

**SEMIOTIC ICON DESIGN FOR MOTIVATING  
YOUTH IN RECITING QURAN**

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**UNIVERSITI SAINS ISLAM MALAYSIA**

**SEMIOTIC ICON DESIGN FOR MOTIVATING YOUTH IN  
RECITING QURAN**

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## AUTHOR DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged.

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## ABSTRAK

Reka bentuk ikon adalah pendekatan penerokaan visual dalam perwakilan sesuatu maklumat. Ikon dapat memberi suatu gambaran visual untuk membantu dalam menyampaikan maklumat. Namun begitu, banyak kajian memberi tumpuan hanya kepada elemen estetika bagi rekabentuk ikon, tetapi elemen lain kurang diterokai terutama elemen yang berkaitan dengan makna ikon seperti mudah dikenali, semantik, keakraban, dan kesesuaian, serta pada masa yang sama mengekalkan elemen kesederhanaan, konsistensi dan warna. Perkara ini boleh menyebabkan maklumat yang salah, mengelirukan dan masalah pemahaman. Kajian berkaitan kemudahan penggunaan dalam reka bentuk ikon untuk pelbagai kumpulan pengguna juga agak terhad. Di samping itu, usaha pakar IT dalam bidang Al-Quran juga masih terhad, dan banyak tumpuan diberikan kepada penggunaan teknik teknologi maklumat seperti menyimpan, mendengar dan mencari data tanpa teknik yang lebih terperinci. Ini menyokong bahawa terdapat kekurangan aplikasi yang menumpukan pada teknik terperinci dalam domain Al-Quran. Selain itu, kajian reka bentuk ikon dalam domain tertentu termasuk bidang Al-Quran juga masih terhad. Terdapat banyak Mushaf dan teknologi untuk pembacaan Al-Quran, namun kurang kajian berkaitan teknik pembacaan Al-Quran menggunakan ikon. Justeru, kajian ini dijalankan bertujuan untuk mengkaji elemen reka bentuk ikon untuk digunakan dalam reka bentuk ikon semiotik sebagai satu alat sokongan dan teknik yang dikenali sebagai Reka bentuk Ikon Semiotik bagi Pembacaan Al-Quran (SIDQ) memvisualisasi genre Surah agar dapat memotivasi golongan belia untuk membaca Quran. Kajian ini menggariskan empat objektif, iaitu mengenal pasti elemen reka bentuk ikon semiotik untuk pembacaan Al-Quran, mereka bentuk ikon semiotik dalam memotivasi belia dalam pembacaan Quran, membangunkan prototaip aplikasi reka bentuk ikon semiotik mudah alih dalam memotivasi belia dalam pembacaan Al-Quran, dan menilai reka bentuk ikon, kebolegunaan, motivasi dan penerimaan terhadap Aplikasi Ikon Semiotik bagi Pembacaan Quran (SIDAQ) menggunakan Model Kebolegunaan (PACMAD), Model Reka Bentuk Motivasi (ARCS) dan Model Penerimaan Teknologi (TAM). Kajian ini menggunakan pendekatan Penyelidikan Reka bentuk dan Pembangunan (PRP) Jenis 1 yang disepadukan dengan Model Pengajaran ADDIE dan Model Prototaip yang melibatkan tiga fasa iaitu fasa analisis keperluan, fasa reka bentuk dan pembangunan, dan fasa penilaian. Fasa pertama melibatkan sorotan literatur, kajian awal, temu bual dengan 3 orang pakar dan 3 orang belia serta pengesahan elemen konstruk dengan 3 orang pakar. Fasa kedua pula melibatkan reka bentuk ikon semiotik SIDQ dan pembangunan prototaip aplikasi SIDAQ menggunakan tinjauan ikon dengan 113 orang belia, pengesahan kandungan ikon semiotik dengan 3 orang pakar bidang Al-Quran, serta kajian rintis dengan 37 orang belia menggunakan soal selidik dan temu bual. Manakala, dalam fasa penilaian, 74 responden belia (berusia 15-30 tahun) telah menjawab soal selidik dan temu bual secara persampelan rawak mudah. Enam (6) orang pakar dalam bidang Quran dan Teknologi Maklumat terlibat dalam mengesahkan kandungan ikon semiotik dan penilaian aplikasi mudah alih. Analisis data tertumpu kepada statistik deskriptif dan korelasi menggunakan perisian IBM SPSS 26.0 serta analisis tematik menggunakan perisian Atlas.ti 8. Dapatan kajian menunjukkan tahap yang tinggi dan respons positif terhadap aspek reka bentuk ikon (min = 4.21), kebolegunaan (min = 4.42), motivasi (min = 4.30) dan penerimaan (min = 4.41). Penilaian pakar juga menunjukkan tahap yang tinggi bagi aspek reka bentuk ikon (min = 4.14), kebolegunaan (min = 4.18), motivasi (min = 4.26) dan penerimaan (min =

4.42). Akhirnya, dapatan analisis korelasi untuk Hipotesis 1 (H<sub>1</sub>) mendapati nilai pekali pembetulan (r) adalah signifikan antara -1.0 hingga +1.0 dengan nilai  $r > .50$ , menunjukkan enam elemen reka bentuk ikon: dikenali ( $r = .58$ ), warna ( $r = .66$ ), sederhana ( $r = .62$ ), semantik ( $r = .56$ ), keakraban ( $r = .61$ ) dan konsistensi ( $r = .58$ ) mempunyai korelasi yang kuat dan hubungan positif antara motivasi belia dalam membaca Al-Quran. Oleh itu, hipotesisnya, terdapat pengaruh yang signifikan antara elemen reka bentuk ikon semiotik dan motivasi belia dalam membaca Al-Quran diterima. Hasil dapatan analisis korelasi untuk Hipotesis 2 (H<sub>2</sub>) mendapati nilai pekali pembetulan (r) adalah signifikan antara -1.0 hingga +1.0 dengan nilai  $r > .50$  menunjukkan penerimaan SIDAQ ( $r = .58$ ) mempunyai korelasi yang kuat dan hubungan positif dengan motivasi belia dalam membaca Al-Quran. Oleh itu, hipotesisnya, terdapat pengaruh yang signifikan antara penerimaan SIDAQ dan motivasi pemuda dalam membaca Al-Quran diterima. Kajian ini membuktikan elemen ikon diterima oleh belia dan dapat meningkatkan motivasi belia dalam membaca Al-Quran. Kajian ini menyumbang kepada reka bentuk ikon semiotik dalam bidang Quran sebagai alat sokongan untuk memvisualisasi genre surah dalam domain Al-Quran. Untuk penyelidikan masa depan, kajian ini dapat ditingkatkan dengan penambahbaikan pada beberapa reka bentuk ikon, penelitian yang lebih luas mengenai keberkesanan reka bentuk ikon, memperluas Surah lain, kumpulan pengguna lain untuk kesesuaian, menambahkan terjemahan penuh dengan audio dan tajwid, elemen multimedia, peneguhan dan penghargaan positif, pertimbangkan bentuk fizikal yang menumpukan pada membaca Al-Quran menggunakan ikon melalui Mushaf bercetak dan sokongan oleh badan-badan yang diberi kuasa seperti Jabatan Kemajuan Islam Malaysia (JAKIM) dan Kementerian Dalam Negeri (KDN).

## ABSTRACT

Icon design is a visual exploration approach to information representation. The icon can communicate information visually to assist people in conveying information. However, many studies had focused more on aesthetical elements of icon design, but other elements were less explored especially on elements related to icon meaning such as recognizable, semantic, familiarity and relevance, while at the same time maintaining the elements of simplicity, consistency and color of the icon. This might lead to misleading information, confusion, and comprehension problem. There is also limited research related to icon ease of use in icon design for various group of users. Furthermore, the efforts of IT experts are also limited in the field of the noble Quran, mostly emphasized were on direct use of information technology techniques such as storing, listening, and searching without more elaborated domain techniques. This supports that there is a lack of application that focuses on detailed techniques in the Quran domain. Besides, there is also limited icon design studies in certain domain including Quranic field. There are many Mushaf and technologies for reciting Quran, however, the researcher found limited studies on technique of reciting Quran using the icon. Hence, this research is conducted to study on icon design elements to be employed into the semiotic icon design as a supportive tool and technique named Semiotic Icon Design for Reciting Quran (SIDQ) to visualise the genre of Surah thus motivate youth to recite the Quran. The four objectives of this research are to identify semiotic icon design element for reciting the Quran, to design the fidelity of semiotic icon design for motivating youth in reciting Quran, to develop a prototype of semiotic icon design application for motivating youth in reciting Quran, and to evaluate the icon design, usability, motivation, and acceptance of Semiotic Icon Design Application for reciting Quran (SIDAQ) using PACMAD Usability model, ARCS Model of Motivational Design and Technology Acceptance Model (TAM). This research applied the Design and Development Research (DDR) Type 1 approach integrated with the ADDIE instructional design model and Prototyping model which involved three phases namely needs analysis phase, design and development phase, and evaluation phase through experimental post method using questionnaire as the main instrument. The first phase involved literature review, preliminary study, interview with 3 experts and 3 youth, and construct validation by 3 experts. In the second phase, it involved the fidelity of SIDQ and prototype development of SIDAQ, icon survey with 113 youth, content validation for semiotic icon by 3 experts and pilot test with 37 youth using questionnaire and interview. Lastly, through the evaluation phase, 74 youth (aged 15-30) answered questionnaires and interviews through simple random sampling method. Six scholars of Quran and IT were involved in validating the semiotic icon design and evaluating the application. The data analysis is on descriptive statistics and correlation analysis using IBM SPSS 26.0. The findings showed high degree and positive responses among respondents to the icon design (mean = 4.21), usability (mean = 4.42), motivation (mean = 4.30), and acceptance (mean = 4.41). Expert's findings also indicated high values in icon design (mean = 4.14), usability of application (mean = 4.18), motivation (mean = 4.26) and acceptance (mean = 4.42). The findings on correlation analysis for Hypothesis 1 (H<sub>1</sub>) found the correlation coefficient value (r) is significant between -1.0 to +1.0 with value  $r > .50$ , indicates the six icon design elements: recognizable ( $r=.58$ ), color ( $r=.66$ ), simple ( $r=.62$ ), semantic ( $r=.56$ ), familiarity ( $r=.61$ ) and consistency ( $r=.58$ ) have a strong correlation and positive relationship among the youth's motivation in reciting Quran. Thus, the hypothesis, there is a significant influence between semiotic icon design elements and

the youth's motivation in reciting Quran is accepted. Lastly, the findings on correlation analysis for Hypothesis 2 (H<sub>2</sub>) found the correlation coefficient value (r) is significant between -1.0 to +1.0 with value  $r > .50$  indicates the acceptance of the SIDAQ ( $r = .58$ ) has a strong correlation and positive relationship with youth's motivation in reciting Quran. Thus, the hypothesis, there is a significant influence between SIDAQ and the youth's motivation in reciting Quran is accepted. This study proves that the icon element is accepted by the youth and can increase the youth motivation in reciting the Quran. This study contributes to semiotic icon design in Quranic field as a supportive tool to visualise the Surah genre in the Quranic domain. For future research, this study can be enhanced by improvement on some icon design, extended research on effectiveness of icon design, extend for other Surah, other group of user for suitability, add the full translation with audio and tajwid, multimedia element, positive reinforcement and reward, consider physical form that focus on reciting Quran using icon through printed Mushaf and endorsement by authorized bodies such as Jabatan Kemajuan Islam Malaysia (JAKIM) and Ministry of Home affairs (MOHA).

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## الملخص

تصميم الرموز هو أسلوب استكشاف مرئي لتمثيل المعلومات. يمكن للرمز توصيل المعلومات بشكل مرئي لمساعدة الأشخاص في نقل المعلومات. ومع ذلك، فقد ركزت دراسات عديدة بشكل أكبر على العناصر الجمالية لتصميم الرموز، ولكن تم استكشاف عناصر أخرى أقل خاصة على العناصر المرتبطة بمعنى الرموز مثل يمكن التعرف عليها، والإشارة، والألفة، والصلة، مع الحفاظ في الوقت نفسه على عناصر البساطة والاتساق واللون للرمز. قد يؤدي ذلك إلى معلومات مضللة وارتباك وفهما. وهناك أيضا أبحاث على محدودة تتعلق بسهولة استخدام الرموز في تصميم الرموز لمجموعة متنوعة من المستخدمين. وعلاوة ذلك، فإن جهود خبراء تكنولوجيا المعلومات محدودة أيضا في مجال القرآن الكريم، وقد تم التأكيد على ذلك في الغالب على الاستخدام المباشر لتقنيات تكنولوجيا المعلومات مثل التخزين والاستماع والبحث دون استخدام تقنيات مجالات أكثر تفصيلا. هذا يدعم أن هناك نقص في التطبيق الذي يركز على بالإضافة إلى ذلك، هناك أيضا دراسات محدودة لتصميم الرموز في تقنيات مفصلة في مجال القرآن، مجال معين بما في ذلك مجال ضمان. هناك العديد من المصحف والتقنيات لتلاوة القرآن، ومع ذلك، وجد الباحث دراسات محدودة حول تقنية تلاوة القرآن باستخدام الأيقونة. ومن ثم، يتم إجراء هذا البحث لدراسة عناصر تصميم الرموز ليتم توظيفها في تصميم الرمز شبه الحيوي كأداة داعمة وأسلوب يسمى الرمز شبه الحيوي لتصميم لتلاوة القرآن (SIDQ) لتصور نوع سورة وبالتالي تحفيز الشباب على لهذا البحث هي تحديد عنصر تصميم الرمز شبه الحيوي لتلاوة القرآن، القرآن. الأهداف الأربعة لتلاوة لتصميم أمانة الرمز نصف الوهمية لتحفيز الشباب في تلاوة القرآن، لتطوير نموذج أولي لتطبيق تصميم الرمز شبه الوهمية لتحفيز الشباب على تلاوة القرآن، ولتقييم تصميم الرموز وإمكانية استخدامها وتحفيزها وقبولها لتطبيق تصميم الرمز شبه الحيوي لتلاوة القرآن (SIDAQ) باستخدام نموذج قابلية استخدام PACMAD، نموذج الأقواس للتصميم التحفيزي ونموذج قبول التقنية (TAM). وقد طبق هذا البحث نهج النوع 1 من بحوث التصميم والتطوير المتكامل مع نموذج التصميم الإرشادي ونموذج التخطيط المتكامل الذي تضمن ثلاث مراحل هي مرحلة تحليل الاحتياجات، ومرحلة التصميم والتطوير، ومرحلة التقييم من خلال أسلوب الاختبار اللاحق باستخدام الاستبيان كأداة رئيسية. وشملت المرحلة الأولى استعراض الأدبيات، ودراسة أولية، وإجراء مقابلة مع 3 خبيرا و 3 شابات، والتثبت من صحة الوثائق من قبل 3 خبيرا. وفي المرحلة الثانية، تضمن ذلك إخلاص SIDQ وتطوير النموذج الأولي لـ SIDAQ، مسح الرموز مع 113 شاب، التحقق من محتوى الأيقونة شبه الضوئية من قبل 3 خبيرا واختبار تجريبي مع 37 شاب باستخدام الاستبيان والمقابلة. وأخيرا، قام 74 شابا (تتراوح أعمارهم بين 15 و 30 سنة)، من خلال مرحلة التقييم، بالرد على الاستبيانات والمقابلات من خلال طريقة أخذ العينات

العشوائية البسيطة. ستة من علماء القرآن وقد شارك في التحقق من صحة تصميم الرمز شبه الحيوي وتقييم التطبيق. يتم تحليل البيانات على الإحصاءات الوصفية وتحليل الارتباط باستخدام IBM SPSS 26.0. أظهرت النتائج درجة عالية واستجابات إيجابية بين المشاركين في الاستطلاع لتصميم الرموز (المتوسط = 4.21)، وسهولة الاستخدام (المتوسط = 4.42)، والتحفيز (المتوسط = 4.30)، والقبول (المتوسط = 4.41). كما أشارت نتائج الخبر إلى قيم عالية في تصميم الرموز (المتوسط = 4.14)، وإمكانية استخدام التطبيق (المتوسط = 4.18)، والتحفيز (المتوسط = 4.26) والقبول (المتوسط = 4.42). توصلت النتائج التي تم التوصل إليها حول تحليل الارتباط للفرضية 1 (H1) إلى أن قيمة معامل الارتباط ( $r$ ) كبيرة بين  $-1.0$  و  $+1.0$  مع القيمة  $r > .50$ ، وتشير إلى عناصر تصميم الرموز الستة: يمكن التعرف عليه ( $r = .58$ )، اللون ( $r = .66$ )، البسيط ( $r = .62$ )، الدلالي ( $r = .56$ )، الألفه ( $r = .61$ ) والاتساق ( $r = .58$ ) لها علاقة ارتباط قوية وإيجابية بين تحفيز الشباب في تلاوة القرآن. وهكذا، فإن الفرضية، هناك تأثير كبير بين عناصر تصميم الرموز شبه الضوئية وتحفيز الشباب في تلاوة القرآن مقبول. وأخيراً، وجدت نتائج تحليل العلاقة المتبادلة للفرضية 2 (H2) أن قيمة معامل الارتباط ( $r$ ) كبيرة بين  $-1.0$  و  $+1.0$  مع القيمة  $r > .50$  تشير إلى أن قبول الاستبيان ( $r = .58$ ) له علاقة ارتباط قوية وإيجابية بتحفيز الشباب في تلاوة القرآن. وهكذا، فإن هذه الفرضية، هناك تأثير كبير بين SIDAQ وتحفيز الشباب في تلاوة القرآن مقبول. هذه الدراسة تثبت أن عنصر الرمز مقبول من قبل الشباب ويمكن أن يزيد من تحفيز الشباب في تلاوة القرآن. تساهم هذه الدراسة في تصميم الرمز شبه الحيوي في مجال القرآن كأداة داعمة لتصور نوع السور في مجال القرآن. بالنسبة للبحوث المستقبلية، يمكن تعزيز هذه الدراسة من خلال تحسين تصميم بعض الرموز، بحث موسع حول فعالية تصميم الرموز، توسيع لسورة أخرى، مجموعة أخرى من المستخدمين لملاءمتها، إضافة الترجمة الكاملة مع الصوت والتاجويد، عنصر الوسائط المتعددة، التعزيز الإيجابي والمكافأة، فكر في الشكل المادي الذي يركز على تلاوة القرآن باستخدام الرمز من خلال المصحف المطبوع والتأيد من قبل الهيئات المخولة مثل الجانبان كوكيون الإسلام ماليزيا (JAKIM) ووزارة الداخلية (MOHA).

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## LIST OF ABBREVIATION

ADDIE	Analysis, Design, Development, Implementation and Evaluate
ARCS	Attention, Relevance, Confidence and Satisfaction
ASSURE	Analyse, State, Select, Utilize, Response, Evaluate
DDR	Design and Development Research
JAKIM	Jabatan Kemajuan Islam Malaysia
MOHA	Ministry of Home Affairs
PACMAD	People at Centre of Mobile Application Development
PCM	Percentage Calculation Method
SIDQ	Semiotic Icon Design for Reciting Quran
SIDAQ	Semiotic Icon Design Application for Reciting Quran
SLR	Systematic Literature Review
TAM	Technology Acceptance Model

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