

Measure Quality Augmented Reality Tourist Using in Mobile Technology

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Abstract:- Lately, the advances in communication networking for mobile phones are considered the main cause of the emergence of some services that can easily present sightseeing information through the mobile at the tourist places. Nevertheless, the contents of the current tourist guide like the web and guide books present data and information that are related to non-activated sightseeing. In this paper, an endeavor is made to measure quality of the mobile application systems that present advices concerning sightseeing in order to solve these problems. This application system enables users to easily post and share any sightseeing data and information via utilizing their mobiles. Thus, they will be able to improve the sightseeing data. Moreover, the suggested system makes use of the augmented reality technology that improves a real environment via the virtual items. Consequently, the application system can be utilized as a sightseeing steerage system that overlays annotations on the real world. The suggested application system provides fundamental tour guides and routs that help their tours. Validation of the quality proposed solution in this paper through collecting a sample of people who answer an electronic survey that composed of 12 questions. The result of the validation of the quality proposed solution proved using this application will be suitable for solution tourist problem.

Index Terms:- Measure Quality; Augmented Reality (AR); Tourist.

I. INTRODUCTION

Tourism is considered one of the most significant components in local revitalization. Lately, it has been indicated that it is not an easy task to get valuable information about sightseeing guidance due to the diversity of needs for relaxation. Apart from this, it is believed that information gotten from friends, families and blogs is considered more valuable than that information gotten from websites, handbooks, or brochures where as it reflects the individual's opinions and impresses. Nevertheless, it is not easy to get the valuable information as it is not transferred to tourists [10].

Lately, many cultural heritage organizations depend mainly on the cultural heritage resources, e.g. historical photos and data, in their mobile augmented reality apps [11, 12]. Although researchers and practitioners are interested in this kind of apps and the reality that quality of technology is measured by users, only few pieces of research are conducted to study the users' readiness to utilize this kind of app.

The invisible, alert and assistive technologies which supply tourists with the related services and data wherever and whenever they want are no more considered a future dream. Also, the new prototype, resulting from the cooperation offered by the new mobile phones, context-awareness and augmented reality, can easily support the tourists' practices and help them to be extraordinary. Nevertheless, efficient and practical design is still in its initial stages [9].

Many of papers talk over the importance of utilizing the augmented reality [7] apps in order to meet the tourism requirements. It indicates the technology's development from just pilot apps and commercial apps. It is significant to tackle the technical characteristics of mobile augmented reality apps evolution, along with stressing the tools which makes the delivery of augmented reality content a potential matter and experimental superior. This research presents a pattern for enhancing the AR mobile apps in the tourism domain and at the same time intending to release AR's full potential within the field. The purpose of this research is to study the factors affecting the quality of these systems and to determine to what extent users are interested in these kinds of apps.

The remainder of this paper is organized as follows: Section II describes some brief literature review. Section III the authors have described the statement of the problem. Section IV solution towards that problem is given. Section V the measure quality of this application by using a survey. Conclusion and future work are given in the final section.

II. RELATED WORK

Studies conducted on tourism have indicated that knowledge and practice of the tourist are not given the adequate attention and interest. However, studies conducted on tourism do not assist in illustrating the nature of modern mass tourism. Even the most elaborated study that has been conducted concentrated mainly on the tourist data and information. However, the literature turns to evade the elaborated qualitative description, concentrating more and more on classifying the tourist practices. Arash & Behrang et al. intend to indicate how a tourist catalogue which utilizes augmented reality can be designed and created [1]. This catalogue will assist both the local and foreign tourists to obtain visual help through watching items on a simple map.

Fidel & Agueda et al. aim to bolster the geolocation system powered by augmented reality [2]. In addition, they provide enhanced and innovative services like context awareness mobile apps and ordinary communications associated with the idea of ambient intelligence that supports the creation of intelligent environments that are distinguished by providing services meeting the demand dynamically. Designing and making a location system means presenting additional services relying on the positional data of the various systems' users. Hence, the user knows particular information about the place he is present. Also, it will enable the user to know information about the area or the place and to write down comments that will be seen and read by the other users about this place.

Most of the new mobile phones involve cameras, location, motion and orientation sensors. Maha & Oscar et al. [3] indicate the role played by these mobile phones where as they provide users with the tourist information in such a way that is more immersive than the conventional texts or diagrams. A camera, location, and orientation sensors are utilized by the system in order to supplement the live camera view on the phone with the existing information about the items in the view. Such supplemented information can be gotten through matching the camera picture to pictures stored in the database on the server.

Aurkene & Maria et al. [4] prepare a usability study of a different prototype depending on Augmented Reality technologies that have been examined on a tourist area in the North of Spain. The purpose of this study was the creation of typologies of both users and criteria; and thus the new reactive tourist practices and experiences can be individualized in the future putting into consideration some notions like usefulness and ease of use. One of the fundamental matters in the usability study is observation. Hence, the prospects and restrictions of the prototype design have been examined relying on the users' behavior. Many of the individuals participating believed that the usage of the Augmented Reality technologies boosts the reactive practice with the tourist content. Furthermore, they have evaluated the effectiveness of the prototype as a tourist information relying on measuring its proficiency to present Location-Based contents.

Byung & Kangsoo et al. [5] offer on-site tour guide by the help of the augmented reality whereas through which the former life is being repeated and individualized at cultural heritage areas. Also, the related information, e.g. tourist's areas and profiles, can be utilized to boost the individualized tour guides. In specific, the tourist's locations are being known through visually recognizing of the cultural heritage sites.

Anne & John [6] design a mobile augmented reality app that is supplied with historic photos and data related to a historic road. It is important to keep an eye on the Design Science Research Methodology and to make use of the comprehensive version of the Technology Acceptance Model (referred to as TAM) in order to consider carefully to what extent the app is accepted. In addition, a prototype has been designed pursuant to the common rules for usability design. Furthermore, the outcomes indicate that the supposed utility and the supposed enjoyment have a direct effect upon the intention to utilize mobile augmented reality apps with historic photos and data. Besides, some effective suggestions are offered for the design and deployment of these systems.

According to Patrick & Roland et al [8]., the goal of the MARFT project is to present the following group of the augmented reality targeting the present mass market mobile phones. Also, it aims at presenting an interactive service for individuals paying a visit to the regions full of mountains. The tourists can sightsee the adjacent landscape, throughout their domestic trips, via pointing the lens of the smart phone camera towards the place they desire to see. Beside the advantage gained from obtaining trustworthy information, MARFT can think about the visibility of objects and can work totally offline to evade incurring the roaming charges, particularly for tourists.

Zornitza & Dimitrios et al. [9] put forward a general idea about the recent smart phones AR apps and summarize the problems facing the tourism-related field-specific design. This research is considered a part of a

continuous research project intending to increase the knowledge of the design space for smartphone context-aware AR apps for tourists.

III. PROBLEM STATEMENT

The tourist information is very important for the tourists because it helps them in their sightseeing. Missing such information is the main cause of losing some chances of enjoying the attractiveness of the city. Usually, most tourists review the travel program, the interesting places and routes in advance with the aid of the different websites, magazines, and guide books. These sources of information are usually given to the tourists.

Nevertheless, getting the most recent information is considered a hard matter in certain places. In addition, the points of view of the individuals who visited such places are not mentioned in the guide books or leaflets. Besides, some of the tourists do not seek the help of a tour guide because it is costly for tourists. By solve this problem the travel agents take advantage of this matter and present the charm of the sightseeing places. Thus, obtaining and reaching the beneficial information without difficulty are considered a significant matter for the local revitalization.

IV. THE PROPOSED SOLUTION

Some approaches have been provided in order to solve this problem. One of these approaches is represented in the augmented reality tourist application which is being designed in order to assist tourists obtain visual aids of the areas they are going to visit. We should benefit from the development made in the mobile phones and portable devices to develop new means of technology. In this paper the authors concentrate on how to measure the quality of augmented reality tourist using in mobile technology [10].

The proposed system that visualizes the communication among users during their tour. To recognize this, the built-in acceleration sensor and Global Positioning System (referred to as GPS) of a mobile like the iPhone are being utilized to share opinions and photos that express the users' experiences of sightseeing. The AR technology can certainly show the digital information such as the virtual objects in a real world. Lately, the different application tools for mobile phones with AR have been designed. The tour guide using the AR will successfully present valuable information that includes data and information shared by users [10]. In this proposed system various functions as shown in figure 1:

- 1. Select course:** The suggested application system begins from select course view. This icon demonstrates the list of sightseeing routes and this example shows routes around.
- 2. In Course guide** the selected course is drawn on a Google Map. In the sightseeing route of a course, a red pin is utilized to refer to places of start and goal, while the yellow icon indicates the data related to the tourist places. The user can easily reach the information via clicking on an icon. In addition, this view demonstrates the existing location of the user in the form of a blue dot. Besides, it shows the expected precision of GPS through drawing a circle around the user's place. The suggested application system is distinguished by its ability to give the user his neighbor data more efficiently in order to help him in his sightseeing. In case the user desires to express his opinion throughout his sightseeing, he can share a comment or a photo in the system through Post on current location.
- 3. Look at Neighborhood Area:** It indicates the navigation of tourist route through utilizing the AR technology. In the suggested application system, the route and space from the user's existing place to a place of posted information are demonstrated with AR. These are demonstrated in the form of a camera as if they are in a real world. Thus, the application system is characterized by helping the user to get valuable information in order to enjoy his sightseeing. Furthermore, it is significant to easily determine the route, site and landmarks to a goal to navigate the user by AR data. In the suggested application system, the user can easily obtain them from AR data which indicates the route to a goal with the figure of arrow. Hence, the user will successfully do his sightseeing and will avoid the possibility of losing his way through seeking the help of the suggested application system.
- 4. Post on Current Location:** The users can post data and information through this icon. This information may contain a photo, opinion. Also, the posted information is available and accessible to the individual who posts it and to the other users through the proposed application system. The tourists will get valuable information when the application is utilized by many individuals. In addition, users can through this system post texts as well as photos. This matter is anticipated to enhance communication between users.



Fig 1: Augmented Reality Applications for Tourism.

V. MEASURE QUALITY OF THE PROPOSED SOLUTION

Validation of the quality proposed solution is one of the most important points that need to any research. In this paper the validation of the quality proposed solution through used an electronic survey. The purpose of using this method it's not too much time consuming and gives the respondent much of time to think and answer questions be credible. Validation of the quality proposed solution will be through collecting a sample of people who answer an electronic survey that composed of 12 questions. An electronic survey will be target distributed to general public interested in this technology in through social sites such as twitter and Facebook also by email them. The Likert scale is the scale will be used in this research to answer questionnaire. Likert scale is given in the following Table 1.

Table 1: Likert scale.

1	Strongly Disagree
2	Disagree
3	Neither Agreed Nor Disagree
4	Agreed
5	Strongly Agreed

Questions divided into 3 evaluation criteria goals were arranged according to their relevancy to defined goals this goal:

Goal 1: Satisfaction the users from this application.

Goal 2: Usability.

Goal 3: Performance.

A statistical analysis is made on the basis of gathering data through the distribution of questionnaires. The analytic form is represented through frequency tables and charts showing the exact degree of analysis. The describe the validation results on the basis of results below.

Goal 1:

Satisfaction the users from this application.

Goal: 1

Q1: How much using of Augmented Reality Tourist using in mobile technology for this problem is acceptable to you as compared with other methods like (information magazines, guide books or brochures)?

Results of total respondents 36 of question 1 given in Table 2 showing that 45 % (where 31 % strongly agreed and 14 % agreed) the people were supportive to question 1 that it is agree using of augmented reality tourist using in mobile technology for this problem is acceptable to users as compared with other methods like (information magazines, guide books or brochures) whereas 27% (where 8 % strongly disagreed and 19 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 28 %. The conclusion of the survey of this question is that the augmented reality tourist using in mobile technology for this problem is acceptable to users as compared with other methods. Following is the Table 2 & figure 2 showing the results obtained for the question 1.

Table 2: Result for Question 1.

Likert Scale	Frequency	Percent	Cumulative Percent
1	3	8%	8%
2	7	19%	27%
3	10	28%	55%
4	5	14%	69%
5	11	31%	100%
Total	36		100%

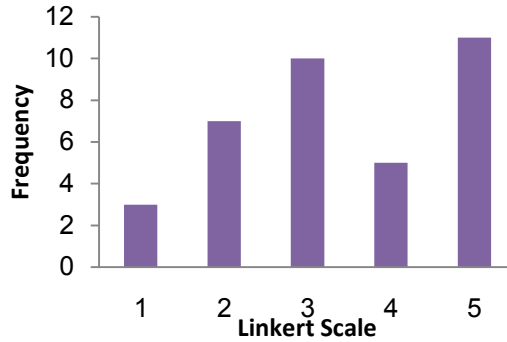


Fig 2: Graphical Representation of Question 1.

Q2: Do you satisfy with the uses this application when you travel?

Results of total respondents 36 of question 2 given in Table 3 showing that 44 % (where 22 % strongly agreed and 22 % agreed) the people were supportive to question 2 that the users satisfied with the uses this application when you travel whereas 23% (where 6 % strongly disagreed and 17 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 33 %. The conclusion of the survey of this question is that the users satisfied with the uses this application when you travel. Following is the Table 3 & figure 3 showing the results obtained for the question 2.

Table 3: Result for Question 2.

Likert Scale	Frequency	Percent	Cumulative Percent
1	2	6%	6%
2	6	17%	23%
3	12	33%	56%
4	8	22%	78%
5	8	22%	100%
Total	36		100%

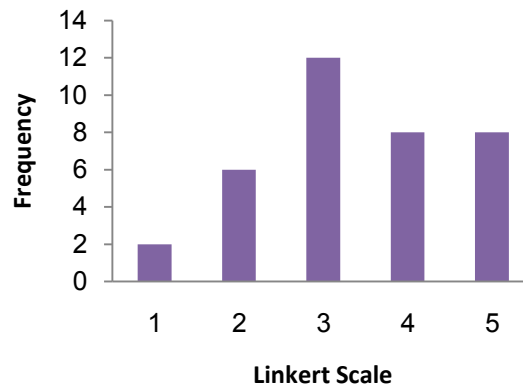


Fig 3: Graphical Representation of Question 2.

Goal: 1

Q3: Do you believe this application will improve of tourist problem?

Results of total respondents 36 of question 3 given in Table 4 showing that 61 % (where 28 % strongly agreed and 33 % agreed) the people were supportive to question 3 that the users believe this application will improve of tourist problem whereas 17% (where 3 % strongly disagreed and 14 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 22 %. The conclusion of the survey of this question is that the users believe this application will improve of tourist problem. Following is the Table 4 & figure 4 showing the results obtained for the question 3.

Table 4: Result for Question 3.

Likert Scale	Frequency	Percent	Cumulative Percent
1	1	3%	3%
2	5	14%	17%
3	8	22%	39%
4	12	33%	72%
5	10	28%	100%
Total	36		100%

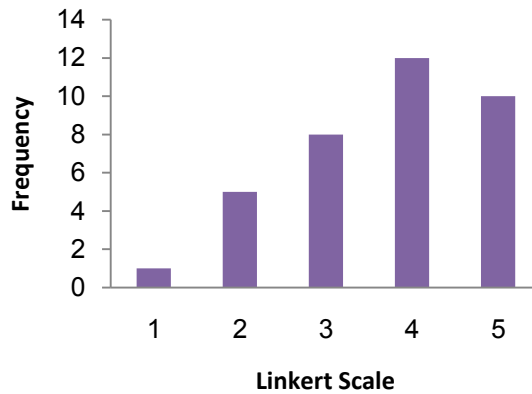


Fig 4: Graphical Representation of Question 3.

Goal: 1

Q4: Do you recommend this application for solve this problem?

Results of total respondents 36 of question 4 given in Table 5 showing that 53 % (where 31 % strongly agreed and 22 % agreed) the people were supportive to question 4 that the users will be recommend this application for solve this problem whereas 14% (where 3 % strongly disagreed and 11 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 33 %. The conclusion of the survey of this question is that the users will be recommended this application for solve this problem. Following is the Table 5 & figure 5 showing the results obtained for the question 4.

Table 5: Result for Question 4.

Likert Scale	Frequency	Percent	Cumulative Percent
1	1	3%	3%
2	4	11%	14%
3	12	33%	47%
4	8	22%	69%
5	11	31%	100%
Total	36		100%

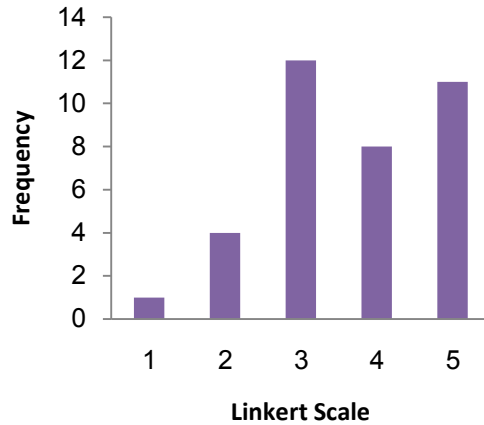


Fig 5: Graphical Representation of Question 4.

5.1 Cumulative Survey of Goal 1

Questions divided into 3 goals the first goal covers that satisfaction the users from this application. That's show 4.86% are strongly disagreed and 15.28% are disagree 29.17% are neither agreed nor disagree 22.92% are agreed and 27.78% are strongly agreed from satisfaction the users from this application.

Table 6: Frequency Table of Cumulative Goal 1.

Q.No	Strongly Disagree	Disagree	Neither Agreed Nor Disagree	Agreed	Strongly Agreed
1	3	7	10	5	11
2	2	6	12	8	8
3	1	5	8	12	10
4	1	4	12	8	11
Total	7	22	42	33	40
Avg.	4.86	15.28	29.17	22.92	27.78

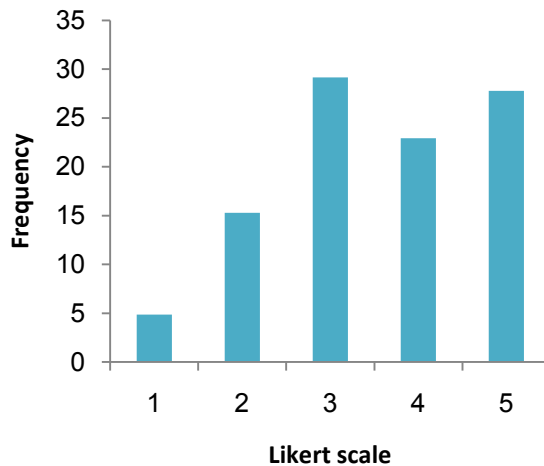


Fig6: Graphical representation of Goal 1.

Goal 2:

Usability of augmented reality tourist application that using in mobile technology.

Goal: 2

Q5: How much usability and easy using Augmented Reality Tourist using in mobile technology?

Results of total respondents 36 of question 5 given in Table 7 showing that 61 % (where 25 % strongly agreed and 36 % agreed) the people were supportive to question 5 that usability and easy using augmented Reality tourist application using in mobile technology whereas 20% (where 3 % strongly disagreed

and 17 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 19 %. The conclusion of the survey of this question is that usability and easy using augmented reality tourist application using in mobile technology. Following is the Table 7 & figure 7 showing the results obtained for the question 5.

Table 7: Result for Question 5.

Likert Scale	Frequency	Percent	Cumulative Percent
1	1	3%	3%
2	6	17%	20%
3	7	19%	39%
4	13	36%	75%
5	9	25%	100%
Total	36		100%

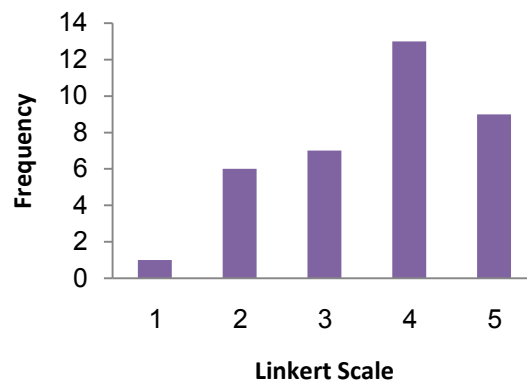


Fig 7: Graphical Representation of Question 5.

Goal: 2

Q6: Do you believe this application can use without training?

Results of total respondents 36 of question 6 given in Table 8 showing that 52 % (where 28 % strongly agreed and 25 % agreed) the people were supportive to question 6 that believe this application can used without training whereas 31% (where 6 % strongly disagreed and 25 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 17 %. The conclusion of the survey of this question is that believe this application can used without training .Following is the Table 8 & figure 8 showing the results obtained for the question 6.

Table 8: Result for Question 6.

Likert Scale	Frequency	Percent	Cumulative Percent
1	2	6%	6%
2	9	25%	31%
3	6	17%	48%
4	9	25%	72%
5	10	28%	100%
Total	36		100%

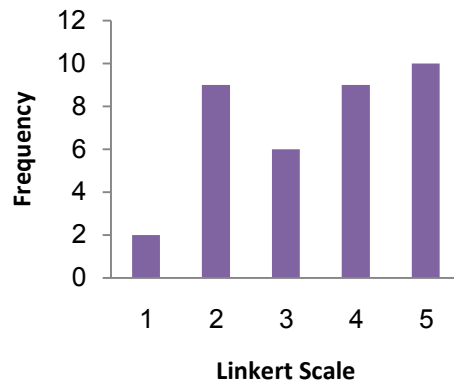


Fig 8: Graphical Representation of Question 6.

Goal: 2

Q7: Do you believe Augmented Reality Tourist using in mobile technology is suitable for different age can be used it without any problems?

Results of total respondents 36 of question 7 given in Table 9 showing that 50 % (where 22 % strongly agreed and 28 % agreed) the people were supportive to question 7 that believe augmented reality tourist using in mobile technology is suitable for different age can be used it without any problems whereas 28% (where 6 % strongly disagreed and 22 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 22 %. The conclusion of the survey of this question is that believe augmented reality tourist using in mobile technology is suitable for different age can be used it without any problems. Following is the Table 9 & figure 9 showing the results obtained for the question 7.

Table 9: Result for Question 7.

Likert Scale	Frequency	Percent	Cumulative Percent
1	2	6%	6%
2	8	22%	28%
3	8	22%	50%
4	10	28%	78%
5	8	22%	100%
Total	36		100%

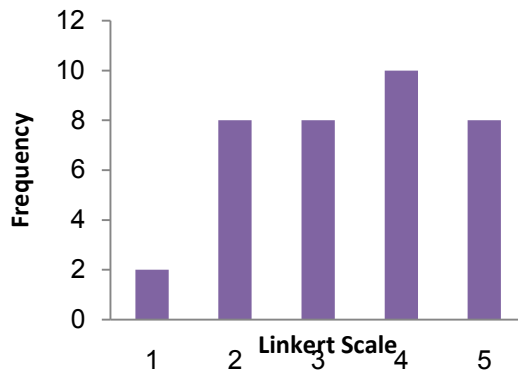


Fig 9: Graphical Representation of Question 7.

Goal: 2

Q8: Do you find the tasks that using in this application is suitable and clear for you?

Results of total respondents 36 of question 8 given in Table 10 showing that 50 % (where 17 % strongly agreed and 33 % agreed) the people were supportive to question 8 that find the tasks that using in this

application is suitable and clear for users whereas 22% (where 6 % strongly disagreed and 17 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 28 %. The conclusion of the survey of this question is that finds the tasks that using in this application is suitable and clear for users. Following is the Table 10& figure 10 showing the results obtained for the question 8.

Table 10: Result for Question 8.

Likert Scale	Frequency	Percent	Cumulative Percent
1	2	6%	6%
2	6	17%	22%
3	10	28%	50%
4	12	33%	84%
5	6	17%	100%
Total	36		100%

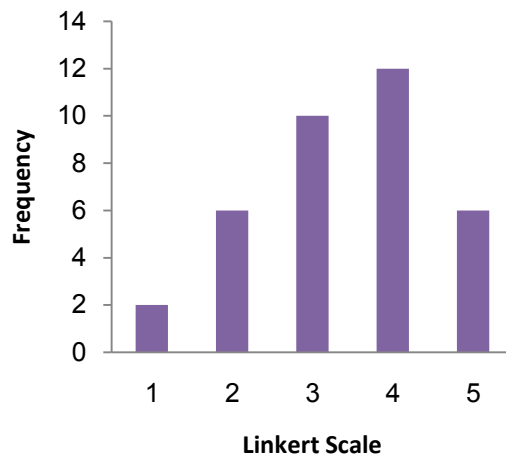


Fig 10: Graphical Representation of Question 8.

Goal: 2

Q9: Do you think the graphical user interface of this application will be memorable by all users?

Results of total respondents 36 of question 9 given in Table 11 showing that 53 % (where 22 % strongly agreed and 31 % agreed) the people were supportive to question 9 that think the graphical user interface of this application will be memorable by all users whereas 22% (where 6 % strongly disagreed and 17 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 25 %. The conclusion of the survey of this question is think the graphical user interface of this application will be memorable by users .Following is the Table 11& figure 11 showing the results obtained for the question 9.

Table 11: Result for Question 9.

Likert Scale	Frequency	Percent	Cumulative Percent
1	2	6%	6%
2	6	17%	22%
3	9	25%	47%
4	11	31%	78%
5	8	22%	100%
Total	36		100%

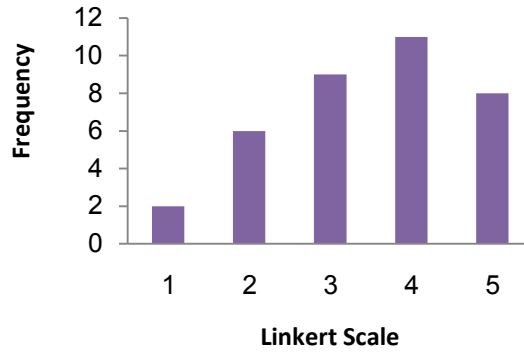


Fig 11: Graphical Representation of Question 9.

5.2 Cumulative Survey of Goal 2

In the second goal define usability this application such as will be easy to use, easy to learn by all users regardless of their expertise in using application (novice, expert) and the graphical user interface of the application will be memorable by all users. That's show 5% are strongly disagreed and 19.44% are disagree 22.22% are neither agreed nor disagree 30.55% are agreed and 22.78% are strongly agreed.

Table 12: Frequency Table of Cumulative Goal 2.

Q.No	Strongly Disagree	Disagree	Neither Agreed Nor Disagree	Agreed	Strongly Agreed
5	1	6	7	13	9
6	2	9	6	9	10
7	2	8	8	10	8
8	2	6	10	12	6
9	2	6	9	11	8
Total	9	35	40	55	41
Avg.	5	19.44	22.22	30.55	22.78

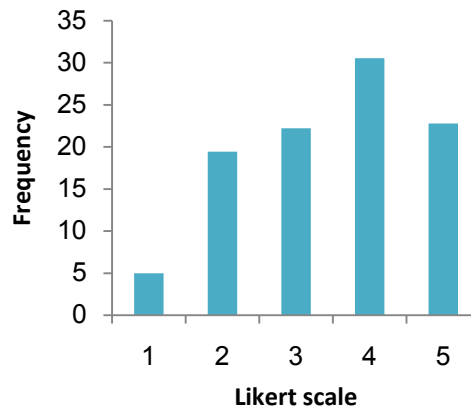


Fig12: Graphical representation of Goal 2.

Goal 3:

Performance of augmented reality tourist application that using in mobile technology.

Goal: 3

Q10: What you think about response time for this application?

Results of total respondents 36 of question 10 given in Table 13 showing that 50 % (where 19 % strongly agreed and 31 % agreed) the people were supportive to question 10 that think about response time for this application whereas 19% (where 6 % strongly disagreed and 14 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 31 %. The conclusion of the survey of this question is think about performance response time for this application is acceptable for users .Following is the Table 13& figure 13 showing the results obtained for the question 10.

Table 13: Result for Question 10.

Likert Scale	Frequency	Percent	Cumulative Percent
1	2	6%	6%
2	5	14%	19%
3	11	31%	50%
4	11	31%	81%
5	7	19%	100%
Total	36	100%	

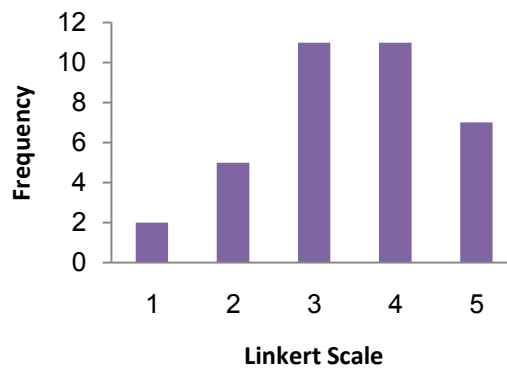


Fig 13: Graphical Representation of Question 10.

Goal: 3

Q11: What you think about reliability of result of this application?

Results of total respondents 36 of question 11 given in Table 14 showing that 53 % (where 25 % strongly agreed and 28 % agreed) the people were supportive to question 11 think about reliability of result of this application whereas 22% (where 6 % strongly disagreed and 17 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 25 %. The conclusion of the survey of this question is reliability of result of this application is very acceptable for users .Following is the Table 14& figure 14 showing the results obtained for the question 11.

Table 14: Result for Question 11.

Likert Scale	Frequency	Percent	Cumulative Percent
1	2	6%	6%
2	6	17%	22%
3	9	25%	47%
4	10	28%	75%
5	9	25%	100%
Total	36	100%	

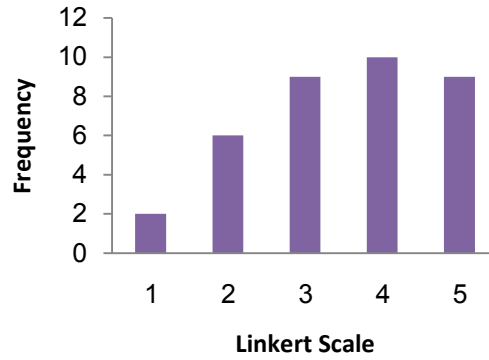


Fig 14: Graphical Representation of Question 11.

Goal: 3

Q12: What you think about availability of this application?

Results of total respondents 36 of question 12 given in Table 15 showing that 58 % (where 25 % strongly agreed and 33 % agreed) the people were supportive to question 11 think about availability of this application whereas 22% (where 8 % strongly disagreed and 14 % disagreed) of the people were not agreed. The percentage of the people who have neutral opinion neither agreed nor disagree is 19 %. The conclusion of the survey of this question is availability of this application is very acceptable for users .Following is the Table 15& figure 15 showing the results obtained for the question 12.

Table 15: Result for Question 12.

Likert Scale	Frequency	Percent	Cumulative Percent
1	3	8%	8%
2	5	14%	22%
3	7	19%	41%
4	12	33%	75%
5	9	25%	100%
Total	36		100%

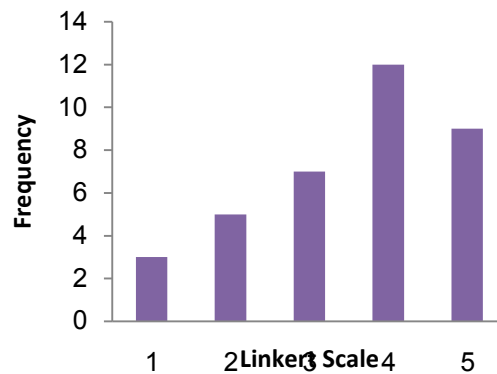


Fig 15: Graphical Representation of Question 12.

5.3 Cumulative Survey of Goal 3

In the last goal the measure performance of augmented reality such as response time, reliability and availability. That's show 6.48% are strongly disagreed 14.81% are disagree 25% are neither agreed nor disagree 30.56% are agreed and 23.14% are strongly agreed of performance this application.

Table 16: Frequency Table of Cumulative Goal 3.

Q.No	Strongly Disagree	Disagree	Neither Agreed Nor Disagree	Agreed	Strongly Agreed
10	2	5	11	11	7
11	2	6	9	10	9
12	3	5	7	12	9
Total	7	16	27	33	25
Avg.	6.48	14.81	25	30.56	23.14

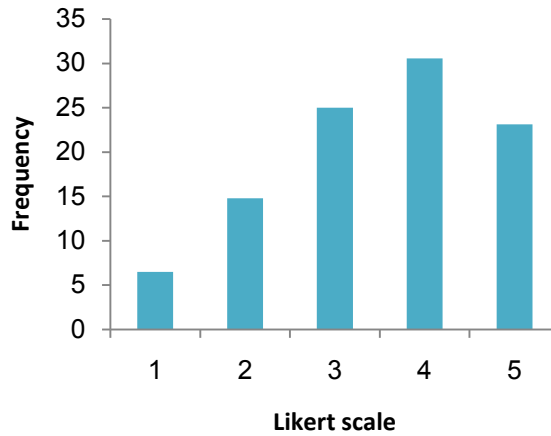


Fig16: Graphical Representation of Goal 3.

VI. CONCLUSION AND FUTURE WORK

In this paper the authors is made to evaluate the AR quality through making use of in mobile technology app used for sightseeing advice in order to enhance the quality and quantity of the sightseeing data and information. The suggested application system presents the comments published by users and makes use of the AR technology in order to demonstrate information for the tourist guide. Hence, such characteristics help user to get the valuable information that contains users' opinions. Through the assessment process, the information visualization with AR will enhance the efficiency of the suggested application system.

The goal of the further works of this research is to increase the usage of the interface and to boost the support system for tourism operators in order to assist tourists to get pleasure from visiting the tourist area by using new application in mobile technology. The research tries, through such works, to examine the way for to discovery interest and need all users by measure quality this AR application.

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