FBM-SEREMBAN INTERNATIONAL INNOVATION COMPETITION (FBM-SIIC)

INVENTOPIA 2023

EXTENDED ABSTRACT BOOK

"IDEAS UNLEASHED: THE ULTIMATE INNOVATION CHALLENGE"

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EXTENDED ABSTRACT

DEAR SIR: SMART INTERACTIVE RESEARCH TOOL FOR BEGINNERS

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ABSTRACT

Covid-19 pandemic has changed the way how a classroom lecture being conducted. Direct physical interactions are no longer a norm. This includes how the information is accessed. Researchers who are not ready to adapt new norm may takes longer time to finish his research, lost direction on where his research supposed to end, or simply give up. Therefore, we initiate and create Dear SIR that makes learning interactive, simpler, and combined theoretical and practical, and more effective. Dear SIR is a mobile application which acted as a research alternative tool to ensure teaching & learning (T&L) more interesting and interactive. We developed Dear SIR application with an objective to assist university's students and amateur researchers to understand the basic idea of research processes. Even though, there are numerous of research aid available in the market, but none of them practically guide the student to comprehend how to identify and align the research issues, objectives, questions, hypotheses, and framework development. The idea for product development derived from an in-depth discussion based on our own experience during our doctoral study period. No one guide us on how to identify all research elements when we read an article or develop our research. Surprisingly, very limited comprehensive research application can be obtained to lead us on how to classify the most crucial elements of research. Therefore, we realising this idea and starting to develop Dear SIR research tool. Evidently, the Dear SIR utilized the concept of "finding pieces of the puzzle and putting it together" to understand the complex research process to assist students and amateur researchers.

Key Words: research tool, smart interactive mobile apps, research student, advanced technology

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1. INTRODUCTION

DEAR SIR is a mobile application which acted as a research alternative tool to ensure T&L more interesting and interactive. We developed DEAR SIR application with an objective to assist university's students and amateur researchers to understand the basic idea of research processes. Even though, there are numerous of research aid available in the market, but none of them practically guide the student to comprehend how to identify and align the research issues, objectives, questions, hypotheses, and framework development. The idea for product development derived from an in-depth discussion based on our own experience during our doctoral study period. No one guide us on how to identify all research elements when we read an article or develop our research. Surprisingly, very limited comprehensive research application can be obtained to lead us on how to classify the most crucial elements of research. Therefore, we achieve this idea and start to develop DEAR SIR research tool. Evidently, the Dear SIR utilized the concept of "finding pieces of the puzzle and putting it together" to understand the complex research process to assist students and amateur researchers.

2. THE OVERVIEW OF DEAR SIR

a. Description of DEAR SIR

The **DEAR SIR** is a mobile application that used to ease students, lecturers, and amateur researcher to understand the concept of research elements. It is user friendly, systematic, structured, feasible and practical to be implemented to enhance our target group understanding and falling for research. **DEAR SIR** is comprehensive tool to guide users the important elements of research when reading a journal article. Currently, we have ran a pilot study to test it applicability among 8 postgraduate students at Universiti Teknologi MARA Cawangan Melaka.

b. The context development background

The flowchart diagram is created and used to illustrate every type of flowchart for each category of users. The flowchart is divided into two categories with different interfaces for the website and mobile application. Nutshell, we compiled the overall process of **DEAR SIR** application.
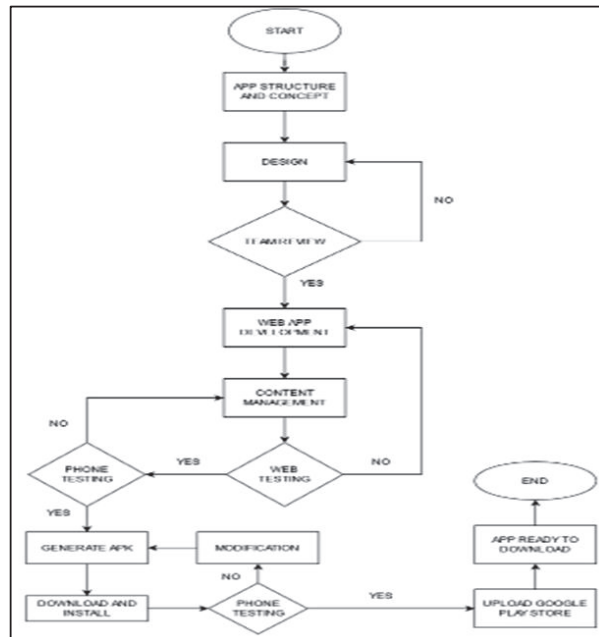

Figure 1. Flowchart for DEAR SIR Mobile Application Development

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c. DEAR SIR is very significance because of several reasons:

i. Support the Malaysia Education Blueprint 2015-2025 (Higher Education) – This innovation directly support shift 1(holistic entrepreneurial balanced graduate), shift 9 (globalised online learning) and shift 10 (transformed higher education delivery)

ii. Cultivate Interest to Learn Research - DEAR SIR is an interactive research tool that able to capture student's attention and curiosity that subsequently eliminate the study difficulties. We developed this application with interesting features including colorful background, large font, user-friendly and understandable. Indirectly, it helps all education institutions to produce more researchers.

iii. Increase Number of Graduate on Time (GoT) - We believe if the students downloaded DEAR SIR tool, at least 1% of students will graduate on time. It is university's requirement to increase more GoT students, decrease dropout rates and achieve its organisational performance excellence.

iv. Increase Accessibility and Flexibility – We developed DEAR SIR to allow the students to have easy, functional access to information that they need in real-time and are optimized for hands on interaction.

v. Enhance the Student's Outcomes and Productivity – Learning research require patience and passion. If we can offer the best teaching aid product for them, it will enhance their interest and productivity. The target group will be able to understand the basic knowledge of the research elements and expedite the learning processes.

d. Advantages of DEAR SIR from education and community viewpoint

i. Education
- Achieve Malaysia education blueprint 2015-2025 (higher education) aspirations
- Increase university's MyRA score – Citation and university education service quality delivery
- Enrich interactive learning and transform from the traditional to modern education environment – Research methodology
- Enhance level of understanding on research processes

ii. Community
- Create the scientific thinking community
- Create ICT literacy community
- Spurred creative and innovative culture among academics' community
- Greater access to quality education

3. FINDINGS

We executed a survey to get some feedback on our products. There are 8 postgraduate students (5 master degree and 3 PhD) who participate for prototype (functionality) testing. We found that our product has greatly accepted by students. Here is the summary of our prototype (functionality) testing.

a. What do you think about this product? (Selected respondents)

Respondent 1: *Bagus. Saya pelajar semester 1 dan tidak tahu bagaimana untuk mengenalpasti point penting dalam satu-satu article. Saya rasa tool ini membantu saya untuk faham bagaimana hendak mengeluarkan point-point dari atikel.*

Respondent 2: Useful. I am from the industry. I have less knowledge about research. This product guide me how to identify important elements from an article.

Respondent 3: I love it. Good product.

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b.   Do you think this product can benefit you as a student? (Selected respondents)

Respondent 3: Absolutely. As a semester 1 student, I am "thirst" with new technology that can help me to learn effectively. I have tried it and WOW...It is amazing

Respondent 6: Ye. *Walaupun saya sudah berada di semester 4, product ini dapat memberikan saya sesuatu iaitu bagaimana kita hendak mencari elemen penting dalam artikel. Kita boleh membaca sebanyaknya artikel tetapi kita sendiri tidak tahu mcm mana nak cari point-point penting utk kita kenalpasti yang mana isu, gap, masalah. macam mana dari masalah itu terbentuk framework dan lain2.Sangat bgs la produk ini*
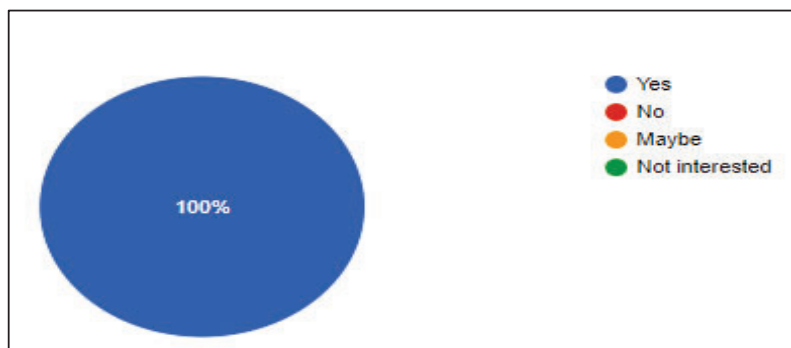
Respondent 7: Yes. Different approach to learn research methodology

c.   What would help make this product more effective? Is there any feature you want us to improve? (Selected respondents)

Respondent 4: I would suggest if this product could identify more categories, more elements and more papers for each category.

Respondent 5: Maybe can add some additional information such as proofreader service, editor service, formatting service to enhance your product visibility

Respondent 8: *Saya berpendapat, pelbagaikan kategori tu supaya lebih luas penggunaannya. Seperti dimaklumkan tadi, sasaran awal terbuka kepada pelajar S&S sahaja. Ada perancangan untuk membuat bidang S&T selepas ini.*

d.   Will you purchase the product? (All respondents)

e.   Will you purchase the product? (All respondents)

f.   Any additional input you want to say? (Selected respondents)

Respondent 4: Maybe can make a collaboration with Mendeley and university library to more input. I would love to see more thesis to be reviewed like this. Some postgraduate candidate want to see the real thesis rather than article. Anyway, it is a good product!!

Respondent 6: *Saya yakin produk ini boleh diterima untuk memudahkan P&P pensyarah terutamanya untuk subjek* research methodology

Respondent 7: Good product

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