

# iTajweed, to Enhance the Interactive Learning Modules for the Users

<sup>1</sup>Nurul Adibah Mohammed Khir, <sup>2</sup>Wan Arif Wan Mustaffa, <sup>3</sup>Zuhairi Zulkiflee,  
<sup>4</sup>Menisya Husein, <sup>5</sup>Abdul Rahman Ahmad Dahlan

International Islamic University Malaysia (IIUM), Malaysia

---

**Abstract:** In Malaysia, the developments of software or apps for mobile devices are becoming quite famous especially in recent years. Research had shown that huge number of people in Malaysia owns mobile device. Even kids have their own device which had become their personal belongings. However, not all apps that reside in mobile phone can bring benefit to kids. A lot of apps developed for kids are mostly not academics or religious compliance. A lot of them are games that at one point can bring bad influence for them. In order to contribute to the society and religions, a project called iTajweed apps is initiated. iTajweed is an apps that provide easy learning of tajweed using any mobile devices. It aims to guide the kids in learning the basic of Al-Quran. This apps provide interactive learning which is suitable for kids and accessible everywhere. A lot of effort has been poured to improve these apps in terms of designs, materials and method of teaching. This paper will discuss more thoroughly about this project and the BMC (Business Model Canvas) also covers VPD (Value Proposition Design).

**Keywords:** iTajweed, kids, children, apps, Ministry of Education, KAFA.

---

## I. INTRODUCTION

Islam is a complete religious. It covers not only for Ad-Dunya but also for Al-Akhirah. Not only define by that, Islam also complete or syumul religion that descend for every mankind. As Muslims, each person has responsibility towards the religion or Ad-Deen. Which bring back to the initiation of this project. The main idea of the project is to contribute to the society and the target audience is mostly for kids. As kid growing up, responsibility of parents or guidance to teach them about Al-Quran starts. However, it is not easy to provide effective learning method to children around 3 to 6. A lot of literature review, survey and interview need to be conducted in order to fully understand what our target users need. Mostly, the research conducted through the parents or guidance which understand best about what their kids need. This paper is part of a project that will be launch next year on March. This app will be available to all types of smart phone and platform. The platform included are Android, Windows Phone and iPhone. iTajweed is an apps that teach tajweed that encompasses all the basis of Al-Quran. The users can use this apps to improve the learning of Al-Quran and the recitation. This apps is based on modules created by Ustaz Haji Mohd Zamri bin Haji Mohd Zainuldin called Mabah. This module is carefully arranged according to syllabus which make the learning more interesting and easy to understand. In order to provide effective learning environment, we collaborate with him and to reach an agreement. Hence, this paper will discuss more details about this apps.

## II. PROBLEM STATEMENT

The Holy Al Quran is a holy book for all Muslims in the whole world. It is for every Muslim to believe that there is no any kind of distortion in its text from the day it was revealed, because of its original text. Therefore, there are many mobile application available that is suitable for the Islamic education. The positive side from the mobile application platform is to teach users all over the world the real message the Quran carries, though there are people with the negative motivation like alteration and deformation of the Quran. By using the network of mosques in Malaysia, it will integrate the local community to maximize the use of the mosque around them. This is one of the ways to make the mosque is fully

utilized as happened in the days of the Prophet Muhammad where by the education play an important role in the society. In these days, in order to read Al Quran and memorization every Muslim need to learn the Tajweed. Through this mobile application the user have the chance to learn the Tajweed in effective and interactive.

Currently, there is no specific identification apps of the Quranic based on its audio clips, video clips and interactive animation. The existing mobile application are the apps that are used in education in correcting Tajweed. This paper proposes a model which will use the network of mosques for the local community to learn Tajweed anytime anywhere with the Internet connection and this apps is highly recommended by the mosque committee and the elected ustaz and ustazah for the tutors. Thus, this application has blended a various multimedia elements into the application to create a learning environment that invites the user to actively participate in the learning process.

### III. BACKGROUND

Children at young age are easily bored with just reading books especially in learning tajweed. Tajweed cannot merely be learnt from books because the movements of mouth as well as the sounds are important to make the Al-Quran recitation correct. Currently, tajweed are being taught at school or special classes. Learning is done on one to one or group basis with religious teachers attending to each of the students.

More precise studies need to be conducted in order to learn more about the Muslim in Malaysia for their level of tajweed. Without knowing the right tajweed it will misled to different meaning in the Holy Al Quran. This issue is critical and must be avoided. Thus, learning tajweed must be tackled at the early stage of a Muslim's development. The adult learners must grab this opportunity to improve their knowledge in tajweed with this mobile application and they are equipped with the elected tutors suggested by the mosque community. The user must own a smart phone to use this mobile application. After all, the mobile phone usage has been tremendously increasing over the years. Malaysia has become one of the countries riding the wave of the telecommunication era. It is reported that 85% of Malaysians own mobile phone(s) [2]. The mobile application have the aesthetic value compared to the existing products which is lack the interactivity and the design.

The strong relationship and establishment with the tutors from the network of mosque made the user trusted with the system. In order to learn the difficult one the user need to pay for the contents. After the user have completed all the contents of learning they will be certified from the mosque committee after they approved all the evaluation done by the tutors. This mobile application is aligned with "Rahmatan Lil Alamin" which inspired the ummah through the Islamic mobile contents.

### IV. LITERATURE REVIEW

Marbel, which is an abbreviation of MARI BELAJAR SAMBIL BERMAIN (Let's Learn while Play), is a free education game for kids. It is available in every device. Marbel Learns Qur'an is an education game for kids. The advantages of the app are it contains of learning to read arabic letter or commonly known as 'Hijaiyah' which is also equipped with harokat such as Fat'kha, Kasroh, Dumma and Tanwin. Performing an interesting interface, kids will feel comfort to learn Qur'an. Besides, it has audible audio for each letter to make kids learn Qur'an easily. Compared to our app, iTajwid target the kindergarten students, primary and secondary school students. The syllabus provided keep track the performance of the students and divided into three level which are poor, average and advance level. The content provided are aligned with Ministry of Education and Kafa. The tutors responsible for the observing the performance of each user are trusted and the data are secured in the company database.

### V. FRAMEWORK

In the design phase learning objectives at the level of modules are prepared, media in which learning material would be presented is selected, and instructional methods are chosen for different learning units or modules. The materials and procedures are used by actual learners in the Implementation phase. The learners and the instructional system are probed, in the Evaluation phase to decide whether revisions are necessary, in which case the process would be repeated with the next version of instruction.

Most of the design, images, diagrams and button image were done in Adobe Photoshop CS3 because Adobe Photoshop CS3 contains many features and utilities that make manipulation of image and picture would be easier. The development

process takes place in different software from the design phase. The development process was done in Unity Game Engine. All the materials that involve in the design phase will be integrated and customize in this phase according to the storyboard that was designed earlier. All the material were integrated to enable the delivering of learning content during learning process will be completely worked without any error. C programming language is used to develop this application. When the users click to the “Hukum Tajweed” the page will go to the categories of rules of Tajweed in page. They can choose the rules of Tajweed that they intend to learn and click to the button and the page will go to the learning page where the mind map is used as a teaching approach in the page.

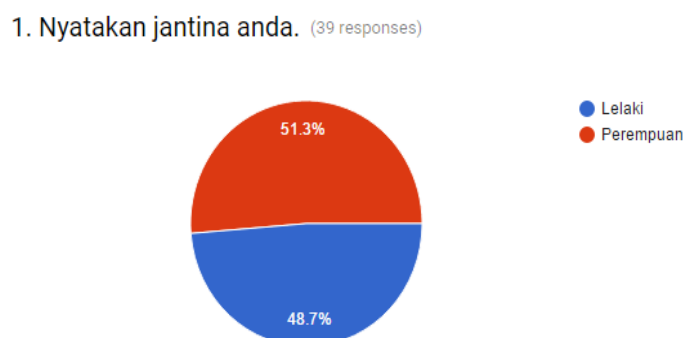
To listen to the example of pronunciation, learner has to click the name of rules of Tajweed in and the page will go to the examples in the page. Learners have to roll over the cursor on the examples to listen to the recitation. With this, learner can control when they want to listen to the examples. Any errors will be recorded and fixed. Evaluation phase is the phase which decides whether the course is effective and satisfies the project objectives. This is also the phase to get feedback from the users which involve during development and delivery. The testing is done to test the usability and to get the users’ feedback based on the different aspects of learnability, memorability, simplicity, satisfaction and overall reaction to the application. The completed application was distributed to the 30 target user, where they have to install the prototype in their android smartphone. The questionnaires also provided to the users in order to evaluate the application. They will be given time to test the application and answer the questionnaire.

## VI. RESEARCH METHODOLOGY

A semi-structured questionnaire survey in “Bahasa Melayu” was distributed in an electronic format which is online method. The survey was conducted to discover the primary objectives outlined in the previous section. Before the survey was conducted it was piloted to ten subjects and thirty nine interviews were conducted for this research. The participants were asked to review and comment on the clarity of the survey. Furthermore, the structured survey was designed as a tool for data collection. The participants were encouraged to give any comments they feel are relevant to the study. All the questions in the online survey were multiple choices except for the question number 12, 13 and 14 that asks the user for any comments or suggestions the person may have for the improvements. There is a few questions required some written responses depending on the answer chosen, these questions are marked asterisks (\*) in the survey.

## VII. SURVEY AND RESULT (ANALYSIS & EVALUATION)

In this section, the survey results are presented and analyzed. The total number of people participated in this survey was 39. From the Figure 1, the ratio of males to females participating in this survey was 51.3: 48.7, respectively.



**Figure 1: State your gender**

From the Figure 2 it was noticed that 41% of the participants are between the ages of 26 and 40. The results also proved that the users with age group of 26-40 are the widely users of smart technologies worldwide. On the other hand, the survey failed to reach people in the group ages 18-25 years old which is 28.2% and 30.8% are form the groups of 41 years old and above.

2. Nyatakan umur anda. (39 responses)

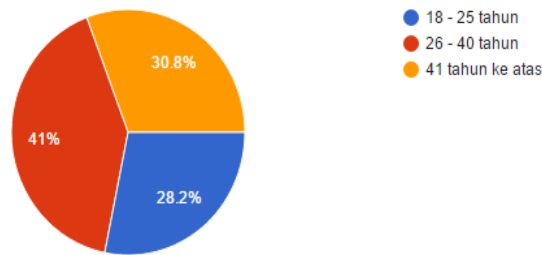


Figure 2: State your age

From the Figure 3 it was noticed that 100% of the participants are from Malaysia. This survey are focusing on the Malaysian because the project are targeted for Malaysia market.

3. Nyatakan kewarganegaraan anda. (39 responses)

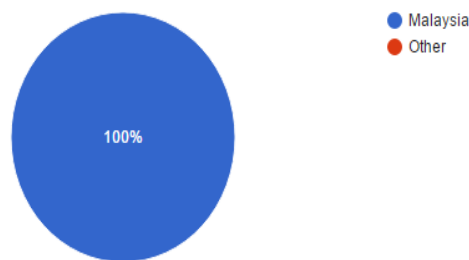


Figure 3: State your nationality

From the Figure 4 it was noticed that 56.4% are married and this is the highest percentage compared to 28.2% are single and 15.4% are divorced. The highest percentage from the married group will improve the study of this survey because most of the married participants have kids.

4. Nyatakan status perkahwinan anda. (39 responses)

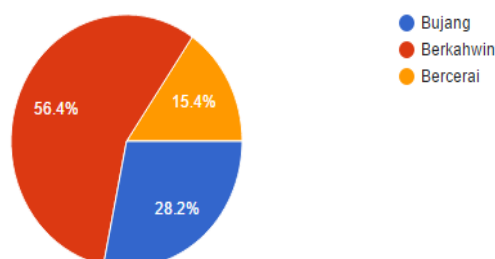
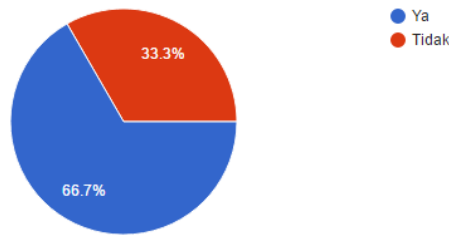


Figure 4: State your status

From the Figure 5 it was noticed that 66.7% is the highest percentage the participants of this survey have kids between the ages of 1-6 years old. Others is 33.3%.

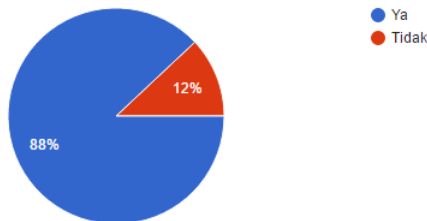
5. Adakah anda mempunyai tanggungan anak (linkungan 1 - 6 tahun)?  
 (39 responses)



**Figure 5: Do you have kids (1-6 years old)?**

From the Figure 6, it was noticed that 88% the child of the participants had studied Jawi and Iqra' before this. Based on this percentage it is assured that the child need additional modules to learn Jawi more effectively. Meanwhile, the other side 12% the child of the participants never studied the Jawi and Iqra' before this.

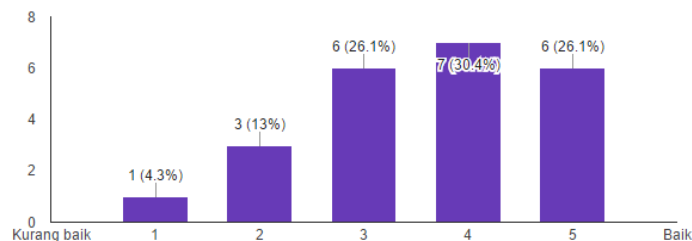
6. (Merujuk kepada soalan 5) Jika ya, adakah anak anda pernah mempelajari tulisan Jawi dan bacaan Iqra'?  
 (25 responses)



**Figure 6: (Refer to question 5) If yes, do your child had studied Jawi and Iqra' before this?**

From the Figure 7 it was stated that the participants need to rate their child level for their Jawi and Iqra performance. The highest one is 30.4% and it comprises the 7 participants that their child have good performance in level 4. Furthermore, there is two percentage of two scales are same which are rate 3, 26.1% and comprises 6 participants and rate 5 which are very good, 26.1% and comprises of 6 participants too. For the rate number 1 and 2, it was stated that 4.3% comprises 1 participant and 13% for rate number 2 and comprises 3 participants.

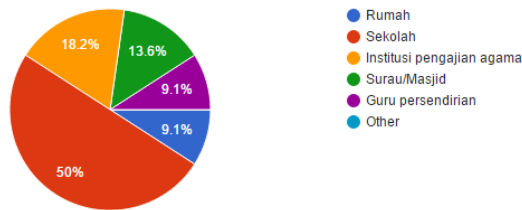
7. (Merujuk soalan 6) Jika ya, apakah tahap kemahiran tulisan Jawi dan bacaan Iqra' anak-anak anda?  
 (23 responses)



**Figure 7: (Refer question 6) If yes, what is your child level of Iqra' and Jawi? Scale 1-5 very weak to very good.**

From the Figure 8 it was noticed that the highest percentage the child's participants learn the Tajwid and Iqra' are from the school which is 50%. Others, the religious institution is 18.2%, the mosque is 13.6%, private teacher is 9.1% and house is 9.1%.

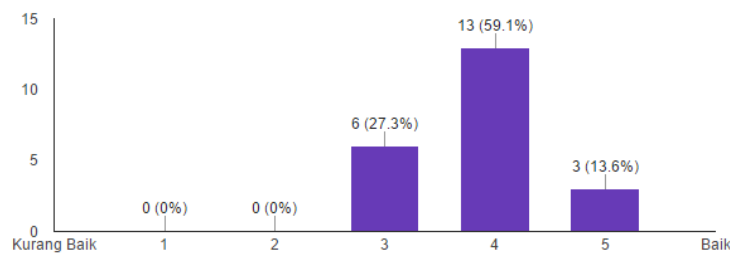
8. (Merujuk kepada soalan 6) Jika ya, di manakah anak-anak anda mempelajari tulisan Jawi dan bacaan Iqra'?  
 (22 responses)



**Figure 8: (Refer to question 6) if yes, where is your child learn Jawi and Iqra'?**

From the Figure 9 it was stated that only scale 3-5 are used by the participants. The scale 5, very good is the lowest in the percentage which is 13.6% and involve 3 participants. Meanwhile, the scale 4 which is good have the highest percentage which is 59.1% and involve 13 responses. Lastly, the scale 3 have the 27.3% and involve only 6 participants.

9. (Merujuk kepada soalan 8) Apakah tahap kecemerlangan pusat pengajian tersebut?  
 (22 responses)

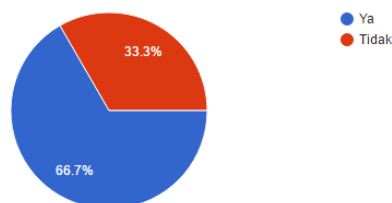


**Figure 9: (Refer to question 8)**

**What is the performance rate of that religious school?**

From the Figure 10 it was stated that 66.7% and this is the highest percentage regarding on the user experiences to use the mobile application as a tool for learning. Others, it was 33.3% stated they never use mobile application for learning purpose.

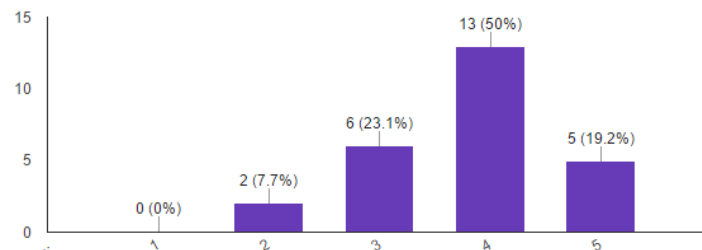
10. Pernahkah anda menggunakan aplikasi telefon pintar sebagai alat bantu belajar?  
 (39 responses)



**Figure 10: Have you ever use mobile application as a tool for learning?**

From the Figure 11 it was noticed that the highest rate is 4 which have the highest percentage 50% and involve 13 participants. The second highest will be from rate 3 and it was stated as 23.1% and involve 6 participants. Moreover, the highest rate 5 which is good have 19.2% and involve 5 participants. The least percentage is from the rate 2 which is 7.7% and involve only 2 participants.

11. (Merujuk kepada soalan 10) Jika ya, apakah tahap keberkesanan aplikasi tersebut?  
 (26 responses)



**Figure 11: (Refer to question 10), If yes, what is the effective rate on education application?**

### VIII. PROPOSED CONCEPTUAL SOLUTION

|  |  |   |  |   |
|--|--|---|--|---|
| <b>Key Partners</b><br>1.The tutors<br>2. The Mosques<br>3. Ustaz and ustazah<br>4. Ustaz Zamri(Pengasas Kaedah Mabah)<br>5. The sponsors<br>6. Ministry of education and KAFA<br>7.Network of mosques | <b>Key Activities</b><br>1. Frequent class based on the performance<br>2. Genuine content<br>3. The events | <b>Value Proposition</b><br>1. Freemium<br>2. Trusted tutors<br>3. Recommended by Ustaz Zamri<br>4. Fun and interactive learning<br>5. Performance tracking<br>6. Aligned with the MOE and KAFA | <b>Customer Relationships</b><br>1. Direct approach<br>2. Trust<br>3. Customer support           | <b>Customer Segments</b><br>1. The tutors<br>2. The students<br>3. The parents<br>4. The advertisers<br>5. Local and mosque communities<br>6. The SME's |
| <b>Key Resources</b><br>1. Unity<br>2. IT infrastructure<br>3. Developers  |  | <b>Channels</b><br>1. Mobile and web application<br>2. Network of mosques   |  |   |
| <b>Cost Structure</b><br>1. Consumer database<br>2. Channel cost<br>3. Transportation cost   |  |   | <b>Revenue Streams</b><br>1. The premium package<br>2. The advertising column<br>3. The sponsors |   |

**Figure 13: Business Model Canvas after the interview**

The tutors are the one that teach the students in a regular classes. The tutors are paid by the developer. The tutors can come from the committee member of the mosques or “Ustaz/Ustadzah”. The students are the people who use the app. It categorized under different types, which are low, moderate and excellent. The parents are the guardians of the students. They can also use the app and attend the class with the local communities of the mosques. Small medium enterprises (SME) can advertise their product in the app by contract. They will be guaranteed by the responsible man in the mosque to make sure the products met the requirements.

The value on this Business Model Canvas is freemium. It will be free for basic learning, then users has to pay to upgrade. It can be accessible everywhere trough internet.

The tutors are selected base on many criteria. The app is recommended by Ustaz Zamri, founder of Mabah method.

The interactive design that will make learning become more interesting and fun. Trusted ad space, guarantee by the mosque’s staff. Performance tracking to keep track of the student’s performance. The app will be provided in mobile and web and network of mosque to conduct the classes and events.



For the revenue stream it is established for the freemium monthly package online. The events and classes for face-to-face meeting. The advertising fees from SME. The donation from sponsors, such as funds from the government and “waqaf” from the society.

### VALUE PROPOSITION DESIGN TUTOR After Interview

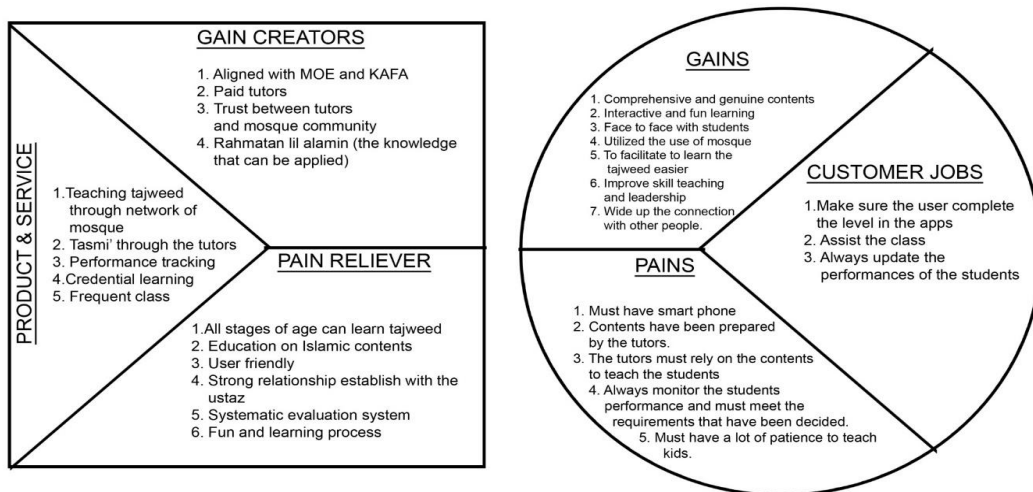


Figure 14: Value Proposition Design Tutor after the interview

The tutors are aligned with the Ministry of Education and KAFA. Moreover, the tutors are paid and the trust between the tutors and mosque community is established.

This application can be considered as ‘rahmatan lil alamin’ which the knowledge can be applied in the whole world. Through this app, tajweed can be teach through the network of mosques. The users can tasmī' through the trusted tutors. The users can be benefit from the frequent class and there is also the performace tracking to tracking the record of the students.

### VALUE PROPOSITION DESIGN STUDENT After Interview

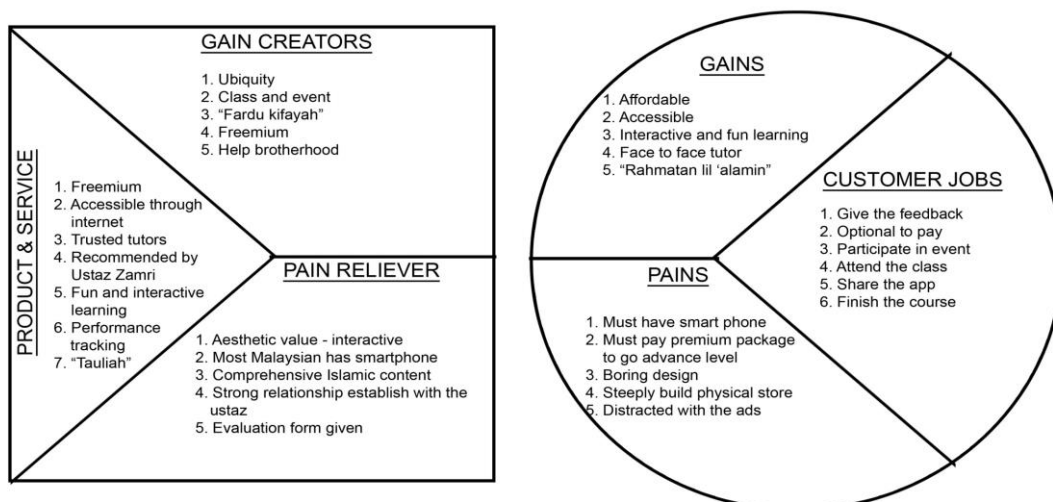


Figure 15: Value Proposition Design Student after the interview



For this app it have the aesthetic value is the interactive design to make the teaching and learning become more fun. Most Malaysian has the smartphone based on the statistics. It also comprehensive Islamic content and strong relationship establishments with the “ustadz/ustadzah”. The ubiquity is that it can be accessible everywhere and anywhere. The class and event to meet face-to-face. This app compromises “Fardu kifayah” for all Muslims in the world. It is freemium, free for some courses and to help brotherhood by doing “amal jariah” or charity.

### VALUE PROPOSITION DESIGN SME After Interview

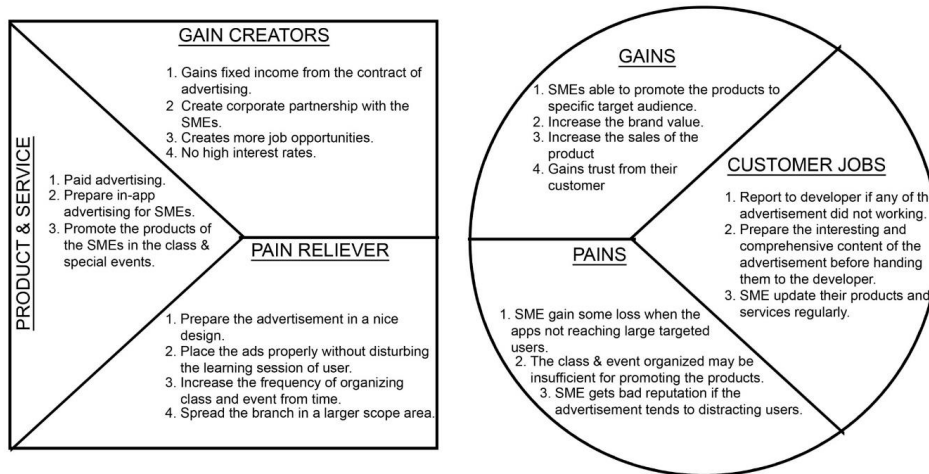


Figure 16: Value Proposition Design Small Medium Enterprises (SME) after the interview

The value map is improved based on the interview. For the gain creators segment, more job opportunities will be created and no high interest rate will be charged. For the pain reliever segment, the branch will be spread in a larger scope area.

The customer profile is also modified after the interview had been done. For the gains segment, the sales of the product will be increase and gains trust from the customer at the same time. Meanwhile, for the pains segment, the SMEs will get bad reputation if the advertisement tends to distract users.

### VALUE PROPOSITION DESIGN PARENT After Interview

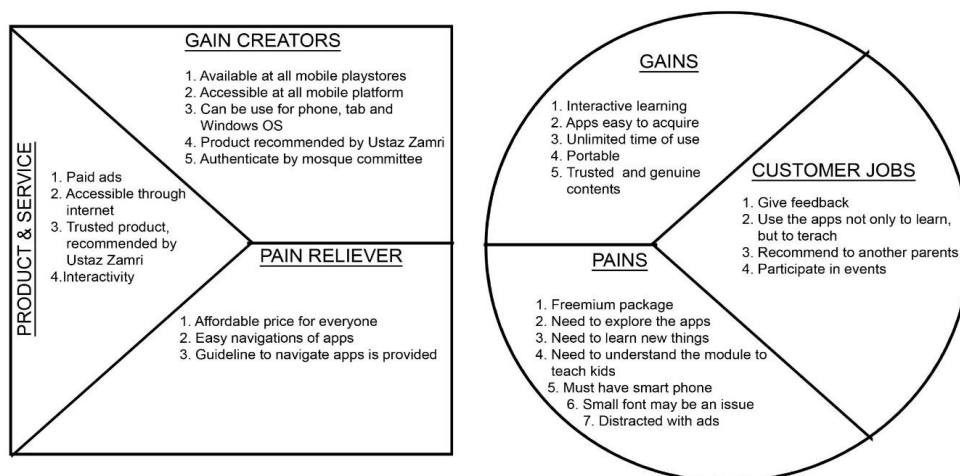


Figure 17: Value Proposition Design Parent after the interview

Value proposition for parents is to analyse the value that affects upon the parents of the users. Meantime, parents also can involves as target audiences. As parents, they can use the iTajweed apps to teach and monitor their children. However, the parents need to go through several difficulties or pains. The examples of pains are the parents need to learn new things. Some parents whom is not usually use smart phone will have difficulties to learn to navigate the apps. The solution given is to develop this apps that provide navigations and guides. Next, the parents also may face several difficulties in context of small font size. The parents whom have optics problem may face difficulties in reading or using iTajweed. The solution is the apps is built for smart phone which automatically can be zoom or pan out to increase size. The parents also will be distracted with ads.

iTajweed apps also provide benefits and advantages to the parents. The examples of gains are the parents receive genuine and trusted products. All of the contents in iTajweed is authenticated by Ustaz Zamri, the founder of Mabah method. The products also non limited time to be used. Hence, the users can use iTajweed without restriction in times. Besides, as this apps use in smart phone, then it is consider as portable. The parents can bring to anywhere and everywhere easily.

## IX. CONCLUSION AND FUTURE WORK

The purpose of the mosque is not only for ibadah and da'wah but the function of the mosque can be optimize for teaching and learning purposes. This apps is also helpful in terms of tajweed in the process of better understanding of Al Quran. Moreover, tajweed is known as one of the subject that teach in religious school and it is wide known in Malaysia. It is created for better understanding of the students so that the students can perform well and have better understanding. The parents and community will also get the benefits because through this research they are provided with the classes in the nearest mosque. The SME can advertise their product in the column provided in the apps. For future work, this apps can be use in Indonesia since some of the school's curriculum have this subject.

## REFERENCES

- [1] Frankie, O. C. K., Kim, L. Y., and Roger, J. W. (2001). Building a knowledge-based business school. *Education + Training*. 43(4). pp. 268-274. Available: <http://dx.doi.org/10.1108/00400910110399265>
- [2] Abdullah, S. A., Abdullah, Z. T., Mohd, A. O., Tan, S. Y., and Zainal, A. S. (2012, Jan). A Study of the Trend of Smartphone and its Usage Behavior in Malaysia. *International Journal on New Computer Architectures and Their Applications (IJNCAA)*. 2(1). pp. 275-286. Available: <http://sdiwc.net/digital-library/a-study-of-the-trend-of-smartphone-andits-usage-behavior-in-malaysia>
- [3] Ahsiah, I., Idris, M. Y. I., and Noor, N. M. (2013, Sept). Tajweed checking system to support recitation. *Advanced Computer Science and Information Systems (ICACSIS)*. pp. 189-193. Available: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6761574&isnumber=6761537>
- [4] Handfield, R., McCutcheon, D., McLachlin, R., Samson, D., and Stuart, I. (2002, March). Effective case research in operations management: a process perspective. *Journal of Operations Management*. 20(5). pp. 419-433. Available: <http://www.sciencedirect.com/science/article/pii/S0272696302000220>
- [5] Tse-Kian, N., and Mai, N. (2004). Classroom innovation: engaging students in interactive multimedia learning. *Campus-Wide Information Systems*. 21(3). pp. 118-124, Available: <http://dx.doi.org/10.1108/10650740410544018>
- [6] Elhadj, Y. O. M. (2010). E-halagat: An E-learning system for teaching the holy quran. *TOJET : The Turkish Online Journal of Educational Technology*. 9(1). pp. 54-60. Available: <http://210.48.222.80/proxy.pac/docview/1288695602?accountid=44024>
- [7] Abd, R. N., Nordin, M., Rahman, A., Saany, S. I. A., and Yusof, A. I. Tajweed Race Online Game via Facebook Platform. *Advances in Information Technology for the Holy Quran and Its Sciences (32519)*, Taibah University International Conference on, Madinah, 2013, pp. 144-148. Available: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7277236&isnumber=7277196>

- [8] Amelia, H. and Nor, S. A. K., (2007). Reading habits and attitude in the digital age. *The Electronic Library*. 25(3). pp. 285-298 Available: <http://dx.doi.org/10.1108/02640470710754805>
- [9] Rossing, J. P., Miller, W.M., Cecil, A.K., Stamper, S. E. (Jun 2012). iLearning: The Future of Higher Education? Student Perceptions on Learning with Mobile Tablets. *Journal of the Scholarship of Teaching and Learning*. 12(2). pp. 1-26. Available: <http://eric.ed.gov/?id=EJ978904>
- [10] Noor, J. I., Noor, N. A. R., and Yamani, I. I. M. R. Z. (2013, June). Automated tajweed checking rules engine for Quranic learning. *Multicultural Education & Technology Journal*. 7(4). pp. 275-287. Available: <http://dx.doi.org/10.1108/METJ-03-2013-0012>
- [11] Noor, A. S., and Riaza, M. R. (2013, Dec). M-Tajweed: A Mobile Courseware to Assist in Tajweed Learning. *International Journal on Islamic Applications in Computer Science And Technology*. 1(3). pp. 1-8. Available: <https://www.sign-ific-ance.co.uk/index.php/IJASAT/article/view/476>