BookNook Library Mobile Application Final Report

CSC264
Introduction to Web and Mobile Application

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GROUP: CDCS1104C

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1.0 ENTREPRENEURIAL MIND AND OPPORTUNITY

The entrepreneurial mind of the future will be characterized by adaptability, innovation, and a deep understanding of emerging technologies. In the context of BookNook, this mindset involves continually improving the platform based on user feedback, incorporating advanced features, and expanding the app's reach to new markets. The opportunity for BookNook lies in addressing the unmet needs of students for accessible, reliable, and relevant academic resources. BookNook can capitalize these unmet needs by continuously enhancing its features, such as personalized learning tools and interactive study aids, which can differentiate it from competitors.

The proposed BookNook application has strong potential for commercialization for several reasons. Firstly, adoption of digital learning tools in educational settings presents a significant market opportunity for BookNook. As educational institutions and students shift towards online and digital resources, BookNook can position itself as a key player by offering a platform that combines textbook access, peer reviews, and interactive learning features. The convenience and accessibility of digital textbooks make them an attractive alternative to traditional print versions, and BookNook can capitalize on this trend by providing a comprehensive digital library tailored to students' needs.

Secondly, the subscription-based model or freemium approach can generate steady revenue streams. By offering basic features for free and premium features at a cost, BookNook can attract a wide user base while monetizing advanced functionalities.

Lastly, strategic partnerships with textbook publishers and educational institutions can provide additional revenue opportunities through co-branded content and institutional licenses, ensuring a sustainable business model. Moreover, the platform can explore partnerships with educational institutions and publishers to expand its content library and offer exclusive resources.

2.0 INTRODUCTION

BookNook is an innovative platform designed for users especially higher education students to recommend and review textbooks they've used throughout their academic journey. Developed to cultivate a supportive community, BookNook allows students to share experiences, provide constructive feedback, and uplift one another. As Malaysia's economy grows, it's essential for students to focus on their education without being burdened by high textbook costs. BookNook is a valuable resource, helping students make informed decisions about their study materials, ensuring maximum value without unnecessary expenses.

BookNook also aligns with several Sustainable Development Goals (SDGs) such as Quality Education, Reduced Inequalities, and Responsible Consumption and Production. By helping students find the best-suited books for their studies and providing access to these books directly through the app, BookNook promotes Quality Education. It also aims to reduce educational inequalities by bridging the gap between students. Additionally, it encourages responsible consumption by informing students about the relevance and updates of textbooks, helping them spend wisely.

2.1. PROBLEM STATEMENT

Users such as students in higher education faced several significant challenges that hindered their academic success and overall educational experience.

Firstly, textbooks are essential for a comprehensive understanding of academic subjects, providing structured and reliable information that supports learning. Without access to the right textbooks, students often struggle unnecessarily, seeking alternative resources that may be less effective or harder to find. This lack of access can impede their academic progress and understanding of key concepts. Thus, many students had to make tough choices between purchasing necessary study materials and managing their limited budgets. This financial strain negatively impacted their ability to access the resources they needed for success.

Besides, users struggled to find reliable sources of information about the quality and relevance of textbooks. Without a platform to share their experiences, they often ended up purchasing books that did not meet their academic needs, leading to wasted time and money.

Moreover, students frequently purchased textbooks that quickly became outdated due to new editions or curriculum changes. This led to a cycle of continuous expenditure on new books, with little assurance of their long-term value. The lack of up-to-date materials impeded students' learning and adaptation to current academic standards.

2.2. OBJECTIVES

- To develop a robust recommendation system for users to find the most relevant textbooks for their courses.
- To encourage positive interactions and mutual support among users where they can share their experiences and provide constructive feedback on textbooks.
- To provide information on the most cost-effective study materials so students can prioritize their education without being burdened by excessive textbook costs.

2.3. SCOPE OF PROJECT

In this project, there is one scope, which is the user. The project aims to provide a comprehensive platform that addresses their needs for accessing, reviewing, and reading textbooks essential for their academic success.

First and foremost, the project includes key features such as direct access to textbooks using the app. It ensures that users have access to current and relevant editions of these textbooks. Additionally, the platform will allow students to write and read reviews, facilitating a recommendation system that suggests textbooks based on user preferences and peer reviews.

The project will include community-oriented approach in order to foster a collaborative learning environment among users. Furthermore, users will have the ability to create and update their profiles, and save favorite textbooks. From a technical perspective, BookNook will establish a robust backend system for managing the digital library, user data, reviews, and notifications. A reliable database will be employed to store all necessary information securely.

2.4. PROJECT SIGNIFICANT

• Improved Access to Essential Resources:

BookNook provides users with direct access to textbooks and resources that could alleviate its physical absence. This minimizes the struggle of finding alternative resources and supports better academic performance. By ensuring that users have access to the most relevant textbooks, BookNook helps them stay afloat of the latest developments and standards in their fields of study.

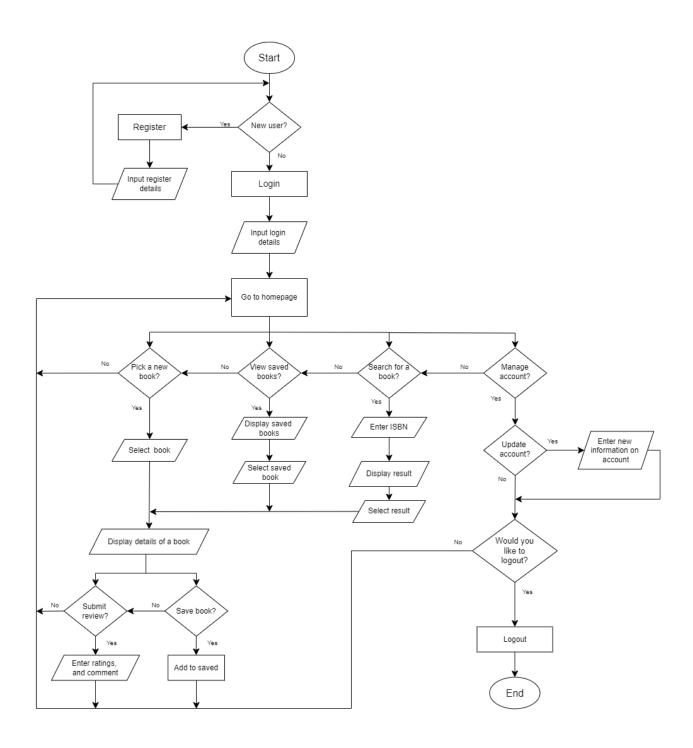
• Community Building and Support:

BookNook promotes a community where users like students can share their experiences and support each other. This collaborative environment enhances the overall learning experience. Through peer reviews and recommendations, students can make more informed decisions about their study materials, leading to more effective learning.

Educational Equity:

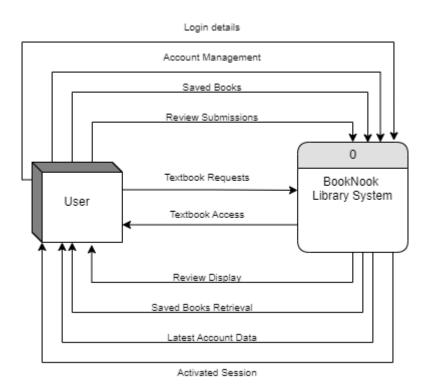
By providing equal access to textbooks, BookNook helps bridge the educational gap between students from different socioeconomic backgrounds. This promotes fairness and inclusivity in education. While not emphasizing the high cost, BookNook helps students access necessary study materials without unnecessary financial strain, allowing them to allocate their resources more efficiently.

3.0 FLOWCHART

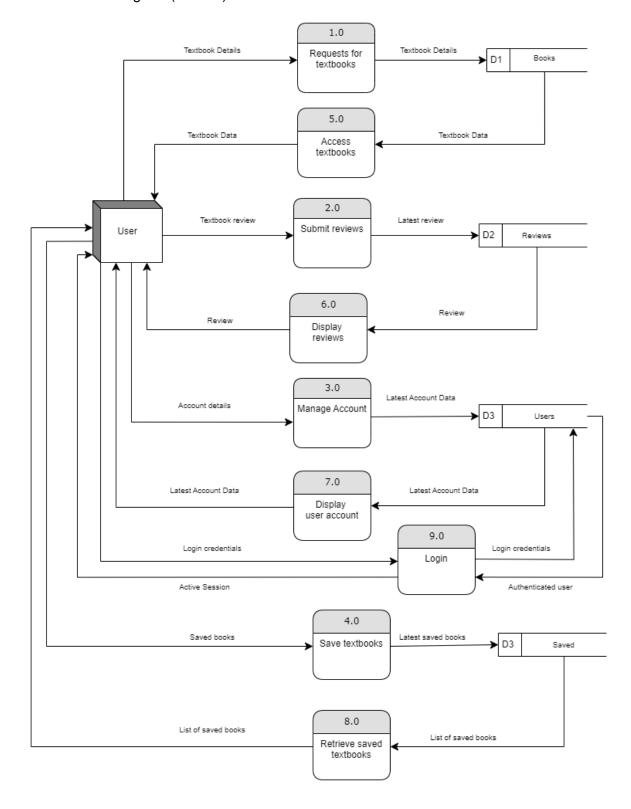


4.0 FUNTIONAL DESIGN

4.1 Data Flow Diagram (Level 0)

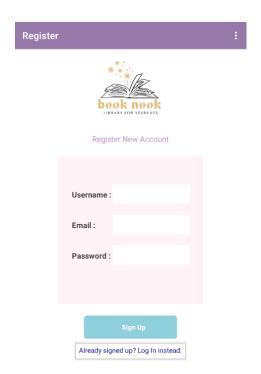


4.2 Data Flow Diagram (Level 1)



5.0 INTERFACE DESIGN

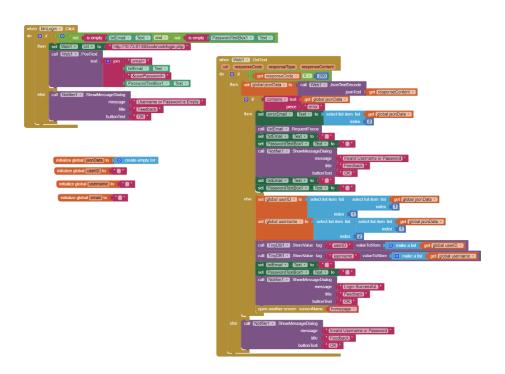
5.1 Register page



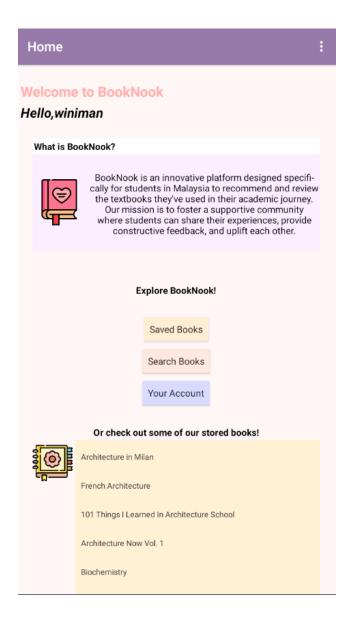
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when btnRegister . Click
    set Web1 . Url v to
                              "(http://10.73.81.68/booknook/register.php)"
    call Web1 ▼ .PostText
                      text
                             🤠 join
                                        username=
                                      txtUsername •
                                                      Text ▼
                                        &email= "
                                       txtEmail . Text .
                                        &userPassword=
                                      txtPassword •
                                                      Text ▼
    call Notifier1 . ShowMessageDialog
                              message
                                          " You have registered!! "
                                          " Feedback "
                                   title
                                           OK "
    open another screen screenName loginScr v
when btnLogin .Click
do open another screen screenName loginScr v
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5.2 Login page





5.3 Home page



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cal (Web2 · Get
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index 2

set global bookListTop • to 6 select list item list index 3
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               open another screen screenName search search
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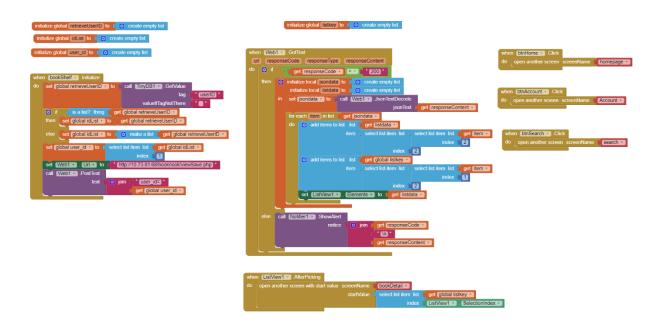
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5.4 Saved book page





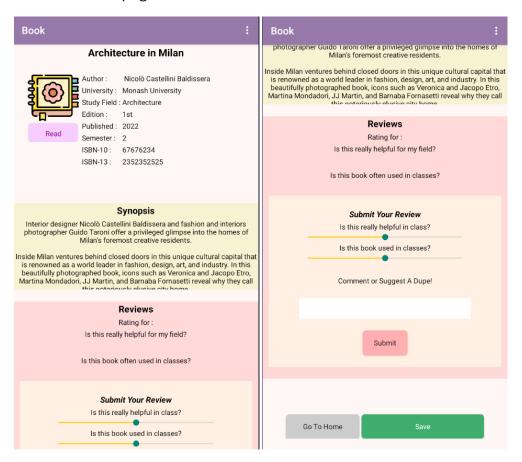
5.5 Search page



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when binking Click
do open another screen screenName bookShelf

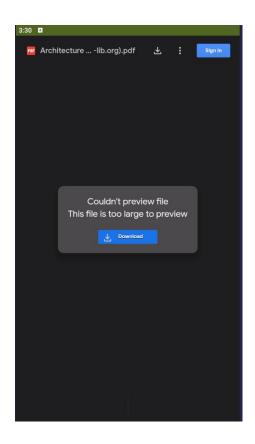
when binAcc Click
do open another screen screenName Account
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5.6 Book Detail page



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initialize global book_id to | get start value
initialize global idList to 1 0 create empty list
initialize global retneveUserID to create empty list
initialize global user_id to | O create empty list
                                                                                                           when btnBack Click
do open another screen screenName homepage.
                                                                                                           initialize global file_path to
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5.7 Read Book page



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initialize global book_id to get start value
initialize global (file_path) to
   initialize global combined to [ " ] "
when readBook ...Initialize

do set Web1 ... Url ... to ... http://10.73.81.68/booknook/pdfBook.php ...
     call Web1 PostText
                           text | o join | " book_id= "
get global book_id •
  when Web1 .GotText

        url
        responseCode
        responseType
        responseContent

do if contains text ferror get responseContent text then call Notifier1 .ShowMessageDialog
                                                             " (File is not found) "
                                            message 'File is not title 'Error' buttonText 'OK'
       else initialize local responseJson to call Web1 JsonTextDecode
                                                                          jsonText | get responseContent v
select list item list | get responseJson v
index | 1
              in set global file_path • to select list item list
                                                                index [2]
                   call (WebViewer1 ▼ .GoToUrl
                                    url get global file_path 🔻
```

5.8 Account page



CONCLUSION

BookNook not only addresses immediate academic needs but also aligns with broader educational goals such as improving accessibility, reducing inequalities, and promoting responsible consumption of educational resources. Its focus on user engagement, adaptability, and collaboration makes it a valuable tool for users and a promising venture in the realm of educational technology. As BookNook continues to grow and evolve, it will play a pivotal role in shaping the future of academic resource management and student support.

REFERENCES

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- 2. GeeksforGeeks. (2023, September 19). What is MIT App Inventor? GeeksforGeeks. https://www.geeksforgeeks.org/what-is-mit-app-inventor/
- 3. MIT App Inventor. (n.d.). https://appinventor.mit.edu/
- 4. Peto. (n.d.). PETO. PETO. https://www.peto.pet/home.html
- 5. Welcome to TinyDB! TinyDB 4.8.0 documentation. (n.d.-b). https://tinydb.readthedocs.io/en/latest/

APPENDICES

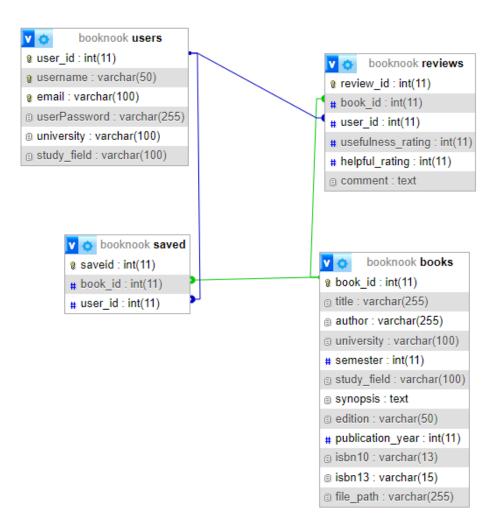


Diagram 1:BookNook Database Design

RUBRICS

1.Application

	CSC264 - Individual Project Rubric (25%)								
No	User Interface & Inform	ation	0	1	2	Weight	Scored Earned (1-2)	Total earned	Actual Score
	Intuitive and user- friendly design / Layout design	10	not exist	Incorrect/ incomplete	Complete	5	2	10	
	Responsive design for various screen sizes	10	not exist	Incorrect/ incomplete	Complete	5	2	10	
	Contains the home page, information about us, or pages to view related information	10	not exist	Incorrect/incomplete	Complete	5	2	10	
4	Effective use of navigation	10	not exist	Incorrect/ incomplete	Complete	5	2	10	
	Functionality								
	Implementing CRUD Operation	10	not exist	Incorrect/ incomplete	Complete	5	2	10	
6	Contains system authentication	10	not exist	Incorrect/ incomplete	Complete	5	2	10	
	Implementing the main process/module of the system (achieving main goal & objectives)	10	Show limited awareness but not reflect to the goal at all	Shows awareness of Goal	Goal is exceptionally well focused	5	2	10	
8	Completeness of Application	10	not exist	Incorrect/ incomplete	Complete	5	2	10	
9	Entrepreneurial Experience	6	No entrepreneuria I element	There is an entrepreneuria I element	High-quality implemented entrepreneuria I elements	3	2	6	
10	User Experience (UX) - a user interacts with and experiences a system (useful, usable, findable, desirable, accessible, credible, and valuable without conscious thought)	10	Not achieving or achieve only 1 of UX pillars	Achieving 2-4 UX pillars	Achieving 5-7 of UX pillars	5	2	10	
	Deployment and Performance (5								
	Successful deployment on online/offline server or hosting platform (Google Play/Apple Store)	4	not deploy	Deploy on offline server	Deploy on online server	2	2	4	
	TOTAL POINT WEB	100						100	
					1	1	TOTAL 25%	25	

2. Report

No	Tasks	0	1	2	Weight	earned (0-2)	Total earned	Actual Score
1	Entrepreneurial Mind & Opportunity	No entrepreneurial idea for value adding/solving user/customer needs.	Business idea is clear but does not fulfill the realistic user/customer needs.	Able to mobilize the idea to become opportunity according to the business strategy and fulfill the user/customer needs.	5	2	10	
2	Introduction to system -problem statement -objectives -scope of project -project significant	and with limited		Able to write ideas systematically AND with excellent clarity and accuracy	5	2	10	
3	Flow Chart	Not achievable or		Achievable and acceptable level of complexity.	5	2	10	
4	unctional Design unctional requirement / Not achievable or of unctional requirement / helpw expectation		Achievable but level of complexity is below expectation.	Achievable and acceptable level of complexity.	5	2	10	
5	Interface Design -Block codes	Not achievable or below expectation.	Achievable but level of complexity is below expectation.	Achievable and acceptable level of complexity.	5	2	10	
	TOTAL POINTS						50	

3.Presentation

	2. Individual Project Presentation (5%)								
		1	2	3	4	5	SCORES		
No	Assessment	Weak	Fair	Good	Very Good	Excellent	EARNED (1-	Actual Score	
1	Delivery of ideas (Communicativ e ability)	Not able to deliver ideas clearly and require major improvements	Able to deliver ideas and require further improvements	Able to deliver ideas fairly clearly and require minor improvements	Able to deliver ideas clearly	Able to deliver ideas with great clarity	5		
2	Confident and articulate delivery of ideas (Communicativ e ability)	Not able to deliver idea confidently and articulate	Able to deliver ideas with limited confidence and effect and require further improvements	Able to deliver ideas fairly confidently and effectively and require minor improvements	Able to deliver ideas confidently effectively and articulately	Able to deliver ideas with great confidence, effect and articulately	5		
3	Understand and respond to questions (Communicativ e ability)	Not able to understand and respond to a question	Able to understand and answer questions but not able to accurately answer the question	Able to understand and answer questions satisfactorily	Able to respond to questions well	Able to fully understand and respond to questions very well	5		
4	Clarity, accuracy and systematically written academic discourse (Slide content)	and with	Able to write ideas systematically BUT with limited clarity and accuracy	Able to write ideas systematically AND fairly clearly and accuracy	Able to write ideas systematically, clearly and accuracy	Able to write ideas systematically AND with excellent clarity and accuracy	5		
							20 5		