Delivery Service Apps Usability Evaluation

Project 3 Team 1

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■ Introduction

Recently, as the number of smartphone users has increased, the number of smartphone-based mobile applications has also increased. Especially, with the 'online to offline service (O2O)' connecting online and offline, traditional offline services such as delivery and shopping are also available through smartphones. In addition, the number of single households in Korea currently accounts for the largest portion of total. As single households increase, so are the number of people consuming delivery food. Therefore, 'delivery applications' continue to grow. We selected the three most popular applications (배달의 민족, 요기요, 배달통) to conduct usability test, and analyze the results to lay the foundation for usability improvement research.

■ Methods

Using top 3 delivery applications in Korea, we tried to analyze usability of those apps based on 4 factors (Discoverability, Feedback, Mapping, Structure) of User-Centered Design Principles.

Subject of experiment : Handong students, Male and Female,
10 people each (totally 20 people).
Experimental progress : Face to face, conduct survey
Independent variable : Randomized order of 3 kinds of delivery applications and 2 restaurants
Control variables
- A: Same area, Same restaurants, Same menus.
- B: Same size of cell-phone screen (4.7 inches, i-phone 6, 6s, 7, 8).
- C: Use categorized menu only (Did not use search function).

■ How to Experiment

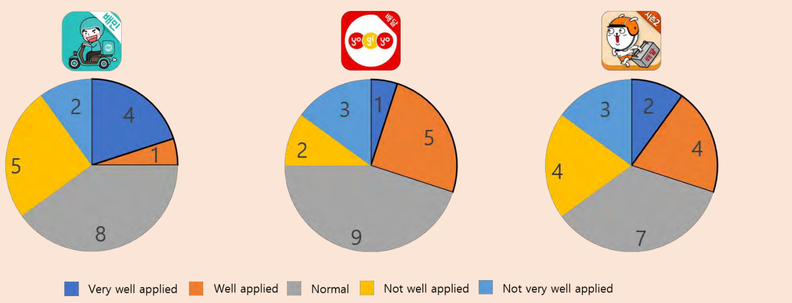
We tried to conduct an experiment with randomized order of applications and restaurants. It was due to increase reliability about drawing a conclusion and to avoid being familiar in the same way to use apps. Our experiment was not able to be conducted or evaluate usability of 3 apps at the same time. So we recorded screen during conducting a experiment, after experiment we checked the number of screen touch and execution time. Each objects executed application totally 6 times (3 applications * 2 restaurants).

- Use screen record function in i-phone during execution
- Conduct experiment for one of three applications first
- Set a specific address for delivery (10, Seogang-ro 54beon-gil, Buk-gu, Gwangju, Republic of Korea)
- Access to a page of the target restaurant using categorized menu
- Choose 3 menus at the restaurant page
- Touch an 'order' or 'pay' button after selecting menus
- Stop screen recording when approached to payment screen
- Stop experiment about the restaurant
- Repeat above steps for another restaurant for the application
- Repeat above steps for the other applications
- Count the number of screen touch and time for approaching payment page
- Answer on survey using google-form after experiment

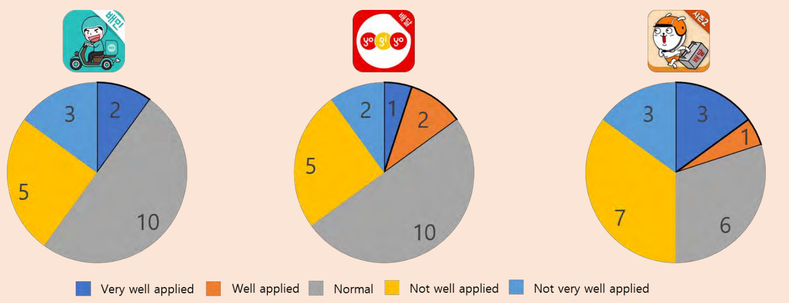
■ Results

- UCD Principles

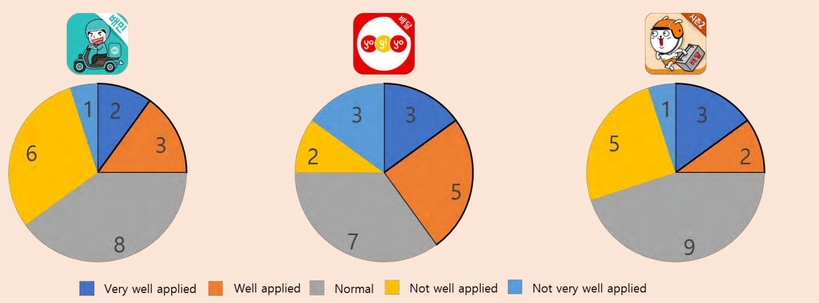
* Discoverability



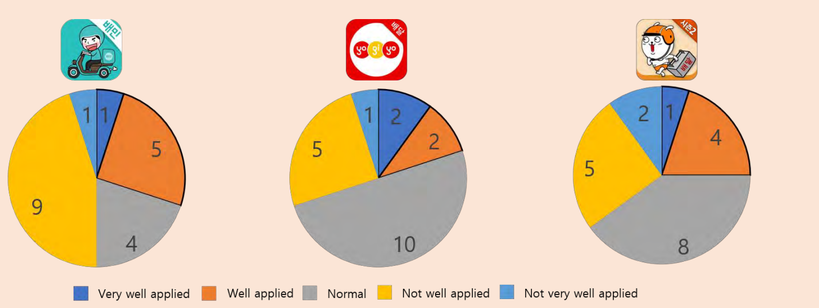
* Feedback



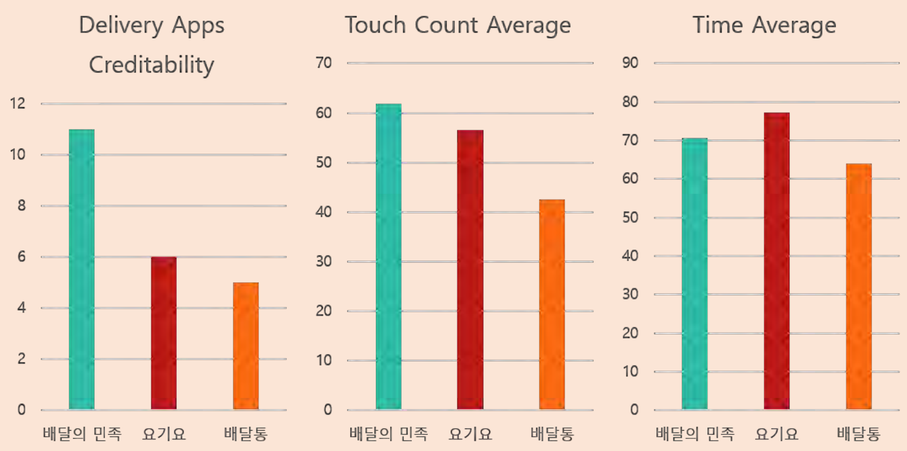
* Mapping



* Structure



- Average By Apps



- Analysis

Results shows that 배달통 has the highest usability that is differ from a result of survey that asked about creditability before conducting experiment (Before experiment, 배달의 민족 had the highest creditability. When we asked about that which delivery app do they want to use after experiment, students who did not use delivery app before (7 people of 20) replied that they would like to use 배달통 or 요기요 (2 people each, 3 will not use). But people who were using delivery app replied that they would like to use 배달의 민족 (7 people of 13)

■ Conclusion

We assessed three applications' usability based on four of the user-centered design principles(structure, mapping, feedback, discoverability) and '배달의 민족' was ranked the lowest among the three applications in two categories: structure and feedback. In addition, there were many responses that said they would use this application the most and would continuously use it. This allowed us to speculate that the user's perception of marketing rather than usability could have a greater impact on usage.

■ Limitations

1) The participants in the experiment were 20 people in their 20s, and the sample size was small and the age was limited.
2) In the experiment, it is likely that the learning effects have worked for those who have not used the delivery application because we did not consider using delivery application or not.
3) All participants conducted the experiment with the same smartphone model. Therefore, the lack of smartphone use may have affected the results of the experiment.
4) In this experiment, we excluded the 'searching' function and only category clicks were allowed for usability evaluation on UI/UX.