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A Usability Evaluation of the Presto Mobile Application

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ABSTRACT

Many people rely on e-commerce to obtain a wide range of goods, and mobile applications, such as Presto in Libya, are among the most important tools in this field that should be usable. This study evaluates the mobile usability of the Presto mobile application. This application is primarily used in Libya to facilitate food and grocery deliveries, e-commerce, and online store pickups. The usability testing was conducted in Tripoli with five experienced users and four first-time users. Objective and subjective data were analysed to identify this application's usability. The results show that the Presto mobile application is usable, effective, efficient, and satisfactory, according to participants' perceptions, despite some usability issues related to search time and order modification, which require improvements to increase the application's effectiveness, efficiency, and satisfaction.

KEYWORDS: Usability evaluation, Presto mobile application, user satisfaction.

1. INTRODUCTION

Recently, the use of mobile devices has increased, especially with the widespread use of the internet. The number of mobile applications that help everyone in various aspects of life has also increased. This poses many challenges for developers, the most important of which is usability. Therefore, it has become necessary to test the usability of mobile applications to ensure they are easy to use and meet user needs [1-4].

This paper focuses on the usability of the Presto mobile application, a multi-service application introduced by Presto to address gaps in the logistics sector, which is currently underserved by a small number of companies in Libya. This application began as a food delivery platform connecting customers with restaurants, then offering grocery delivery services and taxi booking. Despite its widespread popularity [5], the usability of this application has not been evaluated. Given the importance of user satisfaction with the system and meeting their needs, ease of use should be evaluated to help users obtain an easy-to-use, effective, and efficient application [6,7].

2. BACKGROUND

For the past 20 years, HCI researchers and usability experts have been rigorously developing various usability evaluation methods and models to measure usability as a quality construct [8, 9]. ISO 9241-11 defines usability as “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency

and satisfaction in a specified context of use" [10]. Usability evaluation entails a combination of methodologies for measuring and evaluating the usability of a system [11]. It can detect usability problems in a system's design.

Mobile usability has emerged as a specialised branch within the broader field of usability, which itself continues to evolve [12]. Researchers in human–computer interaction (HCI) emphasise that achieving high usability in computer systems requires understanding the psychological, ergonomic, organisational, and social factors influencing human behaviour [13]. User experience further enriches how individuals work, communicate, and interact with technology [14].

A key factor in the success of both e-commerce and m-commerce platforms is ensuring that users' experiences through the interface fulfil their sensory and functional needs [15]. However, mobile Internet usage varies significantly across different contexts, as users pursue diverse goals and encounter distinct usability challenges depending on their situations [16].

Moreover, modern consumers increasingly use their mobile devices for on-the-go shopping via the Internet. The rapid growth of the Internet, smartphones, and mobile applications has fundamentally transformed consumers' shopping experiences, making convenience and accessibility central to digital commerce [17].

3. METHODOLOGY

The usability testing was conducted with participants who had the time, ability, and willingness to participate. Accordingly, a convenience sampling method was used, which is a type of non-probability sampling [18]. Regarding the number of participants, several usability research studies still support that testing with around five users can uncover approximately 80 % of usability issues [19, 20]. However, more recent studies recommend larger samples to improve reliability and account for diverse user behaviours [21].

In this study, nine users participated to identify 94.686% of their usability problems with the evaluated application [22]. Five experienced users and four first-time users, to ensure a comprehensive understanding of usability issues. The sessions were conducted in a quiet environment with proper seating and recorded using a digital camera and screen-sharing tools such as Google Meet.

To ensure valid outcomes, all tasks were designed to match the application's main functions, keeping complexity low and realistic [23]. After completing each session, participants filled out a satisfaction questionnaire, and both objective and subjective data were analysed using SPSS software.

The objective metrics included task completion time, total error rate, and number of actions performed, which are widely recognised indiators of usability performance [24, 25]. The subjective measures focused on overall user satisfaction, assessed using a four-point scale ranging from "no problem" to "failure/give up" [26]. Longer task completion times generally indicated higher difficulty levels and usability issues [24, 25].

Finally, the overall usability level of the application was determined by computing the mean values of both objective and subjective measures [27].

4. RESULT AND DISCUSSION

During the usability testing, objective data was collected to analyse and summarise. It started with analysing the time on each task. The success level of any task in the application reflects the user's success in completing it within a specified time [24]. Hence, the time taken for each task is the total time attempted by most of the participants. Thus, the success rate of completion per task was reported. As shown in Figure (1) below, there was a difference in the total completion rate for all the tasks performed by the participants, also known as the success score. Although the participants may not have faced difficulties in completing some tasks successfully, there is a probability that they had faced some problems in completing other tasks.

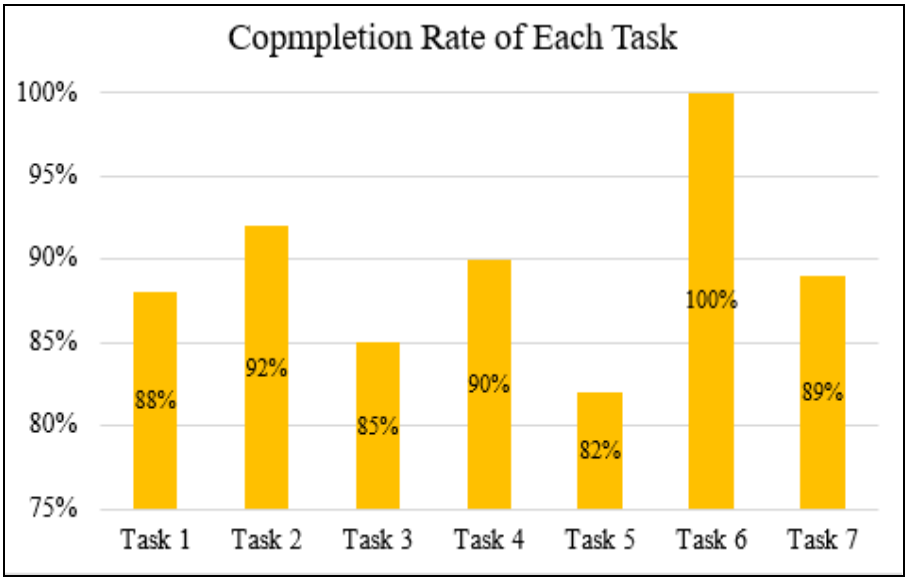

Figure 1: Successful completion rate per task.

The data obtained from the usability testing was identified within the rating scale based on the time taken to complete each task. The longer time taken to finish the task, the more difficultly faced by the participant in performing the task [24]. Thus, the range of time was used to identify the category of the rating score i.e. the difference between the maximum and minimum time taken in completing each task. The observation during the evaluation provide data related to how the users completed each task. The levels of task success were divided into four categories based on the four rating points as shown in Figure (2).

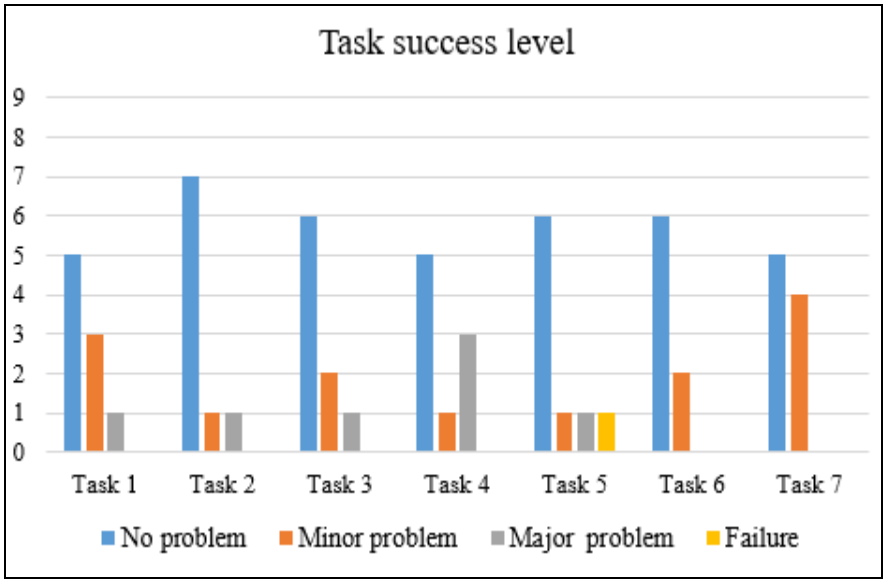

Figure 2: Task success level.

Additionally, the total error during the usability assessment and the average error rate for each task were calculated as shown in Table (1).

Table 1: Average Error Rate per Task.

Task	Total Number of Error	Mean	Confident Interval (95%)	Mean for all task	Confident Interval (95%) for all task
Task 1	8	0.89	0.08 - 1.70	6.71	0.37 - 0.81
Task 2	6	0.67	0.04 - 1.30		
Task 3	4	0.44	0.03 – 0.85		
Task 4	11	1.22	0.31 – 2.13		
Task 5	12	1.33	0.53 – 2.13		
Task 6	3	0.33	0.0 – 0.71		
Task 7	3	0.33	0.0 – 0.71		

As shown in Table (1) above, the average error for all tasks is 6.71. Also, the average error for Task 6 is the least, which also correlates with the 100 per cent task completion and the report that all six participants did not face any problem in completing it (see Figure 2). This proves that Task 6 is the most easy for the participants. On the other hand, Tasks 4 and 5 recorded the greatest number of errors and difficulties in completing. Overall, the total error for all the tasks is between 0.37 and 0.81 with a 95% confidence interval. This shows the easy level of the application for the participants who accepted it, and it needs some more improvements to make it a more useful application in the future.

Also, the total number of actions performed by the participants when conducting all the tasks was calculated to determine the average actions for each task, as listed in Table (2).

Table 2: Average Number of Actions per Task.

Task	Total Number of Actions	Mean	Confident Interval (95%)
Task 1	71	7.89	6.99 - 8.79
Task 2	33	3.67	3.13 - 4.21
Task 3	49	5.44	5.03 - 5.85
Task 4	29	3.22	2.32 - 4.12
Task 5	66	7.33	6.56 - 8.10
Task 6	39	4.33	3.95, 4.72
Task 7	30	3.33	2.95 - 3.72

As shown in Table (2), the average action varies for each task. This commonly depends on how easy and simple the task is. Also in this table, it is clear that Task 1 has a higher number of actions, i.e. averaging at 7.89. This is also evident from the longer time required to complete the task, while no participant failed to do so (see Figure 2). On the other hand, all the participants succeeded in completing Task 4 in less time and with some errors and fewer interactions than in the other tasks. This indicates that this task does not have the difficulties of Task 1.

Moreover, the subjective data was analysed, and categorisation of the satisfaction level obtained, which reflects the user's overall impression of the application. Furthermore, the usability issues in the application were also revealed. For this, subjective data were collected to measure the users' satisfaction level with the application selected in the usability testing. The participant satisfaction rating form was used.

Table 3 Participant Satisfaction Level.

Participants	Mean Score	Percentage	Participant Satisfaction Level
Participant 1	4.45	89%	Very High Satisfaction
Participant 2	3.98	79.6%	High Satisfaction
Participant 3	4.24	84.8%	High Satisfaction
Participant 4	3.67	73.4%	High Satisfaction
Participant 5	2.98	59.6%	Medium Satisfaction
Participant 6	4.68	93.6%	Very High Satisfaction
Participant 7	4.2	84%	High Satisfaction
Participant 8	3.69	73.8%	High Satisfaction
Participant 9	3.45	69%	Medium Satisfaction

The results of the analysis shown in Table (3) revealed that the average score of questions for each participant ranged from 2.98 to 4.68. Hence, the percentage of these scores is between 93.6% and 59.6%. This means that the overall satisfaction is high to very high, with an average percentage of 78.53%. The maximum percentage for the participants is more than 90% individually. Two participants expressed very high satisfaction, i.e. more than 85%, while five expressed high satisfaction. None of the participants expressed low satisfaction with the application. This clearly indicates that the users found the application to be satisfactory in terms of usage. It can be concluded that this application is usable for users in general.

The mean scores for the usability dimension's subjective measures are shown in Table (4). The overall usability score given by the participants for the application is 90.4%.

Table 4: Subjective Measures Evaluation per Dimension.

Dimension	Max Score	Min Score	Mean Score	Percentage
Efficiency	5	3	4.33	86.6%
Effectiveness	5	4	4.56	91.2%
Satisfaction	5	4	4.67	93.4%
Mean				90.4%

Based on the usability measures, the mobile application Presto scores on the overall usability dimensions for the subjective measures. The satisfaction dimension recorded the highest score with 93.4%, which indicates that the application is helpful and easy to use.

5. CONCLUSION

Usability testing was conducted on the Presto mobile app to measure its effectiveness, efficiency, and user satisfaction. The results showed that this application is effective and efficient, as most participants expressed satisfaction with the app's ease of use and simple interface, and that the services it offered were readily accessible with few, if any, errors. However, everyone encountered difficulty with the fifth task, with one participant failing to complete it and six resorting to the familiar method of cancelling the order and reordering to modify it. The participants suggested that the sellers should provide a specific timeframe to modify the order for each product and notify them. In addition, it was noted that the second task took a long time, and the reason confirmed by all participants was that the user could not specify the maximum and minimum price to reduce the time required for the search. These issues require further consideration and solving. Hopefully, this usability evaluation can assist the developers and owners of the Presto application to improve it to meet user requirements, enhance the user experience with the application, and promote its acceptance, spread, and continuity.

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