PREFACE

The SIG CS@e-Learning committee sincerely appreciates the dedication and contributions of the educators from Jabatan Sains Komputer & Matematik (JSKM), UiTM Penang Branch, in bringing the 9th edition to fruition. This edition received 30 scholarly articles, all of which met the required criteria and were accepted. Authors are encouraged to further refine their research with additional insights and discussions for potential publication in high-impact journals indexed by SCOPUS, WOS, or ERA.

The theme for the ninth volume, "Beyond Boundaries: The Multidimensional Horizons of E-Learning," reflects the continuous evolution of digital learning. Over the past few decades, e-learning has proven to be a transformative force in education, demonstrating exceptional adaptability and effectiveness. The widespread use of mobile technology has expanded its reach, making e-learning an essential component not only in higher education and vocational training but also in primary and secondary education. Emerging trends such as artificial intelligence (AI), micro-credentials, big data, virtual and augmented reality, blended learning, cloud-based platforms, gamification, mobile learning, the Internet of Things (IoT), and online video are reshaping the digital learning landscape.

SIG CS@e-Learning remains dedicated to fostering academic excellence through impactful publications. With continuous commitment and innovation, we aspire for JSKM to attain recognition in esteemed academic journals, further advancing the frontiers of e-learning.

Ts. Jamal Othman
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INNOVATIVE APPLICATION DEVELOPMENT: E-HISTORY APPLICATION FOR STPM CANDIDATES

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ABSTRACT

The term "e-learning approach" refers to one type of formal education that uses electronic devices such as computers and smartphones. One of the most challenging subjects is history, which is still taught in schools using the conventional approach that requires students to study textbooks and modules. To accomplish this purpose, this study addressed a number of issue statements, such as the usage of formal vocabulary and sophisticated terminology, classroom boredom, and a lack of instructional tools. To address those issues, this E-History application was created especially for Form 6 students. Additionally, this e-history application can offer history teachers professional development opportunities that keep them abreast of the most recent findings in the area as well as innovative teaching techniques. To address those issues, the E-History application was created especially for Form 6 pupils. Additionally, this e-history application can offer history teachers professional development opportunities that keep them abreast of the most recent findings in the area as well as innovative teaching techniques. This application's primary goal is to create a comprehensive and user-friendly learning environment centered around historical subjects. Feedback from STPM History teachers and candidates from SMK Haji Ahmad Badawi was gathered through surveys, research, and interviews.

Keywords: eLearning, ADDIE model, history subject, application

Introduction

Electronic learning, or e-learning, is a teaching methodology that uses digital resources and technological innovations to make learning and knowledge acquisition easier. E-learning is the umbrella term for any educational initiatives that employ electronic technology to facilitate them. These initiatives can be implemented online or in conventional classroom settings (Coman et al., 2020; Rahayu & Wirza, 2020). E-learning is the use of electronic technologies to deliver educational content and activities. E-learning is frequently used to refer to a variety of different forms of digital learning, including online and virtual education (Alebeisat et al., 2022). E-learning is considered as the acquisition of knowledge in an electronic form using personal computers, smartphones, tablets (Bakanova & Javorcikova, 2020). Learners can gain numerous benefits from elearning, including customization, flexibility, simplicity, accessibility, and interaction. hand."

Technology is very important in e-learning because the letter "e" stands for "electronics." The learning activities are designed, delivered, and supported by software and technologies. One example that is frequently utilized in daily life, whether at home, at school, or at work, is mobile devices. Technology enables gamification, AI, mobile learning, and adaptive learning. As more sophisticated technologies are developed, more individuals are utilizing mobile devices in their daily lives. E-learning allows for personalized learning. Students can work and learn at their own speed using smartphones. E-learning is anticipated to increase learning effectiveness by enhancing the conventional teaching approach and provide a means of optimizing learning results (Najuah & Ricu Sidik, 2021).

The current practice of learning history subject is using textbooks provided by the Malaysian government, which is the standard procedure. One of the greatest advantages of using textbooks is that they are psychologically necessary for students because their growth and accomplishment can be tracked concretely when they are being used (Hycroft, 1998). However, textbooks can be challenging to understand, especially for those who are not enthusiastic readers. Besides that, it is lengthy and the explanations in the textbook make history tedious, leading to disinterest among students. The shortage of time forces the teachers to speed up the lesson in class, leaving little room for in-depth explanation or student engagement.

The use of formal language and complex vocabulary in the materials presents challenges for STPM pupils. The student struggles to visualize historical events. Students mostly study the past to pass tests because most institutions still use antiquated teaching methods. They can have a harder time understanding what happened as a result. Students may find it difficult to visualize the individuals and events being described in history books that are mostly text-based unless they are accompanied by visual aids such as maps, diagrams, or photographs. People may so struggle to visualize the historical events they have studied. Students may become bored with traditional history textbooks due to their extensive content and lack of visual assistance.

Therefore, e-History Mobile Application for STPM candidates will be developed to provide great possibilities and opportunities for students to be interested in the subject of History. This E-History program was created specifically for the STPM History course, with an emphasis on the first semester. To make history classes more interesting and fun, it includes an exam and exercises. The history form 6 semester 1 syllabus covers four topics: society, government and administration, growth and development, and nationalism and the establishment of the nation state. By offering additional options, diversity, and interaction in the learning process, it may also increase student interest and involvement

Project Scope

The scope of this project includes the syllabus for History Form 6 Semester 1. Society, Government and Administration, Progress and Development, and Nationalism and the Formation of the Nation State

are the four topics covered in the History Form 6 Semester 1 syllabus. The goal of this application is to develop a thorough and intuitive learning environment focused on this topic. There will be exercises for each topic. There will also be an abundance of engaging exercises, such as thought maps and tests. All sixth-grade students have access to this resource, which can aid in enhancing their historical understanding. Additionally, educators can use this program to gain access to extra resources for their classroom instruction.

Methodology

A well-defined and appropriate methodology will guide how the project is executed and reduce the chance of failure. The ADDIE Model and Cognitive Learning was chosen as the technique.

ADDIE Model

According to Holden (2015), one of the models that establishes a generic, systematic, dynamic, and adaptable instructional design approach that is commonly used in instructional design for effective learning is ADDIE. Figure 1 shows the steps in ADDIE Model.

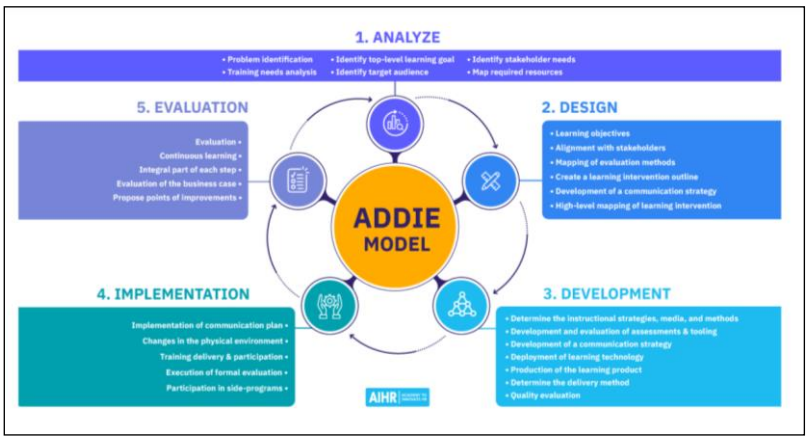

Figure 1: Steps in ADDIE Model

(Source: https://www.aihr.com/blog/addie-model/)

Analysis

The main objective is to assess the requirement for developing teaching purposes. Define the setting in the learning environment, as well as the educational requirements and objectives of the target audience. According to Adesfiana, Asturi and Enawaty (2022) there are two specific levels which is content needs analysis based on the syllabus (curriculum) and software requirements analysis (software).

Design

The objective is based on research, to create a blueprint or storyboard for the course or instructional materials. The sitemap, storyboard, wireframe, and user interface were also created before the

development stage. Figure 2 below shows the Sitemap in E-History Application. Meanwhile figure 3 show the interface design and the wireframe proposed in the application.

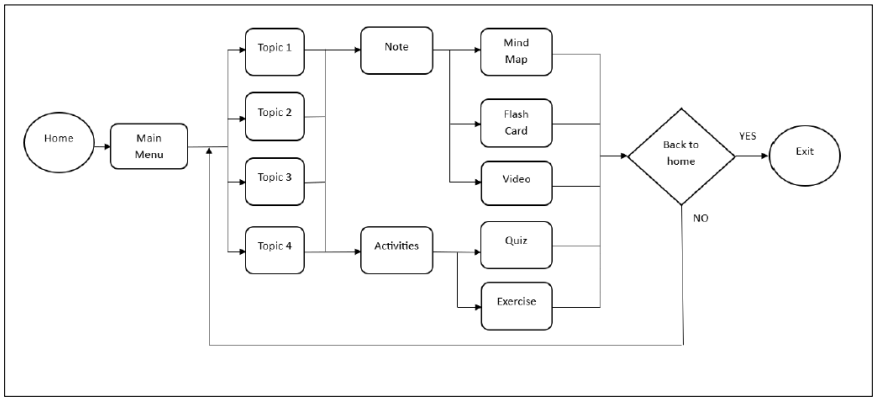

Figure 2: Sitemap in E-History Application

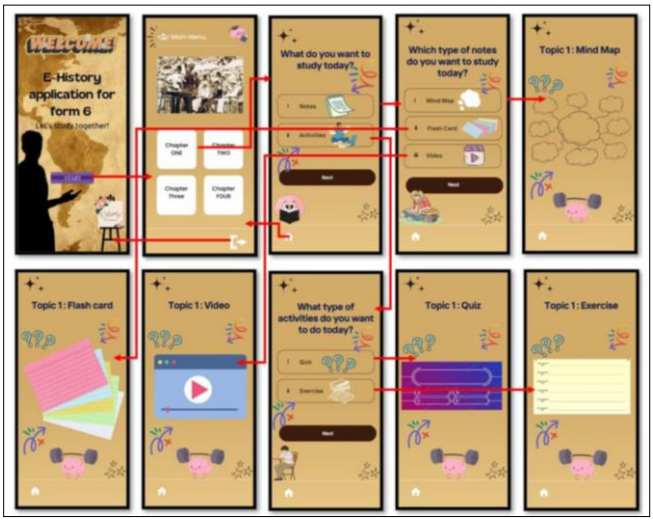

Figure 3: Interface Design and Wireframe Proposed in E-History Application

Development

According to the ADDIE model, the development phase is when the educational resources are made using the design specifications that were established in the design phase. The storyboard or prototype will serve as the project's template for creating the courses throughout this phase. The development stage concentrates on producing and refining those materials and experiences after the learning has been planned, (Downes, Andrew (2019). A digital development medium was used to convey the data acquired throughout the research and design stages. During this stage of development, the course material was changed to better accommodate user suggestions and demands. Multimedia components and computer software are combined in the design and development of e-history apps. The tools that

developers utilize throughout the development process must be identified. Table 1 and Table 2 and hardware below show the list of software used in developing the applications.

Table 1: Software used in E-History Application

No	Software Requirements	Specification
1	Adobe audition	Utilised to combine text, audio, visuals, and videos
2	Adobe animates	Used to enhance the e-learning application's interactivity and include multimedia.
3	Adobe photoshop	Used for image and graphic design editing, enhancement, and manipulation
4	Play store	To publish apps.

Table 2: Hardware used in E-History Application

No	Hardware Necessities	Specification
1	Laptop Model	Dell Inspiron 15 3515
2	Processor	AMD Ryzen 5 3500U with Radeon Vega Mobile Gfx 2.10 GHz
3	Memory (RAM)	8.00 GB
4	Hard Disk Capacity	458 GB
5	Hard Disk Capacity free	216 GB
6	Window Edition	Windows 11 21H2

Implementation

The objective is to provide the course or training programme to the learners. By providing the learning environment that attracts individuals, the learning solution is completed. When a lesson has been established and set up, it is required to be pilot tested.

Evaluation

The ADDIE model's assessment phase, which came after all other phases, required examination to ascertain whether the e-learning application had been evaluated and whether its goals had been completely achieved. Users and specialists gave input on how the e-learning program affected them at this point, as well as whether any changes were required. During this stage, a number of respondents were given a questionnaire to complete in order to get their opinions. Finding out if the aforementioned goals satisfied user demands was the aim. In accordance with the development expectations prefix, evaluation is the procedure of figuring out the likelihood that the system is learning to develop effectively. Dick, Carey, and Carey (2015) state that formative and summative evaluations are the two forms of assessment used to assess the instructional design. Summative evaluation conducted at the end of a program, project, or instructional design to assess its overall efficacy and success, whereas formative evaluation concentrated on generating quick improvements.

Conclusion

The E-History application aims to support students and educators in the learning process. This e-learning application's ability to pique students' interest in studying history is one of its main advantages. Teachers don't have to work as hard to hold their students' attention in class because of the engaging and innovative method. New and interesting learning opportunities naturally appeal to students. Students may simply access the e-learning application on their phones because it is an application. The e-learning program is a flexible and useful tool for teaching history since it covers fundamental material, such as learning historical subjects and retaining key information.

References:

Adesfiana, Z. N., Astuti, I., & Enawaty, E. (2022). Pengembangan Chatbot Berbasis Web Menggunakan Model Addie. Jurnal Khatulistiwa Informatika, 10(2). https://doi.org/10.31294/jki.v10i2.14050

Alebeisat, F., Altarawneh, H., Alhalhouli, Z. T., Qatawneh, A., & Almahasne, M. (2022). The Impact of Human and Computer Interaction on eLearning Quality. International Journal of Interactive Mobile Technologies, 16(4). https://doi.org/10.3991/ijim.v16i04.27309

Andrew Downes. (2019, December 5). ADDIE: A 5-Step Process for Effective Training & Learning Evaluation.

Bakanova, I. G., & Javorcikova, J. (2020). Features of e-learning organization in a Modern University. Vestnik of Samara State Technical University Psychological and Pedagogical Sciences, 17(4). https://doi.org/10.17673/vsgtu-pps.2020.4.1

Brayadi, B., Supriadi, S., & Manora, H. (2022). Information Processing And Cognitive Theories Of Learning. Ej, 4(2). https://doi.org/10.37092/ej.v4i2.363

Dick, W., Carey, L., & Carey, J.O. (2015). The systematic design of instruction (8th ed.). Upper Saddle River, NJ: Pearson Publishing.

Holden, J. T. (2015). An introduction to the ADDIE instructional systems design model. FGDLA (1-17). US: fgdla. us.

Hycroft, J. 1998. An Introduction to English Language Teaching. New York & London: Longman

Najuah, Ricu Sidik &P. H. (2021). Analisis Pembelajaran Sejarah Berbasis E-Learning di Sumatera Utara pada Masa Pandemi Covid-19. Buddayah*: Jurnal Pendidikan Antropologi*, 3(1), 12–23. https://doi.org/10.24114/bdh.v3i1.23420.

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