Development and Evaluation of i-Mutawwif:
A Mobile Language Traveller Guide in Arabic for Mutawwif (Umrah Tour Guide)

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Abstract—The explosion use of various mobile gadgets such as PC tabs, smartphones, I-Pads and so on has tremendously affected learning process and delivery of content and messages faster and faster including the creation of a new field of research that relates to language learning and mobile technologies called Mobile Assisted Language Learning or MALL. The mobile technologies are suitable for distance learners as well such as traveller's guide and backpackers who need to communicate in certain language in a country. This paper is focusing on the development and evaluation of a mobile language guide application in Arabic language for Mutawwif (Umrah Tour Guide) via smart phones in Android supported platform. The development process was done based needs analysis process among 100 mutawwif and the evaluation on user testing session was conducted among 50 respondents and who are purposively selected from 30 mutawwif and 20 learners in Baitul Mal Professional Institute under the specialization of Diploma in Hajj and Umrah Management from 26 March until 20 April 2017. However, this paper will only be discussing the scope of development and evaluation phases in the shed of ADDIE instructional design model. Overall results indicated that his interactive mobile app prototype satisfied the users' on their language learning for traveller's purpose by helping the Mutawwif to communicate in Arabic more effectively.

Keywords—Arabic, mobile learning, distance learning, Mutawwif, mobile gadget.

1 Introduction

Mobile learning is found to be providing more flexible learning environment and activities for learners in addition to a traditional and face-to-face instruction. They are

also suitable for distance learners as well such as traveller's guide and backpackers who need to communicate in certain language in a country. The explosion use of various mobile gadgets such as PC tabs, smartphones, I-Pads and so on has tremendously affected learning process and delivery of content and messages faster and faster including the creation of a new field of research that relates to language learning and mobile technologies called Mobile Assisted Language Learning or MALL as mentioned by Colpaert [1] and Beatty [2]. MALL is defined as "the processes of coming to know and being able to operate successfully in, and across, new and ever changing contexts and learning spaces with an emphasis on understanding and knowing how to utilize our everyday life-worlds as learning spaces" [3]. Hence, the huge use of mobile gadgets such as Tablet PC, smartphones, I-Pads and so on should be adapted by the learners to their learning environment and platform, and it is important for the researchers and educators to ensure that educational practice can include these technologies in productive ways [4].

2   Problem Statement

The potential use of mobile devices especially smart phones can be exploited as an attractive and effective learning platform such as promoting active learning [5], merging works, study and leisure time in meaningful ways [6], supporting the effectiveness of mobile technology in a wide range of activities for learners of all ages [7], generating strong positive interests among students [8], [9], and provide convenient learning platform when using the mobile applications and tools in terms of learning flexibility and portability [10]. According to Kukulska-Hulme & Shield [11], the educators should understand how mobile technologies and devices can be efficiently used to support the effective process teaching and learning. In order to ensure effective use of mobiles devices in an educational setting, there are five features of MALL such as, accessibility, interactivity, immediacy, permanency, situating of instructional activities that should be considered into the account [12].

In addition to that based on Huang, Huang and Lin [13], some merits of mobile technologies such as flexibility, low cost, small size and user-friendliness should also being considered in order to ensure good integration between the mobile devices and learning environment. Although a computer is more excellent than a mobile phone "for handling various types of information such as visual, sound, and textual information, but mobile phone is superior to a computer in portability [14] and its wide access [15]. The flexibility and mobility of mobile learning by using mobile devices are very much related to the tourism and tourists as they are travelling to various parts of the world based on their intended destinations. In recent years, many tourist guidance applications have been developed, such as C-MAP [16], HIPS [17] and PEACH [18]. For practitioners such as Mutawwif (Umrah Tour Guide) who is travelling to Saudi Arabia for performing Hajj and Umrah, they are in need of using Arabic language for various purposes such as communicating, shopping, travelling, and various forms of communications which are difficult for those with no formal learning experience in Arabic language. Hence, this study will be focusing on the development and

evaluation of a mobile language guide application in Arabic language for Mutawwif (Umrah Tour Guide) via smart phones especially in Android supported platform. The explosion use of various mobile gadgets such as PC tabs, smartphones, I-Pads nowadays is the best mean and way in assisting them in learning Arabic language through a mobile language guide application which provide a flexible, friendly and easy use of mobile language guide application. The study on using mobile learning platform in Arabic was conducted by Mohd Feham et.al. [19] by designing and evaluating a mobile learning portfolio known as 'i-collect' application for Arabic language teaching and learning. The researcher and his team also studied the potential use of mobile learning in Arabic language by designing and evaluating Mobile App Glossary of Terms in Islamic Banking and Finance [20].

3 Research Questions

This study embarks on the following research questions:

1. What is the development process for a mobile App of teaching and learning Arabic among Mutawwif (Umrah Tour Guide) based on the needs analysis by the learners and practitioner among Mutawwif?
2. To what extent the practical use and effectiveness of a mobile App of teaching and learning Arabic among Mutawwif (Umrah Tour Guide)?

4 Research Methodology

This project will be focusing on the development and evaluation of a mobile language guide application in Arabic language for Mutawwif (Umrah Tour Guide) via smart phones especially in Android supported platforms. The design and development process was done based needs analysis process among 100 mutawwif and the evaluation on user testing session was conducted among 50 respondents and who are purposively selected from 30 mutawwif and 20 learners in Baitul Mal Professional Institute under the specialization of Diploma in Hajj and Umrah Management from 26 March until 20 April 2017. However, this paper will only be discussing the scope of development and evaluation phases in the shed of ADDIE instructional design model [21]. The research phases based on ADDIE instructional design model are as shown below:

1. Analysis: Learner's needs among selected Mutawwif, content development and current mobile app.
2. Design: Formulating design theory and storyboard
3. Development: Development tool (web-based tool, HTML + PHP), Playstore registration, uploading and converting, mobile apps package
4. Implementation and Evaluation: User Testing among Mutawwif at Andalusia Travel and Tours and Arabic learners in Baitul Mal Professional Institute under the specialization of Diploma in Hajj and Umrah Management for the prototype.

5   Design and Development of i-Mutawwif

The design and development process of the Mobile Language Traveller Guide in Arabic for Mutawwif (Umrah Tour Guide) via Smart Phones is among the main focus in this paper. The theoretical framework that underlies the design and the practical processes and procedures that contribute to the development is also explained. Table 1 illustrates the design and development framework, which was modified from ADDIE instructional design model.

Table 1. Design and development framework of i-Mutawwif.

Phase	Details of Process
Analysis	Learner's needs among selected Mutawwif, content development and current mobile app. The needs analysis survey was distributed among 100 respondents of a national conference of Mutawwif (Umrah Tour Guide) organized at Universiti Sains Islam Malaysia (USIM), Nilai, Negeri Sembilan, Malaysia on 18 October 2016 (Tuesday). The administered survey is adapted from Mohd Feham et. al. [22].
Design	Formulating design theory and storyboard
Development	Development tool (web-based tool, HTML + PHP), Playstore registration, uploading and converting, mobile apps package
Implementation and Evaluation	The evaluation survey for the use of this mobile app was distributed among 50 respondents who are purposively selected from 30 mutawwif and 20 learners in Baitul Mal Professional Institute under the specialization of Diploma in Hajj and Umrah Management from 26 March until 20 April 2017.

In general, the design principles of i-Mutawwif in this mobile language traveller guide in Arabic for Mutawwif (umrah tour guide) via smart phones were formulated based on 3 main components which are the need analysis results, and suggestions as well as recommendations by potential users within the limitations of this study.

6   Development Phases of i-Mutawwif

The development of i-Mutawwif application is conducted based on the use of hybrid platform for developing mobile application named as Ionic creator. Ionic is a HTML5 hybrid mobile framework built. By using this platform, it helps to build mobile applications fast, easy and beautiful. It also provide to users popular layouts that can be used during the process of development mobile application [23]. The process of mobile app development was conducted such as shown below:

6.1   Hybrid Mobile Application Development

The development process of i-Mutawwif mobile application is through hybrid platform. Hybrid platform allows its user to build an application by using their services. Figure 1 shows the process of developing i-Mutawwif application.

Using hybrid platform to develop mobile application such as Ionic Creator has many advantages. Some of these advantages are:

- Less skill: To develop mobile application, it require less skill and knowledge about coding, furthermore and its steps similar to website development process.
- Cross-Platform: Hybrid platform allows its users to deploy the application on various operating system such as Windows, iOS and Android.
- Quick and easy: There are only few steps to develop mobile application and it allow previewing instantly to smartphone as show at Figure 2. Providing working folders in 'pages' section and drag and drop option in 'components' section in Figure 3 helps users to build mobile application quicker and easy.
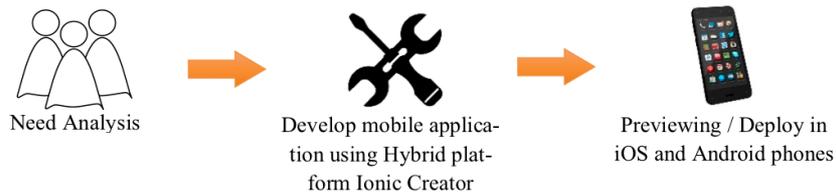

Fig. 1. Process of developing i-Mutawwif mobile application.

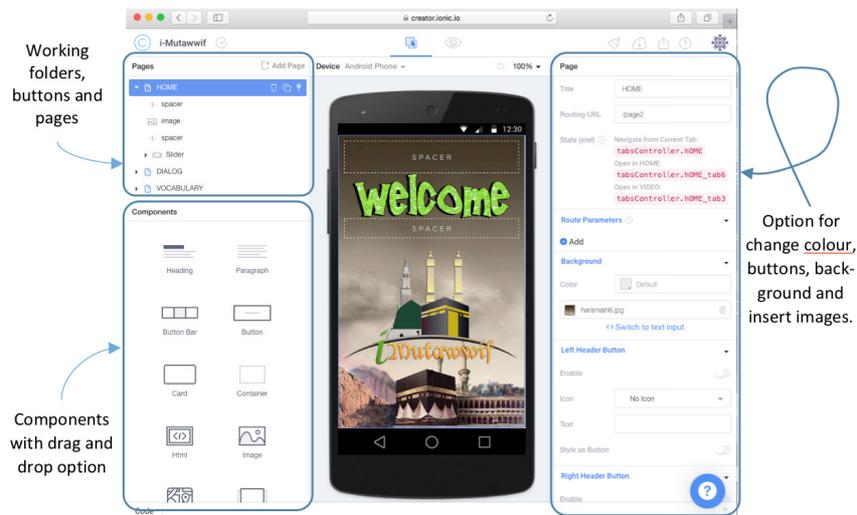**Fig. 2.** Page view for "Previewing" section in Ionic creator.

Fig. 3. Page view for "Build" section in Ionic creator.

6.2   Development Phases and Processes

Development of i-Mutawwif mobile application undergo few phases and processes, from design principles, design storyboard, design mobile platform and design i-Mutawwif. The processes of this development are summarize in Table 2.

Table 2. Development phase and its process to develop i-Mutawwif.

| PHASES	PROCESSES
Designing Principles	• Selection of words and phrases. • Interface preference. • Preferable features of mobile app. • Other suggestions by the users.
Designing Storyboard	
Designing Mobile Platform	Hybrid mobile application platform Design in a platform and publish into various operating system like Android, iOS and Windows.
Developing i-Mutawwif	Customize layout design in hybrid mobile application platform and deploy mobile app to smart phones and tablet as shown in Figure 4 and Figure 5.
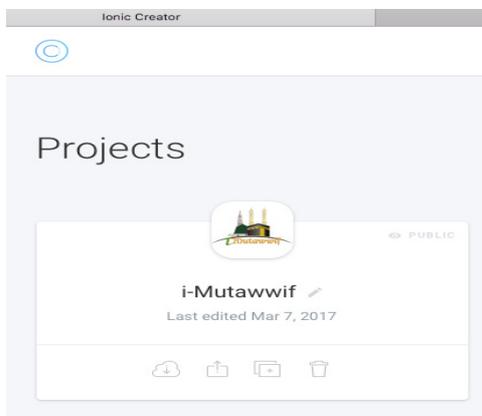
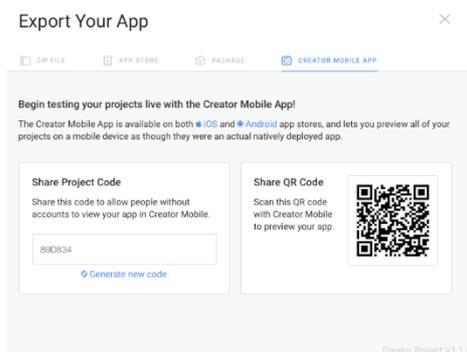**Fig. 4.** Ionic Dashboard to build mobile apps.

Fig. 5. Export options in Ionic Creator.

By using hybrid platform to develop apps such as Ionic Creator requires fast internet connection and subscription to Ionic creator itself. In addition, it only requires least knowledge of basic web development.

6.3   Samples of Interface for i-Mutawwif

The main interface for i-Mutawwif app is as simple as shown in Figure 6. It consist of tabs to navigate the pages inside the app. There are six tabs menu in this app; Home, Vocabulary, Dialog, Greeting, Video and Help. Home tab only shown welcoming page and option for slide pictures. While vocabulary tab consist of basic words in daily conversation during perform Hajj and Umrah. Simple dialogs are also included in this app for basic conversation as shown in Figure 7 and 8. In addition, this app also provides daily basic greetings to its users such as "good morning", "hope to see you again" and "how are you?". While video tab is for future improvement in this application. The last tab is "Help". It consist of several emergency contact numbers in Saudi Arabia.

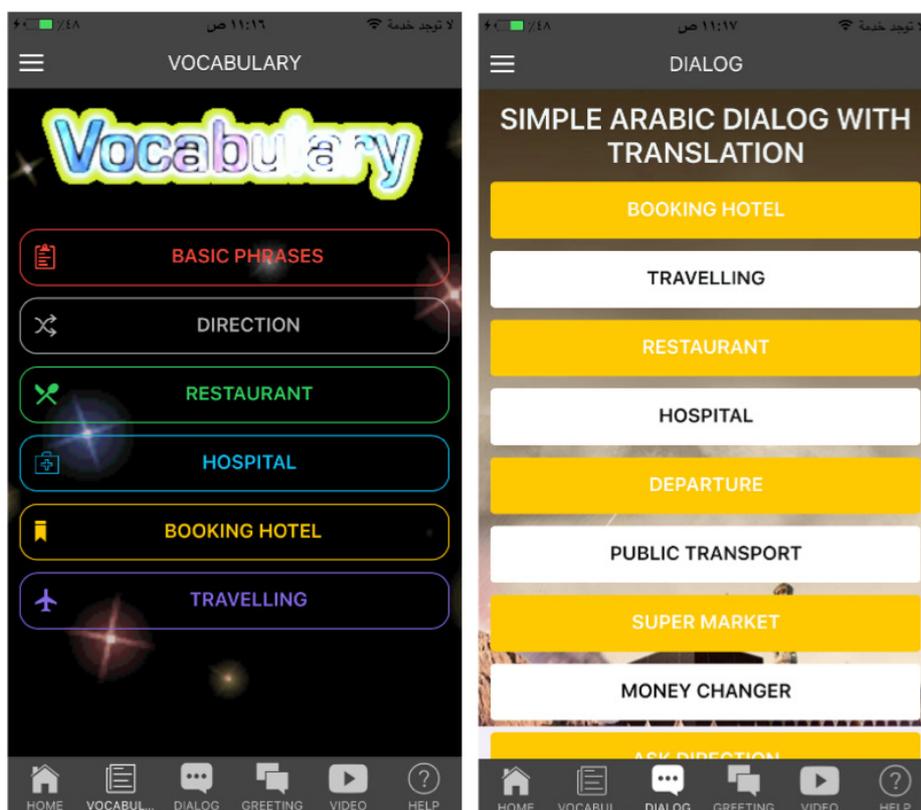**Fig. 6.** Main interface or 'Home' tab for i-Mutawwif mobile application.

Fig. 7. Vocabulary and dialogues tabs in i-Mutawwif mobile application.
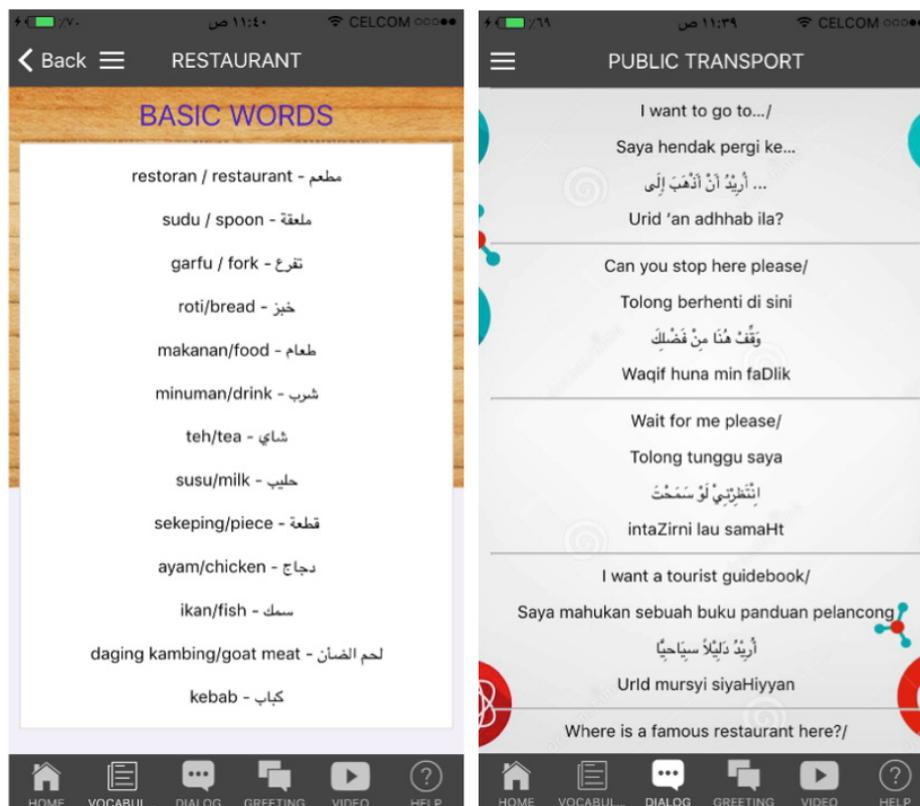
Fig. 8. Page view for Vocabulary and Dialog in i-Mutawwif mobile application.

The selection of vocabularies, phrases and sentences was done in order to assist *Mutawwif* to use simple phrases in Arabic language during performing Hajj and Umrah. The language contents are simple according to places and situations, enhanced with translation in both Malay and English languages and facilitated with the spelling of Arabic words and sentences in Romanize letters.

7 Evaluation Results of i-Mutawwif

The evaluation survey was distributed among 50 respondents who are purposively selected from 3 mutawwif and 20 learners in Baitul Mal Professional Institute under the specialization of Diploma in Hajj and Umrah Management from 26 March until 20 April 2017. The administered survey is adapted from Amani Nawi [24] and Mohd Taufik [25]. The results and findings are reported in three main categories which are demographic information, needs analysis results of the design of mobile language traveller guide in Arabic for Mutawwif (umrah tour guide) via smart phones and further suggestions by the respondents for future design and development. The details are as shown in the following:

7.1   Demographic Information

As shown in Table 3, the majority of respondents are between the ages of 20-29 (82%) while the rests are between the age of 30 and above (10%) and missing percentage is 8%.

In addition, it is very clear from Table 4 that most of the respondents are male with 88%. The results show that majority of them are in their early adolescent.

Table 5 shows that the majority are still in their early experience of career as Mutawwif with 62%. The results are consistent with the majority of majority of them who are in their early adolescent.

Based on Table 6, it is clear that majority of respondents are using Malay as their spoken medium of instruction with 53.5%, followed by Arabic (26.2%), English (19.3%) and others (1.1%). The results may affect the design and development of this mobile language traveller guide in Arabic for Mutawwif (umrah tour guide) via smart phones which may be using trilingual form of languages in Malay as primary language, and supported by Arabic and English for translation.

Table 3. Age of respondents

Age	Frequency (N)	Percentage (%)
20-29	41	82
30-39	5	10
40-49	0	0
Missing	4	8
TOTAL	**50**	**100%**

Table 4. Gender

Sex	Frequency (N)	Percentage (%)
Male	35	71.4
Female	15	30.6
Total	**50**	**100**

Table 5. Experience as Mutawwif

Years Of Experience	Frequency (N)	Percentage (%)
1-5	31	62
6-10	0	0
No Experience	11	22
Missing	6	12
Total	**50**	**100**

Table 6. Spoken Language

Sex	Frequency (N)	Percentage (%)
Malay	49	98
English	26	52
Arabic	24	48
Others	1	2
Missing	1	2

7.2 Evaluation on the Features and Performance of Mobile Language Traveller Guide in Arabic for i-Mutawwif

In general, Table 7 shows that almost all respondents are satisfied with the features and performance of this mobile app for "agree" and strong agree" from 62% to 100% which is considered as majority.

Table 7. Features and Performance of Mobile Language Traveller Guide in Arabic for i-Mutawwif

No	Items	Strongly disagree	Disagree	Somewhat	Agree	Strongly Agree
1.	Interface design is attractive.	5 (10 %)	2 (4%)	10 (20%)	11 (22%)	20 (40%)
2.	Font of text is appropriate and readable.	0	0	0	0	50 (100%)
3.	Graphic used is attractive.	0	0	0	0	50 (100%)
4.	Icon used is suitable.	0	0	0	0	50 (100%)
5.	The quality of audio is authorize.	0	0	0	0	50 (100%)
6.	Interactive (eg: scroll over, touch button, hyperlink).	0	0	0	5 (10%)	45 (90%)
7.	User friendly (eg: easy to use the application, navigation to each topic, etc).	1 (2%)	2 (8%)	7 (14%)	11 (22%)	24 (48%)
8.	Tutorial provided is easy to under-stand.	6 (12%)	1 (2%)	6 (12%)	9 (18%)	26 (52%)
9.	Easy to get the information.	6 (12%)	1 (2%)	6 (12%)	11 (22%)	24 (48%)
10.	The information is well arranged.	0	0	0	0	50 (100%)
11.	The overall website is excellent.	4 (8%)	3 (6%)	11 (22%)	11 (22%)	21 (42%)

7.3 Evaluation on the Content Delivery of Mobile Language Traveller Guide in Arabic for i-Mutawwif

Initially, Table 8 shows that almost all respondents are satisfied with the content delivery of this mobile app for "agree" and strong agree" from 6% to 100% which is considered as majority.

Table 8. Content Delivery of Mobile Language Traveller Guide in Arabic for i-Mutawwif

No	Items	Strongly disagree	Disagree	Some-what	Agree	Strongly Agree
1.	Content of the website is related to the topic.	5 (10%)	2 (4%)	7 (14%)	10 (20%)	26 (52%)
2.	Content of the website is relevant.	1 (2%)	0	9 (18%)	8 (16%)	27 (54%)
3.	The content is arranged in an orderly manner (eg: easy to hard, etc).	6 (12%)	2 (4%)	6 (12%)	14 (28%)	22 (44%)
4.	Use simple language and easy to understand.	5 (10%)	1 (2%)	7 (14%)	10 (20%)	27 (54%)
5.	The content delivers most of the information you expected to learn.	0	0	0	0	50 (100%)
6.	The examples shown are clear.	5 (10%)	2 (4%)	7 (14%)	13 (26%)	22 (44%)
7.	Supporting materials are provided (eg: exercises, activity, games, etc).	6 (12%)	3 (6%)	8 (16%)	12 (24%)	21 (42%)
8.	Supporting materials provided are adequate and various.	5 (10%)	2 (4%)	10 (20%)	11 (22%)	22 (44%)
9.	The contents of the module helps me to understand Arabic for tourism purpose very well.	5 (10%)	1 (2%)	10 (20%)	12 (24%)	22 (44%0
10.	The overall content provided is useful.	5 (10%)	1 (2%)	7 (14%)	12 (24%)	25 (50%)

7.4 Open-Ended Responses

This paper is also gathering the responses by the respondents on the strengths, weaknesses and further suggestion for the improvement of this mobile language app such as the following:

1. *Strengths:* This mobile app is good, useful and supportive in helping the mutawwif to improve their Arabic language. It is also informative, well presented, easy to understand and smart app.
2. *Weaknesses:* Need to include more vocabularies and conversations by using bigger size of Arabic fonts.
3. *Further Suggestions:* The suggestions are given to include more vocabularies and conversations, enhance the graphic and colour presentations, adding search box for the vocabulary, more video and information on umrah.

8   Discussion of Findings

In general, the discussion of findings in paper this can be categorized into several issues which are:

a) Features and Performance of Mobile Language Traveller Guide in Arabic for Mutawwif
b) Content Delivery of Mobile Language Traveller Guide in Arabic for Mutawwif
c) Future Improvement of Mobile Language Traveller Guide in Arabic for Mutawwif

From the results and findings, it is clear that the users are mostly satisfied with the practical use of this mobile app in Arabic for performing their duties as Mutawwif or Umrah guide traveler in Saudi Arabia. It is also satisfying the expectation of mutual Mutawwif of Arabic learners in Baitul Mal Professional Institute under the specialization of Diploma in Hajj and Umrah Management. However, this mobile app prototype has the potential to be improved and enhanced more in the future with more interesting and sophisticated multimedia and mobile elements.

9   Conclusion

This paper reports on the development and evaluation study of a mobile language traveller guide in Arabic for Mutawwif (umrah tour guide) via smart phones. Overall findings show positive feedback among respondents with regard to the evaluation use of this mobile language traveller guide. The respondents also have contributing their suggestions and comments in terms of further improvement of this mobile language app. This mobile app has won a silver medal in the Research and Innovation Week from 13 – 14 April 2017 organised by Sultan Zainal Abidin University (UniSZA), Terengganu, Malaysia.

10   Acknowledgement

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