

## Development of the UI/UX for the Madrasah Adaptation E-Module Using the Design Thinking Method

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### Abstract

Technological developments have brought major changes in the world of education, especially in the development of digital learning media. This study aims to design a user interface and user experience on a mobile-based habituation e-module application at MA Taqwiyyatul Wathon as a solution to the limitations of physical modules that have been used in students' daily habituation activities. The method used is Design Thinking which consists of five stages, namely Empathize, Define, Ideate, Prototype, and Test. The research process involved three groups of users, namely students, teachers, and admins through observation, interviews, and direct testing of the High-Fidelity Prototype (Hi-fi) using the In-Person Usability Testing method based on a Likert scale (1–5). The test results showed a Usability Score of 91.7 for students, 97.2 for teachers, and 90 for admins, with the category "Excellent". These results indicate that the designed application is easy to use, has a clear display, and is efficient in navigation. Thus, the habituation e-module application is worthy of further development to support digital learning and habituation activities in the madrasa environment.

**Keywords:** *design thinking, habituation e-module, in-person usability testing*

### INTRODUCTION

Currently, technological advancements have resulted in considerable instructional adjustments. Incorporating technology into education creates new opportunities for generating more creative and adaptive learning methods (Saddyah and Saragih, 2024). The implementation of digital technologies such as gawai has resulted in a more effective and efficient educational environment. Given this, educational institutions should use digital technologies to improve the quality and efficiency of learning processes. This transition has become crucial in meeting today's difficulties, which necessitate ongoing access to information and learning resources (Chairunnisa, Widodo and Majid, 2024). Digital advances in education can boost student involvement while also supporting educators in delivering a more interesting and organized curriculum.

In addition, the use of technology in education has created challenges, particularly in terms of curriculum adaptation and information availability. Despite the fact that many schools have transitioned to digital systems, there are

still those that have not fully realised the potential of technology, such as e-module development. As a result, digital modules offer significantly greater flexibility than physical modules, which are frequently larger and easier to break (Chairunnisa, Widodo and Majid, 2024). Because of this, the development of an effective e-module centered on user experience (UX) has become increasingly important. This is a strategy for ensuring that learning materials are not only easily accessible, but also enjoyable and beneficial to the users (Damayanti, Firdaus and Indah, 2023).

This study is based on a specific context, which concentrates on MA Taqwiyyatul Wathon's experiences. To date, the madrasah has continued to use physical modules in the form of books for daily routines, which include prayers and oral exercises (Reza *et al.*, 2024; Rusydi and Nuryasin, 2024). Daily routines are actions that are repeated on a daily basis to help pupils develop a positive character. Daily activities include reciting the Asmaul Husna, doing Duha prayer, reciting prayers after Duha prayer, reading selected surahs, reciting Al-Fiiyyah Ibn Malik, performing Zuhr prayer, and reciting

wirid and prayers after Maktubah. Modules that are still in physical form are sometimes deemed impractical because students and professors must continually carry them, making daily tasks difficult. Moreover, the limitations of physical modules result in materials being rigid and unable to be swiftly upgraded. This example illustrates a gap between the capabilities of digital technology and the conventional teaching methods presently employed at the institution. Consequently, there is a pressing requirement to create digital solutions that can tackle these issues while maximizing the use of devices that are already in possession of both students and teachers.

In response to these challenges, a mobile-based e-module application was created to alleviate the constraints of traditional learning. This application is intended to replace physical modules by delivering the same content in a more compact and accessible digital version. This program minimizes the physical strain of transporting books by utilizing students' and teachers' personal devices, while also providing simple access to materials at all times and from any location. This design seeks to provide a learning application that is more adaptable, modern, and compatible with today's students' digital lifestyles. To ensure that this program is actually functional and meets user needs, a user interface that can meet those objectives while also giving the optimum user experience must be created (Ratri *et al.*, 2024; Fajar *et al.*, 2025).

Design Thinking is a process for handling complicated challenges that involves designing and testing solution prototypes in order to analyse and refine an application's design (Putri and Nugroho, 2025). This strategy was chosen because it is human-centred, beginning with empathy to understand the needs of users (students and teachers) (Nadhif *et al.*, 2021). Subsequent stages, such as problem definition, concept generation, prototype creation, and testing, are carried out methodically (Branson, 2020; Deacon, 2020). As a result, user interface (UI) and user experience (UX) design can provide designs that are intuitive, visually appealing, and functional. Finally, this study is expected to result in a user interface design for the e-module application that not only simplifies everyday routines but also acts as a model for educational innovation that may be replicated in

other institutions experiencing similar issues (Alfarabi and Faisal, 2024).

This study was conducted using the In-Person Usability Testing method, which aims to directly observe user behaviour, the difficulties encountered by users, and their non-verbal expressions in real time whilst using the prototype under test. This is crucial for developing an e-module application that is easy to use.

## LITERATURE REVIEW

### 2.1 UI/UX Design

UI/UX design encompasses two critical components of digital application development. The visual look and interaction features of an interface, such as colour schemes, layouts, and the usage of icons, are the subject of user interface (UI) design. User Experience (UX) focuses on the user's experience with a program, such as ease of use, comfort, and interface effectiveness. The goal of UI/UX design is not only to create an attractive interface, but also one that is simple and efficient to use and adds value to its users (Deacon, 2020).

### 2.2 Design Thinking Method

Design Thinking is a new approach to problem solving that focuses on the user through an iterative process that requires empathy, ideas, and experimentation. This method consists of five steps, which are (Branson, 2020):

1. Empathize

On this stage, observations, questionnaires, and context analysis are used to gather information about the user's experiences, needs, and problems.

2. Define

This step involves addressing the user's primary concern based on the results of the Empathize step.

3. Ideate

At this point, the development team has gathered a variety of design ideas and alternatives that are likely to meet the needs of the users. The number of ideas and alternative design solutions is not limited as long as it meets the needs of the user. After all of the design ideas and alternatives have been compiled, the most relevant ones are chosen and implemented.

4. Prototype  
At this step, preliminary design work is completed based on the concepts chosen during the Ideate phase. This stage aims to develop the main elements and create a concrete representation of the workflow and user interface design. The final prototype is used as the foundation for additional testing and assessment.
5. Test  
In this last phase of the design thinking process, users test the prototype to see if the suggested solution successfully solves the issues they encounter.

### 2.3 In-Person Usability Testing

Users physically visit the testing site to carry out a number of tasks on the prototype being tested in this face-to-face usability test. In real time, testers can observe user behaviour, challenges, and nonverbal cues (Rubin and Chisnell, 2008). In-person usability testing has the following features:

1. Direct observation: users' interactions can be closely observed by researchers.
2. Additional qualitative information is gathered, including spontaneous remarks, body language, gestures, and facial expressions.
3. Interaction is more adaptable; if needed, testers can immediately clarify.
4. Because outside distractions are reduced to keep attention on the testing procedure, the setting is more regulated.

The following procedures are involved in doing usability testing in person:

1. Describing the exams objectives.
2. Determining the tasks circumstances.
3. Using user demographics to select participants.
4. Conducting the test.
5. Analysing the findings and making design recommendations.

## METHODS

Design thinking is the research methodology used in the UI/UX design of this mobile-based e-module application for MA Taqwiyyatul Wathon. In order to provide pertinent answers, design thinking is a thorough, user-centered thinking process that starts with an awareness of particular human needs (Ashiddiq *et al.*, 2024). Because Design Thinking emphasizes empathy, creativity, and an iterative

process, it excels at identifying user needs, which is why it was selected as the main approach (Junitasari and A, 2024). Empathize, Define, Ideate, Prototype, and Test are the five primary phases of the design thinking process (Deacon, 2020; Sinaga and Johan, 2024). Figure 1 below provides an example of the Design Thinking approach.



Figure 1. Design Thinking Method

1. Empathize  
At this stage, the researchers conducted direct observations and data collection at MA Taqwiyyatul Wathon. The instrument used was an initial observation questionnaire, designed differently for three user categories: students, teachers and administrators. Each questionnaire contained questions tailored to the specific needs and experiences of each user group.
2. Define  
The data collected during the Empathize phase is then analyzed and processed further to identify the key issues faced by users. The resulting problem statement forms the basis for designing solutions and provides direction for the next phase.
3. Ideate  
At this point, researchers are free to come up with a variety of original ideas and solutions. In order to collect ideas, this procedure depends on creativity and imagination. Following the collection of all ideas, the best and most pertinent ones those that are prepared for execution are chosen (Zazhemi and Marcos, 2025).
4. Prototype  
The implementation of the chosen concepts in the form of preliminary designs is the main goal of this stage. In addition to starting to develop the main aspects of the program, the prototyping phase attempts to visualize the workflow and user interface design in concrete terms. The final prototype is used as the foundation for additional testing and assessment (Zazhemi and Marcos, 2025).

5. Test

The final stage in the design thinking method. The tool used in this testing stage is In-Person Usability Testing. At this stage, users test the application prototype directly with the aim of gaining a realistic understanding of the user experience. Researchers observe user interactions whilst they try out the prototype, note any issues that arise, and assess the effectiveness of the interface. In-Person Usability Testing is highly relevant in the testing phase because this method allows for the collection of in-depth feedback directly from users, meaning the results can serve as the basis for improving and refining the application design (Purwitasari and Ramadhan, 2023).

No	Question	Answer
		to materials, and limited dissemination of information regarding Madrasah activities.
5	What are your expectations regarding the system that is to be developed?	Providing easier access to learning materials and more flexible information for pupils and teachers. Making it easier for pupils and teachers to assess learning.

2. Results of Interviews with School Administrators

In addition to pupils and teachers, interviews were also conducted with school administrators responsible for information management. The results are shown in Table 2.

**RESULTS AND DISCUSSION**

The results and evaluation of the development of an e-module on habit formation using the design thinking method are as follows:

**4.1 Empathize**

The empathize phase aims to identify user’s needs, constraints and expectations regarding the development of e-modules for habit formation at MA Taqwiyyatul Wathon. During this phase, face-to-face interviews were conducted with three main user groups: students, teachers and administrators.

1. Results of Interviews with Students and Teachers

Based on the interview results, the information obtained is shown in Table 1.

Table 1. Results of Interviews with Students and Teachers

No	Question	Answer
1	How has the current learning system been working?	The learning system is still face-to-face, using printed books.
2	How have the training sessions and assignments been going so far?	The exercises consist of worksheets and oral memorisation.
3	How long does it take students to complete a lesson and the accompanying exercises?	It usually takes 2–3 days to complete, and students often procrastinate because there are no automatic reminders.
4	What challenges do students and teachers face?	The lack of flexible learning resources for pupils, limited access

Table 2. Result of Interviews with Admin

No	Question	Answer
1	How has the information regarding ongoing activities been managed so far?	Information is still communicated manually via noticeboards and WhatsApp groups.
2	How has the training been organised so far?	The exercises are handed over to the subject teachers; the admin simply facilitates the storage of the document files.
3	How are the reading modules managed for teachers and students?	The modules are still in the form of printed books, and there is no digital file storage available.
4	How has the schedule for learning activities been managed so far?	The timetable is drawn up manually in Excel, and sudden changes often occur without prior notice.
5	What are your expectations regarding the system that is to be developed?	An integrated system for scheduling, digital modules, training and faster information distribution.

Based on the interview results presented in Table 1 and Table 2, it can be concluded that the empathize process in this study was conducted using a face-to-face interview approach. The respondents consisted of 15 students representing three grade levels (10th, 11th, and 12th grade), 5 teachers, and 1 administrator. From the data obtained, it was found that students still face limitations in accessing learning materials, while teachers require digital tools to deliver content and monitor exercises and assignments more effectively. Meanwhile, the administrator requires an integrated system to manage schedules and module distribution. The results of this empathize phase serve as a crucial foundation for formulating the core problem in the subsequent (define) phase, ensuring that the development of the e-module for habit formation can truly address the real needs of users at MA Taqwiyyatul Wathon.

#### 4.2 Define

The purpose of this 'define' stage is to formulate the core of the problem. Based on the results of interviews conducted during the 'empathise' stage, the researcher identified a number of problems faced by students, teachers and administrators at MA Taqwiyyatul Wathon. It is evident that the problems lie in the limited availability of digital resources and the difficulty in monitoring the learning process. Given these circumstances, the problems faced by the researcher are that students require learning materials that are more flexible and accessible without restrictions on time or location. Teachers require digital tools that can facilitate the monitoring and evaluation of students' learning outcomes. Furthermore, administrators require a system that can streamline their work in managing data, timetables, daily information, the distribution of modules, and students' learning outcomes.

#### 4.3 Ideate

After analyzing all of the issues that students, instructors, and administrators faced throughout the MA Taqwiyyatul Wathon, the next stage was to collect numerous ideas that may later be transformed into solutions. The ideation phase is critical in developing solutions to user problems because it demands researchers to think creatively, have an open mind, and avoid limiting the possibilities of new ideas. During the brainstorming process, numerous alternative

solutions were explored based on their ease of use, applicability, and efficacy in overcoming current obstacles. Based on the findings, it was determined that these challenges may be overcome by designing an e-module habit-forming application. This program is intended to give students with a flexible learning environment, support teachers in monitoring and analyzing students' habit-forming processes, and simplify the administrator's management of data, scheduling, material distribution, and daily information. As a result, the e-module habit-forming application is expected to be a viable digital solution.

#### 4.4 Prototype

This prototyping stage is an extension of the ideation stage. The two types of prototype used in this stage are Low-Fidelity prototype (Lo-Fi) and High-Fidelity Prototyping (Hi-Fi). The Low-Fidelity Prototype, which focuses on the user interface's functionality and layout, is the initial stage of the interface design process. This form of prototype is typically made as a simple wireframe that illustrates how the application's pages interact and how its components are grouped, as shown in Figure 2.

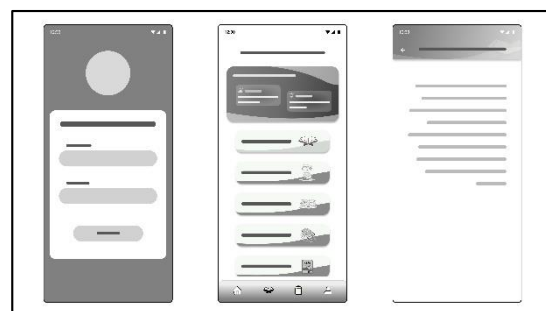


Figure 2. Wireframe

Before moving on to the more intricate visual design stage (High-Fidelity Prototype), the application's original concept is depicted in the wireframe in the above figure. The first wireframe shows a straightforward login interface. It is made up of a few simple components, like the logo at the top, followed by a few block visuals that stand in for the login button and input fields. The second wireframe shows the main menu, which is arranged vertically with a content block in the middle and menu icons at the bottom that represent the app's primary navigation. The third wireframe, on the other hand, shows a simplified prayer reading

page with a single major section made up of long lines that reflect the reading's content.

The design process advances to the High-Fidelity Prototype (Hi-fi) stage following the creation of an initial application design in the form of a wireframe in the Low-Fidelity Prototype. The process of improving the design to make it appear more realistic is known as the High-Fidelity Prototype. As seen in the Login menu design in Figure 3, the application's interface is currently meticulously developed, including the use of colors, icons, and layout.



Figure 3. Login Menu

The login page's layout is straightforward and easy to use. It has a white login section with a greeting, input fields, and a "Login" button on a green background with the madrasah's logo. The goal of this design is to make the program easy for users to log in to, look good, and be visually appealing. As illustrated in Figure 4, the user is taken to the Main Menu page after successfully logging in.



Figure 4. Main Menu (Student)

The primary student menu page has a simple, user-friendly design with a green color scheme. The daily prayer schedule appears at the top, so kids can clearly see who is leading the prayers and which class is on duty. Each menu item is represented by a separate icon, making it easy to distinguish. The bottom navigation bar also helps students to quickly browse between pages, making the experience more user-friendly and practical. Students can access the Daily Readings menu, which includes a variety of prayers, through the Main Menu page. The image below represents an example of a prayer from the Daily Readings option.

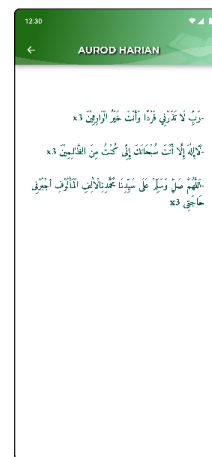


Figure 5. Reading Menu

The reading page is simply designed to provide a comfortable reading experience. The prayer text is provided with legible typeface and appropriate line spacing. The clean background and top-mounted back button provide a relaxing reading experience while also making navigation easier. After presenting and explaining the Reading page, the following image depicts the Exercises page. This page can be accessed again from the main menu, and students utilize it to perform exercises related to the information they have learned.

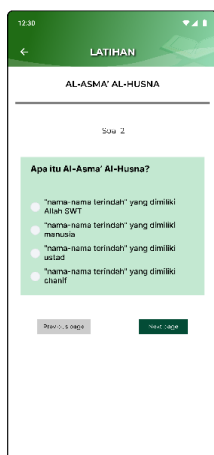


Figure 6. Assignment Menu (Student)

On the practice page, each question is clearly displayed with responsive answer options. The soft color scheme is easy on the eyes, whilst the ‘Previous page’ and ‘Next page’ buttons allow for smooth navigation between questions. Once students have completed the practice questions, the system automatically displays the Practice Results page; this can be seen in Figure 7.



Figure 7. Assignment Grade Menu (Student)

The activity results page has been created to be basic and straightforward so that students may quickly evaluate their learning outcomes. Each exercise is displayed in a list, with the score on the right side, making it simple to monitor learning progress. The usage of icons and the color green produces a pleasant impression and encourages pupils to keep improving their grades. Not only students, but also teachers, can monitor exercise results using the 'Grade Data' menu, as illustrated in Figure 8.

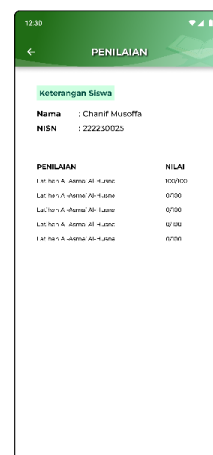


Figure 8. Grade Data Menu (Teacher)

The design of the Grades page for teachers focuses on ease of access and clarity of information. The design displays the student’s details at the top so that teachers can immediately recognise the data shown, followed by a neatly organised assessment table to facilitate the evaluation of exercise results.

#### 4.5 Testing

The testing phase is the final stage of the design thinking method, which aims to evaluate the feasibility and usability of the habituation e-module application. This testing is conducted on a High-Fidelity Prototype (Hi-fi) to obtain direct feedback from users and identify potential design issues before the application is further developed. This testing uses the In-Person Usability Testing method with an instrument in the form of a Likert-scale questionnaire (1-5) to measure user satisfaction and usability, as well as obtain a real picture of the user experience.

Each question in the questionnaire measures usability, display clarity, navigation efficiency, and user satisfaction. This questionnaire was specifically designed to address the roles of each user: students, teachers, and administrators. Therefore, the test results are expected to reflect the needs of each user at MA Taqwiyyatul Wathon. To provide a more specific overview, the following is a list of usability testing questions given to each user, starting with the questions for students, as presented in Table 3.

Table 3. Usability Testing Questions for Students

No	Question	Scale
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1	Is the login process easy and straightforward for you?	1 s/d 5
2	Is the main menu layout easy to understand?	1 s/d 5
3	Can you find the reading easily?	1 s/d 5
4	Is the text easy to read (font, size, colour)?	1 s/d 5
5	Is the daily information presented clearly and in an easy-to-understand way?	1 s/d 5
6	Is the process of working through the practice questions clear from start to finish?	1 s/d 5
7	Is the layout of the practice questions easy to read?	1 s/d 5
8	Does the feedback displayed after completing a question help you understand your score or progress?	1 s/d 5
9	Is the navigation to each menu easy to access?	1 s/d 5
10	Overall, do you feel that this app helps you in your studies?	1 s/d 5

In addition to students, usability testing was also conducted on teachers. The list of questions given to teachers is presented in Table 4.

Table 4. Usability Testing Question for Teacher

No	Question	Scale
1	Is the login process quick and easy?	1 s/d 5
2	Is the main menu layout easy to understand?	1 s/d 5
3	Can you find the reading easily?	1 s/d 5
4	Is the text easy to read (font, size, colour)?	1 s/d 5
5	Is the daily information presented clearly and in an easy-to-understand way?	1 s/d 5
6	Can you easily find students grades?	1 s/d 5
7	Are the students marks presented clearly and are they easy to analyse?	1 s/d 5
8	Do you feel that the grading feature already meets your needs for assessing students?	1 s/d 5
9	Does the menu structure make it easy for you to access all the features?	1 s/d 5
10	Do you think this app could help you in your role as a teacher?	1 s/d 5

In addition to students and teachers, usability testing was conducted on

administrators. Table 5 shows the set of questions given to the administrators.

Table 5. Usability Testing Question for Admin

No	Question	Scale
1	Is the login process quick and easy?	1 s/d 5
2	Does the dashboard layout make it easy for you to access the data management features?	1 s/d 5
3	Is the process of adding or editing readings straightforward?	1 s/d 5
4	Is it easy to manage the daily schedule (prayer rota, prayer leaders, activities) without any confusion?	1 s/d 5
5	Is the interface for adding or editing practice questions easy to understand?	1 s/d 5
6	Are the student and teacher data management features user-friendly and straightforward?	1 s/d 5
7	Is alumni data management handled efficiently?	1 s/d 5
8	Does the system provide confirmation or a notification when data has been successfully saved or edited?	1 s/d 5
9	In your opinion, is the menu structure and navigation efficient for day-to-day administrative tasks?	1 s/d 5
10	Does this app help you manage your data without any significant issues?	1 s/d 5

Once all respondents had completed the questionnaire, test results were obtained from three user groups: students, teachers and administrators. The total number of respondents in this Usability Testing phase comprised 15 students, 5 teachers and 1 administrator, representing the primary users of the MA Taqwiyyatul Wathon e-module familiarisation application. Each respondent provided a rating based on the ten questions in the previous table using a Likert scale (1–5). The scores for each question in the questionnaire were then averaged to obtain the final test results for each user. Next, the average score was multiplied by 2 to obtain a Usability Score, which was then used to determine the application’s usability rating. The Usability Score results were interpreted according to the assessment categories as shown in Table 6.

Table 6. Grade Score Usability Testing

Usability Score	Grade	Category
> 80,3	A	Excellent
> 70 - 80,3	B	Good
> 65 - 70	C	Fair/Ok
51 - 65	D	Poor
< 51	E	Awful

Based on the results of tests conducted on 15 students, 5 teachers and 1 administrator, the average scores for each user are shown in Table 7.

Table 7. Usability Testing Result

User	Number of Respondent	Avg. Score	Usability Score	Category
Student	15	45,8	91,7	Excellent
Teacher	5	48,6	97,2	Excellent
Admin	1	45	90	Excellent

Table 7 shows that all users had a Usability Score of 90 or better, putting them in the 'Excellent' category. Teachers scored the highest (97.2), followed by students (91.7) and administrators (90). These findings indicate that the e-module familiarisation tool is easy to use and has a clear interface. Overall, this tool is incredibly user-friendly and requires more development.

## CONCLUSION

Based on the results of the research conducted, it can be concluded that the e-module familiarisation application at MA Taqwiyyatul Wathon has successfully served as an effective solution for students, teachers and administrators. This application provides a flexible learning platform for students, assists teachers in monitoring and evaluating the familiarisation process, and facilitates administrators in managing data, timetables and the distribution of daily information. Testing results using the In-Person Usability Testing method showed that the application achieved a usability score of 91.7 for students, 97.2 for teachers, and 90 for administrators, falling into the "Excellent" category. This demonstrates that the e-module application is easy to use, has a clear interface, and provides a good user experience, making it suitable for implementation as a tool to support learning activities at the school. Future development plans include creating e-modules for other

subjects such as mathematics, languages, economics, and others. Future development of e-modules could focus on the content, allowing for the inclusion of interactive video materials to support students learning. The school's academic system could also be developed to integrate all existing e-modules, thereby bringing them fully together within a single digital learning ecosystem.

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## REFERENCES

- Alfarabi, S. and Faisal, M. (2024) 'Perancangan UI/UX Pada Aplikasi Berbasis Mobile TravelTrails Menggunakan Metode Design Thinking', *Jurnal Rekayasa Perangkat Lunak (Reputasi)*, 5(1), pp. 69–76. Available at: <https://doi.org/https://doi.org/10.31294/reputasi.v5i1.3439>.
- Ashiddiq, M.N. *et al.* (2024) 'Perancangan UI/UX Learning Management System (LMS) Aplikasi Mobile Edu-Learn Menggunakan Metode Design Thinking', *Jurnal Informatika dan Teknik Elektro Terapan (JITET)*, 12(1), pp. 229–245. Available at: <https://doi.org/https://doi.org/10.23960/jit.et.v12i1.3693>.
- Branson, S. (2020) *UX/UI Design Introduction Guide To Intuitive Design and User-Friendly Experience*. Amazon's Kindle Direct Publishing.
- Chairunnisa, A.A., Widodo, S. and Majid, N.W.A. (2024) 'Perancangan Desain UI/UX Sistem E-Learning Menggunakan Metode Design Thinking', *Journal of Information System Management (JOISM)*, 6(1), pp. 1–9. Available at: <https://doi.org/https://doi.org/10.24076/joism.2024v6i1.1632>.
- Damayanti, I.D., Firdaus, A. and Indah, D.R. (2023) 'Penerapan Metode Design Thinking Pada Pengembangan Knowledge Management System

- Pembelajaran SMA', *Jurnal Teknik Informatika dan Sistem Informasi*, 9(3), pp. 313–325. Available at: <https://doi.org/https://doi.org/10.28932/jutisi.v9i3.6138>.
- Deacon, P.B. (2020) *UX and UI Strategy A Step by step Guide on UX and UI design*. Amazon's Kindle Direct Publishing.
- Fajar *et al.* (2025) 'Penerapan Metode Design Thinking Dalam Perancangan UI/UX Aplikasi Manajemen Keuangan', *Jurnal Teknologi Dan Sistem Informasi Bisnis*, 7(2), pp. 327–333. Available at: <https://doi.org/https://doi.org/10.47233/jteksis.v7i2.1931>.
- Junitasari, R. and A, I.K. (2024) 'Implementasi Design Thinking pada Desain UI/UX Aplikasi Donasi Berbasis Konser Amal untuk Meningkatkan Partisipasi Publik', *Jurnal Pendidikan dan Teknologi Indonesia (JPTI)*, 4(7), pp. 285–298. Available at: <https://doi.org/https://doi.org/10.52436/1.jpti.517>.
- Nadhif, A.K. *et al.* (2021) 'Perancangan UI/UX Aplikasi Penjualan Dengan Pendekatan Design Thinking', *Jurnal Ilmiah IT CIDA*, 7(1), pp. 44–55. Available at: <https://doi.org/https://doi.org/10.55635/jic.v7i1.146>.
- Purwitasari, R.W. and Ramadhan, N.G. (2023) 'Evaluasi User Experience pada Website Posyandu Menggunakan Metode In-Person Usability Testing dan User Experience Questionnaire (UEQ)', *Jurnal Ilmiah IT CIDA*, 9(2), pp. 62–72. Available at: <https://doi.org/https://doi.org/10.55635/jic.v9i2.190>.
- Putri, D.A.S. and Nugroho, A. (2025) 'Implementasi Metode Design Thinking dalam Perancangan UI/UX Website Bellina Studio', *Jurnal Sistem Informasi (SISTEMASI)*, 14(4), pp. 1681–1697. Available at: <https://doi.org/https://doi.org/10.32520/stmsi.v14i4.5265>.
- Ratri, A.Y. *et al.* (2024) 'Pengembangan Modul Berbasis Engineering Design Process (EDP) dalam Meningkatkan Keterampilan Berpikir Kreatif Siswa SMP Pada Pembelajaran IPA', *Jurnal Sains dan Edukasi Sains*, 7(2), pp. 105–111. Available at: <https://doi.org/https://doi.org/10.24246/jus.v7i2p105-111>.
- Reza, A. *et al.* (2024) 'Perancangan UI/UX Aplikasi Tanify Berbasis Mobile Menggunakan Metode Design Thinking', *Jurnal Ilmu Komputer dan Sistem Informasi (JIKOMSI)*, 7(1), pp. 273–285. Available at: <https://doi.org/https://doi.org/10.55338/jikoms.v7i1.2933>.
- Rubin, J. and Chisnell, D. (2008) *Handbook of Usability Testing: How to Plan, Design, and Conduct Effective Tests*. 2nd edn. Indianapolis, Indiana: Wiley Publishing.
- Rusydi, M.H. and Nuryasin, I. (2024) 'Perancangan Ui/Ux Aplikasi Hidup Sehat Berbasis Mobile Menggunakan Metode Design Thinking', *Journal Of Information Systems And Informatics Engineering*, 8(1), pp. 54–64. Available at: <https://doi.org/https://doi.org/10.35145/joisie.v8i1.4168>.
- Saddyah, T.M. and Saragih, S.P. (2024) 'Perancangan UI/UX Delivery Mobile App Dengan Metode Design Thinking Dan Usability Scale', *Computer Based Information System Journal (CBIS)*, 12(1), pp. 39–51. Available at: <https://doi.org/https://doi.org/10.33884/cbis.v12i1.8242>.
- Sinaga, L.G. and Johan, M.C. (2024) 'Perancangan Design Order Management System Berbasis Web dengan Metode Design Thinking', *Jurnal Teknik Informatika dan Sistem Informasi*, 10(2), pp. 215–228. Available at: <https://doi.org/https://doi.org/10.28932/jutisi.v10i2.8282>.
- Zazhemi, N. and Marcos, H. (2025) 'Penerapan Metode Design Thinking untuk Perancangan UI/UX Aplikasi GhosyDonat dalam Meningkatkan Keterlibatan Pengguna', *Jurnal Media Informatika [JUMIN]*, 6(2), pp. 1380–1387. Available at: <https://doi.org/https://badge.dimensions.ai/details/doi/10.55338/jumin.v6i2.5319?domain=https://ejournal.sisfokomtek.org>.