



# Assignment 3b – Usability Report

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# 1. Introduction

My Park is an application that is meant to help people find Parks and entertainment for free. The application is being developed for Iphone 6 and Ipad.

According to ISO / IEC 9126, "Usability refers to the ability of an application to be understood, learned, used and attractive to the user, under specific conditions of use." Usability is a concept that allows us to evaluate factors that influence the use of the application.

# 2. Usability Test Planning

In order to validate the functionalities available in the application before being released in the market and its acceptance by the end users, a usability test was performed.

The purpose of this usability test (described on the basis of the GQM Goal-Question-Metric [Basili and Rombach 1988]) is: to analyse the usability of the MyPark application. The purpose of this study is to evaluate the percentage of correct answers, the percentage of defects and the perception about ease of use.

To perform a usability test, one must select strategic activity for the proper functioning of the application. In this case, the activities were:

1. Sign in to the MyPark application
2. Search for Park to ride a bike
3. View all pictures in the gallery
4. Check badges
5. Check favourites
6. Learn about badges
7. Search for parks by postcode
8. Add Park to your favourites
9. Send link message to your friends
10. Log out

Table 1: Activities and Steps of the Usability Test Process

Steps	Activities	Description
Planning	Usability test goal setting	It was defined what was the purpose of the usability test
	Activity list definition	Defined from activities that were considered common user
	Defining user profiles	The profiles of possible users who Used for the test
	User selection	The selection of the users was made according to the profile of users
	Forms construction	Forms were prepared that would be used in the test.
Execution	Preparation of the test environment	The environment was prepared so that there were no interruptions during the execution of the test.
	Testing at AIT	Testing MyPark by users, following the list of activities
	Perception of users about MyPark	Users responded to the post-test questionnaire
Analysis	Analysis of the perception of users about the MyPark application	The collected data were analysed according to the perception Of users regarding ease of use, utility and interface.
	Results presentation	A report was prepared to present the results Found and suggestions for improvement

### 3. Running the Usability Test

#### 3.1 Test environment

To perform the test, we used a no-cost environment, consisting of only one Iphone 6 and one IPad with Internet access.

#### 3.2 Testing

During the test, the observer explained to each user the procedure to be followed, requesting that he perform each activity and warned him when he completed them. In addition, the user could express any difficulty or doubt using the Think Aloud method. Meanwhile, the observer noted users' comments, questions, and mistakes in an Usability Assessment Report. It is worth noting that the observer did not provide any help to the users on how to carry out the activities. After that, users responded A Post-Test Questionnaire,

which is based on the TAM (Technology Acceptance Model) model proposed by Davis (1989), expressing his perception about the application.

## 4. Quantitative Usability Test Results

One researcher analysed the test results and validated the results. In order to characterize the usability of the MyPark application, we measured the percentage of hits when performing the activities and the percentage of defects found in each activity.

### 4.1 Percentage of hits

The percentage of hits measures the number of users who were able to perform an activity. The hit percentage criteria used in this test are:

- (A) Easy: the user completed the activity on the first attempt, without problems;
- (B) Difficult: the user has completed the activity with difficulty;
- (C) Unsuccessful: the user was unable to complete the activity or gave up.

*Table 2: Percentage of hits from each activity by level of difficulty*

Activities	Easy (%)	Difficult (%)	Unsuccessful (%)
1. Sign in to the MyPark application	100	0	0
2. Search for Park to ride a bike	100	0	0
3. View all pictures in the gallery	100	0	0
4. Check badges	0	70	30
5. Check favourites	80	20	0
6. Learn about badges	90	10	0
7. Search for parks by postcode	100	0	0
8. Add Park to your favourites	80	20	0
9. Send link message to your friends	100	0	0
10. Log out	90	10	0

## 5. User Perception of the MyPark Application

The perception of the user was verified in relation to the utility, ease of use, application interface (Table 3). A scale of six Points, based on the questionnaires applied by Lanubile et al. (2003).

*Table 3: Perception of users about MyPark App*

	Activities	1	2	3	4	5	6
Ease of Use	It was easy to learn how to use the app			1	2	3	
	I could understand what happened while using the app				2	4	
	It was easy to gain usability during the execution of in-app activities					1	5
	It's easy to remember how to use the app						5
	I find the application easy to use					2	4
Application Utility	I find the application useful for searching Parks			1	2	2	1
	I think the app would improve my search for outdoor activities.			1	2	2	1
	I find that the application makes it easier to do my activities						6
Application Interface	I find the application colours and buttons nice.				1	1	4
	I can see all the buttons and information inside the application well					1	5
	I can easily understand words, Nomenclatures and application icons.						6
	The images and icons in the application are easy to recognize.					1	5
	I can see all the features of the application.				1	2	3
	I can browse through all the screens of the application.					3	3
	After getting accustomed to the app I think the app makes it easy to search for Parks and activities.					1	5
Searching Parks	After getting used to the application I think the application facilitates search by activity in the parks of Sydney.						6
	With the application I find it easier to find Parks in Sydney.						6
	With the application I would be able to explore well the available parks.				1	2	3
	With the application the level of interest in going to Parks would increase.			1	1	2	2
<b>Subtitle:</b> <b>1-</b> Strongly Disagree <b>2-</b> Disagree <b>3-</b> Slightly Disagree <b>4-</b> Slightly Agree <b>5-</b> Agree <b>6-</b> Strongly Agree							

## 5.1 Perception of Ease of Use

In Table 3, it is possible to observe that users were able to learn how to use, gain usage skills during the execution of tasks and understood what happened during the use of the application.

## 5.2 Perception of Application Utility

It can be seen in Table 4 that users consider that the application is useful for searching for Parks activities and that would facilitate the accomplishment of their activities.

However, four users did not consider the function of the search icon to be useful. The users had the expectation to search and return the photos of the parks and not look for directions to go. One user reported, *"Honestly, I was frustrated because I wanted to see the photos of a particular park and only know how to get there."*

Therefore, it is necessary to perform new usability tests and include this multiple search functionality.

## 5.3 Application Interface Perception

Analysing the data in Table 3 in relation to the Application Interface, it can be observed that there were disagreements on some issues. Some user affirmations were: "The return icon is bold while the home icon is regular. Only in the version of the Iphone, the Ipad is in agreement".

This result shows that the application needs improvements in its interface, since users noticed a discrepancy between the icons.

## 6. Lessons Learned and Final Considerations

This paper presented a practical account of a usability test performed with the MyPark application. It can be observed that it is feasible to perform a usability test with few resources, since in the test reported only local resources (1 iPad and 1 iPhone with internet access) were used.

In addition, the 6 users who participated in the test were volunteers. The highest cost was in relation to the time of the observer, because it took an average of 3 days to do the planning of the test, 2 days for the execution with all users and 6 days for collection and analysis of the data. In this way, it is hoped to encourage the software industry to perform usability assessments more frequently during product development, as this is an effective way to identify problems and improve the application before it is released.

All difficulties encountered during the test were presented to the development team. In the report presented to the team was highlighted in which part of the application the users had difficulties and what would be the possible improvements to be made.

Some of the suggestions for improvements were: Compare how many badges do I have with my friends. Be able to upload my photos in the park. It has also been suggested to link to the Blog or app site, with suggestions of what to take to eat. Example: What to take to have a picnic, and even how to prepare a birthday party at the Park.



## 7. References

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