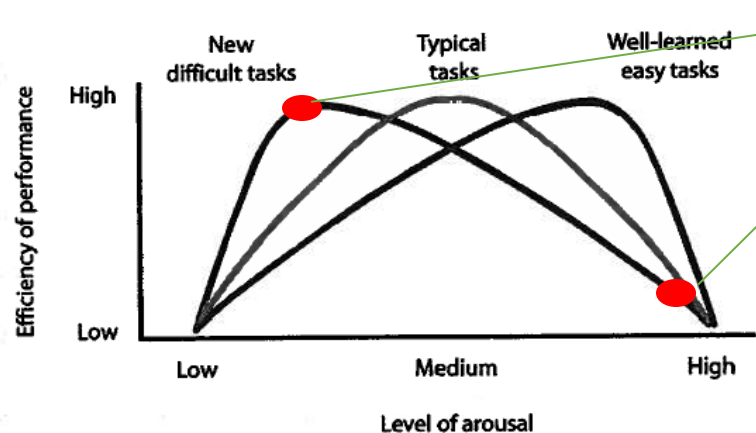


Consider, the rather strange bicycle illustrated in figure above. You know it won't work because you form a conceptual model of the device and mentally simulate its operation [Don Norman]. Feedback, as described by Norman, is sending back to the user, information, about what action has actually been done, what result has been accomplished. Imagine, trying to talk to someone when you cannot even hear your own voice: there would be no feedback [Don Norman].

Analysis of the Experience

I am going to present the analysis based on the concepts that have been described in the previous section.

Yerkes-Dodson Law of performance: I started the TeamViewer app in the bus, while I was getting late for an important lecture. Hence, my arousal level was higher than usual. Also, the task of “connecting to the



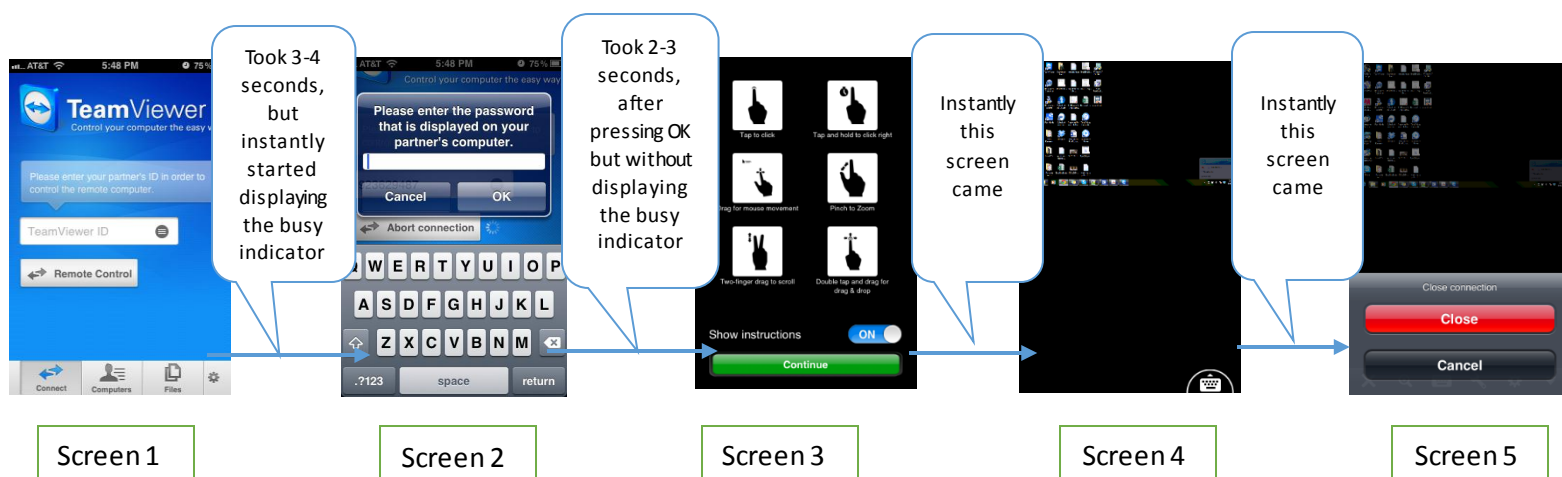
Low Arousal for New Difficult task, results in High Performance

High Arousal for New Difficult task, results in Low Performance

remote PC via iPhone” was new and difficult for me. Therefore, I was high on arousal and was trying to run my brain around this enigma of defining the correct id. The result was pretty evident, I did not do very well on defining the correct id and failed multiple times.

After the lecture, I was relaxed, hence, lower arousal level. I reopened the app and tried to analyze the problem in a relatively relaxed manner. Surprisingly, only after a few seconds, I was able to figure out the problem. If you hover over the TeamViewer ID field for a few seconds, it gave you more details. Hence, the correct id is the id of the client running on your PC. Thus, lower arousal levels, resulted in higher performance for the new and difficult task that I was tackling (point shown in the graph above).

Timing Requirements: Let us look at the various steps that took place and the time taken between them.



Now, analyzing the steps with respect to the timings mentioned in the Key Concepts section. From screen 1 to 2, ideally it should have taken 1 second, but it takes 4 seconds, but then, displays the busy

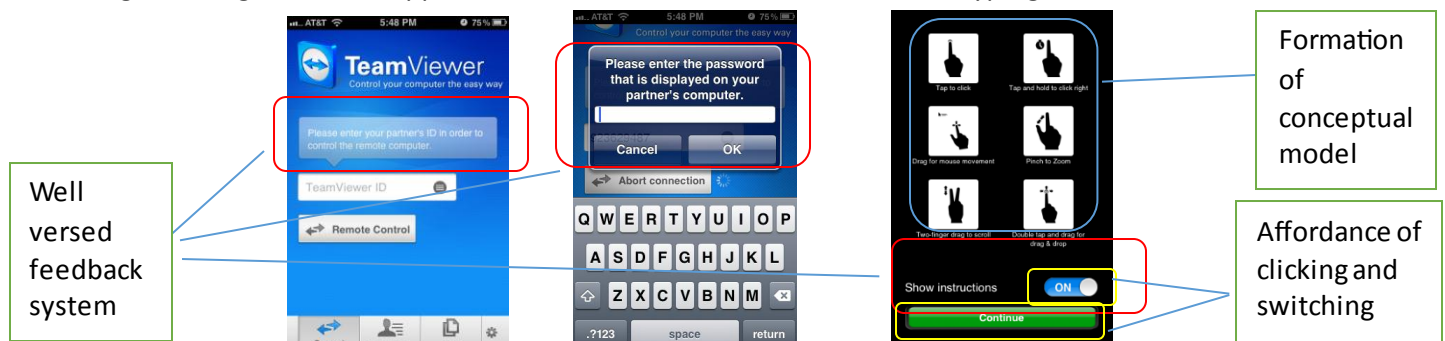
indicator, which keeps the user informed. Hence, it respects the timing requirement. From screen 2 to 3, again it takes 2 seconds but does not show busy indicators this time, which it should have. In this case I was wondering what is happening. Hence, it does not respect the timing requirement. Screen 4 and 5 appeared, after I clicked, within a second. Hence, these follow the timing requirement.

Other than this, in the screen 4, when I tried to click the button of my computer, it took more than 0.1 second. In this case, I lost the sense, that my action actually caused the effect.

Affordances, Conceptual models, Feedback: I was using the touch screen mobile, to access the remote PC. Hence the affordance of the touch screen mobile was to interact with the mobile using touch. Also the buttons and the icons in the remote PC afforded clicking.

The conceptual model for using the touch screen mobile is that, there is no external cursor and your point of contact with the touch screen becomes the cursor. Also if you tap at that point and the icons affords clicking then it will open. This conceptual model failed in this case of the remote access. There was a separate cursor different from the point of contact with the mobile. And, if you tap the point of contact, then a separate location will be clicked and the icon below your point of contact will not be clicked at all. This really confused me and I took some time to learn this and form a new conceptual model.

One good thing, about the app was the continuous feedback. When I was typing on the screen, I could



see the keys pressed. From screen 2-3, if the password did not match, a proper message came saying that there is mismatch in the password. There were hovers and alert boxes, which gave me enough cues, as to what I have to do next. You can see more feedbacks, if you switch the instructions on. Hence it was a well-integrated feedback system and this made my experience with the system, a pleasurable one.

Generalizing the Experience:

I was enthusiastic enough to use the TeamViewer iPhone app to solve my problem of remote connectivity. Furthermore, I was familiar with the desktop version of the software and it helped me to learn the app version. Also, I was aware with the process of remote connectivity. Another rational behind the rich interaction, I had with the app was -- better internet connectivity on my iPhone. Moreover, now I enjoy using the app on a daily basis.

Even though I am all praise for the TeamViewer app, I have met people who don't share the same kind of excitement and enthusiasm about it as I do. People who have not used the TeamViewer client before, find it extremely difficult to follow the general instructions that come on the iPhone app. Also, the instructions for remote connectivity, seems confusing to them. Moreover, there is no way of knowing

that you need to have the client version of TeamViewer running on your PC to make use of this app. This really makes them frustrated.

Furthermore, people with slow internet connectivity on their iPhones, complain a lot. According to them, the timing requirements are not at all respected. For them, a simple click on the remote PC, sometimes takes more than 5 seconds and hence they lose the complete sense of interaction with the client.

I cannot argue on the above valid points, but there is no denying that people who have used the TeamViewer client before, prefer using the TeamViewer iPhone app for remote connectivity. A testimony is the fact that this is a 4.2 star app, on the iStore. Moreover, there has been a number of downloads of this app. And lastly, the perfectly designed UI just helps amplify the positive experience.

Conclusion

It is not usual for any normal remote connectivity app to provide such a pleasurable and smooth browsing experience from the iPhone itself. It is to the merit of the designers and the developers of this wonderful TeamViewer iPhone app. The steps are intuitive for a regular TeamViewer client user.

To summarize,

- We saw how the performance for the difficult task is effected by the increase or decrease in the arousal level
- We understood the timing requirement that an interactive system should follow and what happens when they are ignored
- We studied what are affordances and how the conceptual model is formed and how it effects our understanding and why feedbacks are so important

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