

Social Media Interactions and the Use of Third-Party Management Applications on Effectiveness and Perception of Information

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Abstract. Social media has a significant impact in our daily social lives, which challenges the traditional face-to-face interaction and/or other conventional media. Most of the social media platforms provide unique and effective web sites that enable the users to connect and interact with one another yet they also update their sites with Web 2.0 improvements and innovative ways of interaction. Twitter and Facebook have launched their own applications that became really popular among users. However, there are also third-party applications, which enable the use of diverse social networking sites through one platform. These platforms are within the reach of everyone and can be accessed directly from desktop without any browser needed. This research focuses on the usability of these third-party management applications. In this context, it will explore whether the desktop versions (third-party software) of those platforms enhance the interaction capabilities and improve user experience. In this regard the focus will be on an application that enables the use of multiple social media sites simultaneously through a single graphical user interface, 'Yoono'. The user interaction with multiple accounts and social media services at the same time presents the ability to show the information in one screen rather than having separate tabs like has been done in typical browser view. Also it might be possible to have an estimate about if the user prefers to have separate tabs or just one tab to show all of the information regarding the social media that he/she is using. In order to understand this, a qualitative usability test, based on multi-method approach, was carried out with a sample of 8 participants who were experienced mobile social network site (SNS) users. Tests were conducted on a desktop computer with Yoono. After a background questionnaire, the participants were observed during the task executions and additional data was collected through eye-tracking. After the session, participants were asked to fill out a post-test form while having a small debriefing interview to gain a detailed insight into their experience. Findings support the notion that the usability problems might shroud the new and innovative capabilities of Yoono and prevents it to become an application that users would chose to use instead of browser interaction and needs further development in order to be an alternative to browsing.

Keywords: User experience · Dashboard applications · Social networking

1 Introduction

Especially in the past decade, we feel the effects of social media more day by day. Developing communication technologies allowed us to innovatively interact with our surroundings as well as social media. Philip, E. Agre at his book 'Cybersociety', explained how these genre improvements should be made. He mentioned that the slogan is to do more in which he referred to creating something that does more than its predecessor in order to open up a new way for the genre. It can be said that, one should look at a community, explore existing genres, which actually fit in, and lastly try to find how to exceed this function and offer more to the people. This remarks call for further engagement. Philip E. Agre in 1995 was mentioning that people should consider the media design in terms of a new communication method not just by focusing on its social impacts and design principals but as a whole term and its place in live. *"Perhaps these media will undergo a shake-out, leading back to the relatively homogeneous days of yore. But more likely, I think, media will continue to multiply. Everybody's daily life will include a whole ecology of media; some of these will be voluntarily chosen and others will be inescapable parts of life in public spaces and the workplace"*. He pointed out the fact that these technologies will continue to change non-stop (1). The new uses of communication technology should be able to offer its user a better usability in a better way and to a wider market. This is how social network sites (SNS) entered to our lives. Social media, according to A. Kaplan and M. Haenlein, can be defined as follows; *"a group of Internet -based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content"*(2). This article focuses on the social side of new technological advancements in terms of SNS and third-party applications –specifically dashboard and mash-ups, promising better usability and interaction to its user. Dashboard and/or mash-up applications (API) do not simply offer an alternative way of interaction of SNS but also transmute and combine the best aspects of each site in one application making the clutter much more manageable. In order to understand these API's and to be able to comprehend their effects, one should focus on social networking as information service, on heuristics of interaction dashboards for managing these SNS and the expectations towards these platforms.

The number of 727 million daily active users on average in September 2013 using Facebook shows how popular this site became and how it turned out to be a necessity of being connected with each other in daily live. Twitter now averages approximately 50 million tweets per day (4) proving the involvement of SNS. Twitter offers its users a simple text entry system which is limited to 140 characters, enabling them to share whatever they feel like sharing with their followers while being able to follow the feeds including all the shared entries retweeted (shared) or written by their friends. This creates an information flow, mainly customizable via selection of whom to follow. Dave Jones and Lisa Potts in their article define one key to Twitter's success as its support of third-party developers who build applications for organizing and interacting with Twitter content (5) pointing out the demand for improvement on SNS interaction methods. Also it is possible to synchronize Twitter with other mainstream SNS's such as Facebook. Facebook offers much more variety since it has no character limitation

such as Twitter and enables to share media in a much more effective way. Sharing videos, getting comments about them, creating photo albums, chatting, creating event pages etc. offer a deep social interaction experience to users which results in a much more sophisticated information flow. Just like Twitter, this information depends on whom the user has as a ‘friend’ in his/her list including companies and people. To assist users of multiple social media sites effectively, dashboards and mash-up applications were created, especially for Twitter such as ‘Hootsuite’ and ‘Yoono’. With such a dashboard application, the input from various social media sources can be monitored simultaneously and content can be post or replied through this dashboard, instead of having to go to every individual site one by one. Most of these applications are often free and offer an integrated interaction with browser capabilities or have independent software that offer unique possibilities. The main goal of a dashboard application is to give the users a new way of managing complex social networking interactions as well as promoting accessibility in terms of receiving the information on one screen and speeding up the comprehension process.

2 Third-Party Applications for SNS and Yoono

Third party applications endeavor to improve manageability of SNS from different approaches such as adding tools and more customizability. By offering a specific graphical user interface (GUI), those applications re-organize task flow and thus improve user experience. Yoono, specifically offers the user to connect to social media without any need for external software, it works stand-alone and is a freeware software. Yoono offers its users a single inter-changeable GUI through which it allows both web-based view and its special column view. In web-based view, it works just like a simple browser software: It displays http addresses, the user may go to any webpage (s)he desires without the need for another software, it also saves system resources and clicks (Fig. 1).

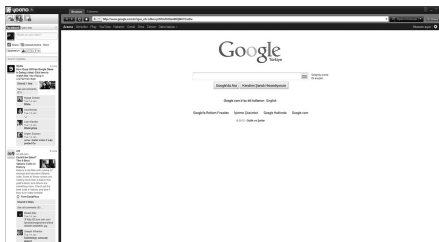


Fig. 1. Yoono browser view

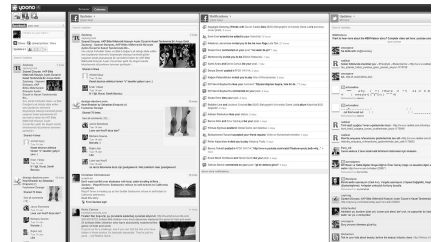


Fig. 2. Yoono column view

As seen in the figures, Yoono has static and constantly updating column structure, which presents a mix of all the social media ‘feeds’ with SNS logos. The left column enables to reach all SNS at the same screen as well as the input field, which is already launched, offering information entry and direct share opportunities. It also allows users to automatically share their entries via several networks at the same time without the

necessity of logging into each webpage and copy-paste and/or synchronize several feeds. Yoono also has its specific ‘column view’ (Fig. 2) which bolsters its most underlined capability of being able to connect to various SNS’s on one screen. Through this screen users are able to manage information feeds regarding the SNS and the SNS specific feed titles such as ‘updates’ or ‘direct messages’. Users have to sign-in with their site-specific credentials via Yoono and, have to arrange and open up new view options in order to manage these feeds in the column view. Also in those columns new updates would appear with light yellow background, so that the recent updates can be reached easily. Main feed column stays at the right side of the interface at all times, while the user can modify the rest of columns. At the top right corner, there are ‘minimize’, ‘full screen’ and ‘close’ buttons but there is also the ‘single column view’ option which makes the screen to shrink to the width of the main feed column at the left. This makes the software look like a side scrolling news gadget. There is also an updates pop-up function, making the updates appear as alert pop-ups just like system based messages, allowing the user to follow up updates effortlessly while the program runs at the background.

3 Analysis Framework

Social media users can read, view, interact and create various contents in various media platforms anytime. SNS may lead its users to various content through hyperlinks, banners, blogs, wiki’s and other information resources play a crucial role as part of the overall function for SNS. In this context it is a necessity to use those related media with SNS to effectively engage with the community. To evaluate this, the analysis framework was derived directly from the Nielsen’s heuristics (7), which include the following parameters; Visibility of System Status, Match Between System and The Real World, User Control and Freedom, Consistency and Standards, Error Prevention, Recognition Rather Than Recall, Flexibility and Efficiency of Use, Aesthetic and Minimalist Design, Help Users Recognize/Diagnose And Recover from Errors, Help and Documentation on Yoono Dashboard application.

4 Methodology

In order to understand the usability issues of dashboard applications, two research questions were asked. The first question was; how do design aspects and information architecture affect user experience in terms of its emancipating capabilities? Second question was; does having a third party application, with the capabilities like manageability of several SNS accounts and feed information on one screen, make SNS interaction more practical and easy to use rather than browser-based interaction?

This qualitative study on the usability issues of Yoono version 1.8.43 was based on a multi-method approach, which consisted of the following data collection instruments: A pre-test survey, task observation and a structured debriefing interview. The sample included 8 participants, who are between 25 and 40 years old and have at least university degree. All of them were active users of social networks especially Twitter and

Facebook. A pre-test survey was executed with the participants in order to understand their involvement to social media and if they used a dashboard application before. Eight specific tasks were given to the participants: Logging in, opening the column view, arranging the columns according to their personal preference, posting a tweet (Twitter), posting a status update (Facebook), Synchronizing and posting a photo over twitter and Facebook at the same time, commenting on the photo (Facebook), navigating photos/videos and lastly logging out. In this task execution phase, the navigation was directly observed and recorded on a structured observation sheet by the researchers. Besides the observation, additional data was collected through a desktop eye-tracker and video recording. In the post-test debriefing interview, the users were asked for their opinions regarding their experience, perceived difficulty of the tasks and attitudes towards the platform.

5 Results and Discussion

Yoono was a good case for understanding the heuristics of dashboards related to SNS services and how heuristics can and should be applied to those applications. Mainly the application was problematic rather than emancipating its user. The success rate of the tasks is % 50 in general, since 8 participants were able to complete 4 out of 8 tasks in the given order successfully. For each task 3 min was given. Some participants were considered (n = 4) failed when they exceeded the given time for each task. Average time for completing the tasks was 20 min.

5.1 Visibilities and System Status

Yoono was partially able to inform its users about where they are at any time and what is going on. New feeds/messages or any other update is highlighted so that it is easy to follow what is recent. Since Twitter and Facebook services depend mainly on the '*what's happening now*' context, this should be considered as an advantage. Also every column has its specific topic indicated at the top. There is also the 'search' field at the top of each column making it possible to search for specific quarries. Main problem is that the recent updates were received randomly and the connection speed affected the performance of the feed update. Users were unable to refresh the posts as they please and unable to check the sent messages to see if they are indeed posted correctly. This confused the users and made them to switch to browser mode to re-connect and look for the update by themselves most of the time.

5.2 Match Between System and the Real World

Yoono did not support languages other than English. Small indicator buttons were clear enough to guide participants such as adding a photo and the iconography was understandable. The problem was that some of those did not function as the participants expected such as again the photo upload option. There are two different upload buttons but none of them functioned properly during the tests. The 'share something' button

has an unexpected iconography, which the users related as ‘refresh’ button. The button at the top left corner of the screen, which was depicted as a wrench icon was not clear enough to indicate its function, causing problems during the logging out task and reaching other options about the application.

5.3 User Control and Freedom

During the tests, most users ($n = 6$) face with the problem of accessing the column view and without any assistance; they were not able to find it. It was possible to move the columns between each other yet most of the participants indicated that they preferred to be able to resize the columns one by one instead of having a fixed width. This fixed layout revealed a non-functional white space on the screen. In addition to that some of the participants not only wanted to re-arrange the space for columns in a horizontal layout but in vertical as well. The placement of each column with a different title may be changed by dragging, but the flickering issues that occurred during the process caused the participants to hesitate from doing it. This action was mostly perceived as an error. The most important observation of the task execution phase within this context is about the logging out task. The log out option has been placed in the options menu, under the “add another social media/IM” option (Fig. 3). None of the participants were able to find it without assistance and instead they tried to log out from their account via browser screen. This would be less crucial if the application allowed it but instead Yoono stayed connected even after they logged out from the browser view.

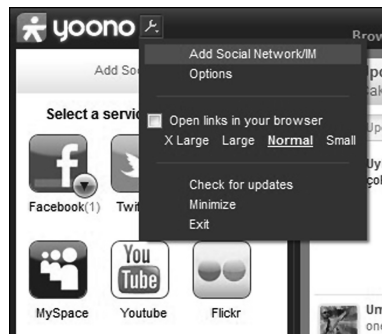


Fig. 3. The path to follow in order to log-out from accounts

5.4 Consistency Standards

After the text and/or media entry, half of the participants looked for the ‘send’ button instead of ‘update’ which was the applications alternative for that. Also for adding columns about updates, some participants indicated that they were looking for the term ‘feed’. As mentioned in the “Match Between System and the Real World” sub-selection above, participants mostly chose to use the icon of a camera instead of the text button saying ‘upload photo’ while trying to upload a photo from Facebook and

Twitter accounts. The application does not allow its users to upload any photos while the accounts were synced even it mentions the photo has been uploaded. When the user chose to send a photo via only Facebook for instance the icon remains but another option appears, the ‘photo upload’ button that and it functions successfully. Another issue about the consistency is that while accepting the terms regarding the SNS, nothing really happens rather than a mere text message telling the users that they are logged in, at the browser view. The user has to click on the ‘finish’ button before reaching the entry box. The sentence ‘finish’ most commonly caused an alarm, which leads the participants to an impression that clicking this would terminate their session. Therefore they chose not to click it until they could seek the way for text entry goal and/or asking for assistance. The term simply led the users to think that the session will be terminated. The hesitation of the users can be clearly seen in Fig. 4. This points out that the participants gaze is on the button and yet still not making him/her press it, in order to ‘finish the logging in process. 6 out of 8 participants have encountered the hesitation and told that this problem really made them feel confused.

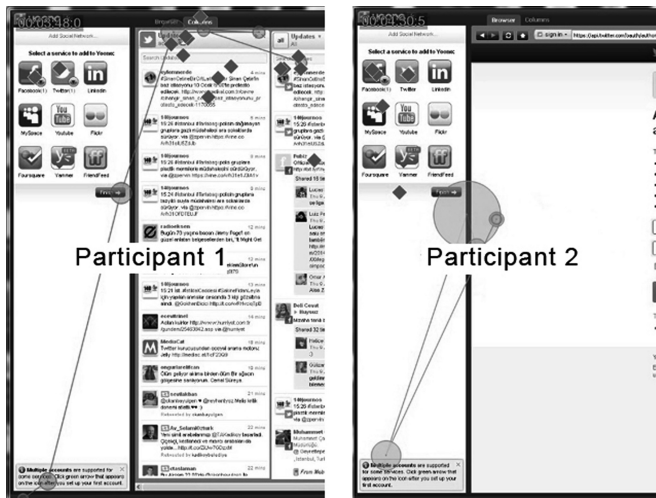


Fig. 4. Two participants trying to find the text entry field. Looking at the ‘finish’ button yet not clicking it.

5.5 Error Prevention

Although there were errors regarding the third-party applications connection to SNS, these were expected by the participants. The problem in this context is that whenever the user wanted to send a text input in one of the SNS there was no confirmation option feedback. This was also a problem about uploading a media. Although sharing icon was miss-interpreted, this option had the confirmation feedback and progress indicator. Adding a confirmation pop-up box might prevent accidental text entry and upload

failures. One of the participants pointed out that: “*Uploading a photo and not seeing it at the feeds is better than uploading a photo with text and just seeing the text on my timeline*”. This calls for the urge to prepare a reviewing screen before publishing the information. Also another functionality problem occurred during one test, resulting the program to not open any columns even after a successful login sequence. The software did not provide any feedback about the issue. This made the participant to focus on only on one column which is the fixed left column that the application provides, and he kept up with using this one to finish his tasks during the tests (Fig. 5). The diamonds seen represent the mouse clicks done by the participant during the related tests. From these it can be easily observed that the common sense on typing an entry problem, is searching for information at the small indicator text at the bottom left of the screen. Participants mostly thought that this information would lead them to the solution almost all the time.

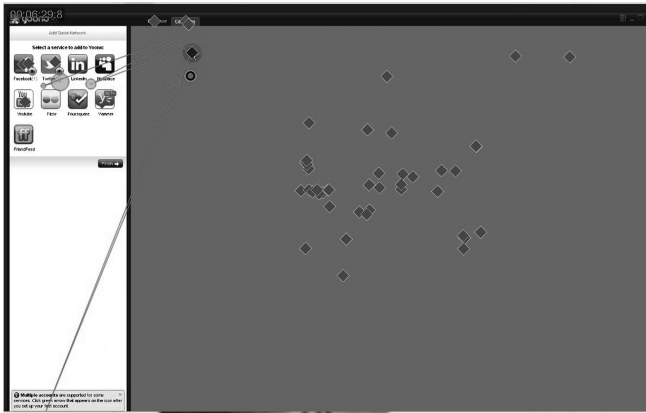


Fig. 5. Participant experiencing program function error, without getting any feedback or message from the system.

5.6 Recognition Rather Than Recall

The information provided by the program was not adequate at all, causing recognition problems such as the problem about ‘finish’ button as mentioned earlier. The column view has the means for recognition; users were feeling comfortable about the guides yet there were no indicators for additional information on the features. The profile thumbnails can be changed in terms of size from the options button, allowing the user to customize their profile picture. This sub-tab was quite clear to the participants since enlarging the profile picture size was depicted using varied sizes of thumbnails as selection buttons and size of the font depicted from X large to Small. The options button placed under the wrench icon confused the participants since under the tab there is also the button for options but this caused no frustration at all.

5.7 Flexibility and Efficiency of Use

At the top right corner, there was the option to turn the application into a single-column view. This button and the icon were recognizable after several uses and speeded up some of the participants' navigation. However participants had the tendency to open photos and videos in the same screen just like Facebook does, or in a light-box pop-up screen without any switches between views. Yoono was programmed to open the related media in the browser view, just like the user tried to avoid while clicking the link. In general the application dictates the user to adapt to the pre-given interface and placement rather than enabling full customization.

5.8 Aesthetics and Minimal Design

In terms of graphical user interface, the program had no customization options. The color scheme was preset to grayscale. Since the columns were dominant in the interface design, the rather static view of them, as mentioned before, created compositional problems such as the use of non-functional white space. Also the hierarchy of elements of the design was not pre-defined, causing some problems on what to look first. For example the 'finish' button after logging in was not getting enough attention (Fig. 4). The use of the logo thumbnails of the SNS networks received positive feedback during the tests but some of the participants said that they would be happy if columns related to the SNS were somehow colored with the logo color instead of plain white background, leading them to the observation that the title space for each SNS was not designed in the right hierarchical order.

5.9 Help Users Recognize, Diagnose, and Recover from Errors

The participants were engaged with only one error/confirmation message during the tests, which was the terms and conditions for the third-party application connecting to their accounts. This error message was clear and enabled perceived affordance. There were no apparent complaints and problematic issues regarding this context.

5.10 Help and Documentation

As mentioned above, there were no apparent error messages besides logging in messages. Also there were no tips for the users to explain what a specific button did. After logging in, the participants seemed to lost control of the application, and didn't know what to do next. In the de-briefing interview, they emphasized the need for a tutorial. It should also be noted that there was no help button in the application.

6 Conclusion

Although Yoono is a resourceful application, it is still immature and needs to be improved. It allows users to reach all the information from their SNS's in a single view and is really practical in nature. Problems, that were mentioned above, during the tests

led participants tend to quit and made them think about opening the browser view in order to complete the tasks. Most of the participants ($n = 5$) mentioned that the engagement was fun and Yoono could be the application for interacting with social networks but only few considered adopting as it stands. In several occasions, the interaction methods of the application were not related to the original SNS capabilities, preventing the participants to use the application efficiently. This problem might be resolved by adopting the SNS related Web 2.0 capabilities and allowing users a more natural interaction, such as light-box pop-up screens for browsing media content instead of opening a new browser tab in the application. Yoono can be a good solution for navigating through the most complex social networks, only after fixing the major software and interaction problems as well as adopting those common capabilities from SNS's. For Yoono, and other SNS dashboard applications, consistency standards should be improved primarily in order to fulfill the expectation about manageability of SNS accounts through one screen. Also the need for flexibility and help documentation prevent new users to engage easily. The aesthetics problems is seemingly less important than the issues above but a much more minimalistic design would lower the cognitive load for the users and prevent them from confusion and frustration. The GUI elements seemed to make the application look like it was designed for experienced SNS users and drives newcomers away.

At first glance, the new and innovative approach for SNS and manageability offered by Yoono seems well suited for the task for avoiding the information clutter. It enables the user to interact with the SNS's via one common screen and keeps them updated with the help of pop-up indicators appearing whenever a new feed is received. But consequently, the usability problems seem to enshroud these capabilities and make the application a more complex system to interact regardless of its practical nature.

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References

1. Agre, P.E.: Designing genres for new media. In: Jones, S. (ed.) *CyberSociety 2.0: Revisiting CMC and Community*. Sage (1998)
2. Kaplan, A.M., Haenlein, M.: Users of the world, unite! The challenges and opportunities of social media. *Bus. Horiz.* **53**(1), 59–68 (2010)
3. Dierdorff, S.E.: A framework for a social media dashboard for entrepreneurs (2013)
4. Wauters, R.: Twitter spawned 50,000 apps to date, will open up firehose for more. *TechCrunch*. Accessed (2009). <http://techcrunch.com/2009/12/09/twitter-le-web-2009>
5. Jones, D., Potts, L.: Best practices for designing third party applications for contextually-aware tools (2010)
6. Morville, P.: *Ambient Findability*. O'Reilly, Sebastopol, CA (2005)
7. Nielsen, J.: *Usability Engineering*, pp. 115–148. Academic Press, San Diego (1994)