E-WELD APP 1.0

NAME & MATRIX NUMBER

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ABSTRACT

The welding industry is continually evolving, driven by the need for increased efficiency, precision, and safety. Traditional welding techniques, while effective, often fall short in providing the real-time data and analytics necessary for optimizing the welding process.

E-weld apps 1.0 developed as an educational online aid for the beginner in welding work area. This apps provide guidance in basic welding technique and presented in attractive hybrid educational method. E-weld apps 1.0 offers to newly TVET practitioners especially in welding field. The users may revise and retrieve their past achievement and understanding throughout the syllabus in an instant.

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CHAPTER 1

1.1 INTRODUCTION

E-weld applications 1.0 is an application that gives students instant access to vital information and resources via their smartphone or mobile device. This application offers students a quick and effective way to improve their skills, maintain accuracy in their activities, and optimise their productivity. With the growing popularity and advancement of technology, e-welding software have become an essential tool for students learning to weld. It provides material selection recommendations, welding technique training, and even quizzes to measure students' level of learning in the subject of welding.

1.2 BACKGROUND OF E-WELD

The welding industry is constantly evolving with the introduction of new technologies and processes that aim to improve efficiency, quality, and safety. One such advancement is the development of e-weld applications, which integrate digital tools and software to enhance various aspects of welding operations.

1.3 PROBLEM STATEMENT

- **Poor Basic Knowledge:** Students might not understand the basic concepts of welding, such as the many types of welding, the best welding method for specific materials, and the criteria that must be addressed when welding.

- **Poor Safety Awareness:** Inexperienced students may not be aware of potential safety risks during welding. This entails putting on personal protection equipment, being aware of possible risks, and following the right safety protocols.
- **Poor Practical abilities:** Students may still not understand the necessary practical abilities to correctly weld. This involves choosing the proper current and voltage, operating the welding equipment appropriately, and managing the blade with ease.

1.4 OBJECTIVE

- to help engineering students to have the easier acess to learning about welding.

- to design it more user friendly.

- to make it compactable for students to learn anytime and anywhere

1.5 SCOPE OF PROJECT

The E-WELD APP is an application made to raise students' proficiency levels in welding. Institutions of higher learning (IPT) for semester 1 to semester 3 in polytechnic mechanical engineering. The E WELD APP is user-friendly and accessible at all times. For students to answer questions more enjoyable, the E WELD APP also offers quizzes in the form of games that can access by the mobile phone or computer.

CHAPTER 2

2.1 LITERATURE REVIEW

INTRODUCTION:

The integration of digital technology into traditional industrial processes has resulted in substantial advancement in a variety of fields, including welding. The E-Welding application is a significant advance in this field, providing a digital solution for streamlining and improving the welding process. In recent years, researchers and scholars have increased their focus on researching the prospective applications of e-welding through literature research, with the goal of understanding their capabilities, limitations, and impacts on the welding industry. This literature analysis seeks to provide a complete overview of existing research on e-welding applications. By combining data from books, speakers, and online opponents, we hope to highlight major themes, trends, and areas of attention that have evolved in the field. E-welding application.

2.2 CONCEPT / THEORY OF E-WELD

Technology plays a role in the production of the project to ensure that these apps run smoothly. the E-weld apps that will be produced have many menus for students to find things they want to know about welding such as types of welding and basic knowledge about welding with quizzes or games in it.

2.2.1 THE CONCEPT OF MECHANICAL MOVEMENT

The incorporation of mechanical movements into e-welding applications is a big step forward in the discipline, especially for the presentation of proposals. Existing literature recognizes the value of interactive and immersive technologies in improving communication and understanding in technical domains such as welding. By incorporating mechanical movement capabilities into e-welding applications, academics and practitioners want to solve the constraints of traditional static presentations by providing users with a dynamic and engaging experience.

Several studies have shown the potential advantages of introducing interactive features into welding simulation and training programs. Interactive simulations, for example, allow users to modify welding parameters and see the resulting changes in real time, promoting a better understanding of welding processes and procedures. Furthermore, the ability to simulate complex welding scenarios with mechanical movements allows users to explore different methodologies and optimize their proposals for specific applications.

2.2.2 CONCEPT CANVA

Canva's philosophy is around allowing people to create visually amazing designs and images quickly and effectively, without the need for graphic design knowledge or specific software. Canva is an online platform that provides a variety of tools, templates, and resources for creating social media graphics, presentations, posters, flyers, and more.First of all, we find tamplate and layout from canva because canva provides a large collection of pre-designed templates and layouts for a variety of creative projects, such as social media posts, presentations, flyers, posters, business cards, and more. These templates serve as beginning points for users, inspiring and guiding them through their designs. Users can personalize templates to reflect their branding, tastes, and special needs, saving time and work during the design process.

Figure 2.1: Canva

2.2.3 CONCEPT POWER POINT

PowerPoint is designed to create dynamic and interesting presentations that successfully transmit ideas, facts, and statistics to an audience. PowerPoint is a sophisticated software application created by Microsoft that provides a variety of features and capabilities for planning, organizing, and delivering presentations. First of all, PowerPoint presentations are organized into slides, each including text, photos, charts, graphs, and multimedia features. The slide-based style enables presenters to divide information into small parts and present it in a structured, visually appealing manner. Next, PowerPoint has several tools for designing and customizing slides to reflect the presentation's theme or identity. Users can select from a variety of pre-designed templates, themes, and layouts or develop their own designs from scratch. Additionally, PowerPoint allows you to format text, apply colours and fonts, add animations and transitions, and incorporate multimedia elements to improve visual appeal and engagement. After that, PowerPoint allows users to build content-rich slides that effectively communicate information. Users can use text, photos, charts, graphs, tables, and other visual elements to explain crucial points and back up their statement. PowerPoint also includes tools for organizing and arranging content, such as bullet points, numbering, headers, and footers, to ensure that the presentation is clear and coherent.

Figure 2.2: PowerPoint

2.2.4 CONCEPT JORTFORM

JotForm is designed to make it easier to create, distribute, and manage online forms for a variety of applications, including surveys, registrations, order forms, and feedback gathering. JotForm is an online form builder platform with a user-friendly interface and a comprehensive set of functionalities to meet the needs of people, enterprises, organizations, and industries. JotForm provides comprehensive customization features to enable customers personalize their forms to their brand and interests. Users can personalize the appearance and feel of their forms by choosing colours, fonts, backgrounds, and adding logos or images. JotForm also allows users to customize form options such as form layout, form behaviour, and submission alerts to suit their individual requirements.

Figure 2.3: Jotform

CHAPTER 3

3.1 METHODOLOGY

INTRODUCTION:

The research methodology covers the methods, methods and approaches used to achieve the objectives and goals of the study. The methodology of the study makes the study which is conducted more systematically and the course of the study is more directed in achieve objectives. This chapter will explain the research methodology used in the study conducted. The authors have systematically designed the methodology studies and strategies used to obtain information and data through certain rules

3.2 REQUIREMENT ANALYSIS

In this phase, website developers need to analyse the needs of an application. Developer need to do some analysis on determining the objectives of website development, content lesson and identify the target group.

3.3 MARKET SURVEY/TARGET GROUP

The main target users are university students 1 to 3 for the mechanical engineering program at the polytechnic. Besides that, students from other IPTs can also use this application as a reference especially for those studying subjects related to the field of engineering. In addition, instructors can also use this application as an alternative or as an aid in teaching topics related to welding. With the availability of this application, the load on the teaching staff can be reduced and the p&p process can be done smoothly and effectively. Finally, the general public can use this website as a reference especially for groups involved in the field of welding.
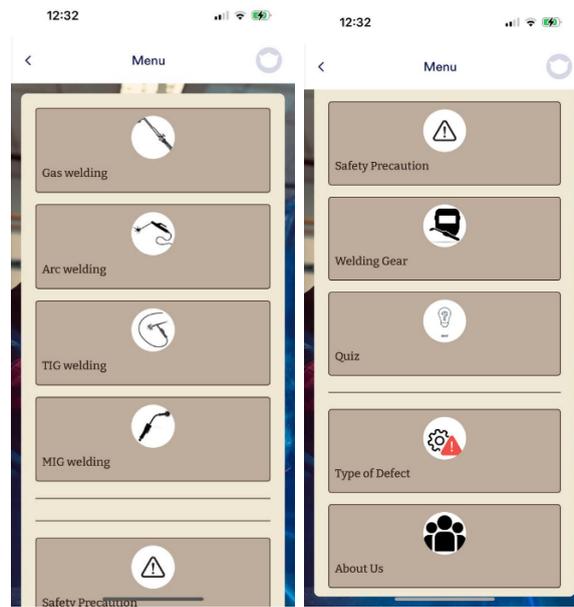
3.4 APPLICATION IN GENERAL

Figure 3.1: Home page

This application provides 9 menu options that can be accessed by the user. Users are free to choose the menu they want.

3.5 USER FLOW
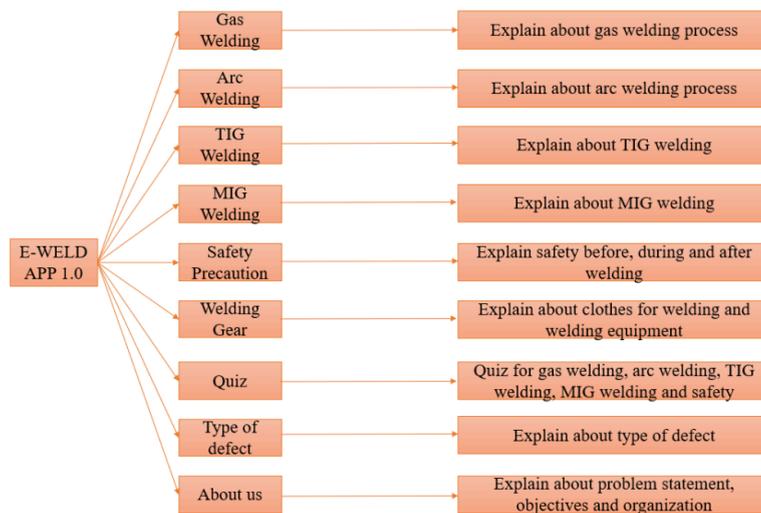
Figure 3.2: User flow

3.6 MATERIAL / SOFTWARE SELECTION

CANVA

POWER POINT

JOTFORM

3.7 COMPONENT COSTING

POWERPOINT (life-time subscription)	FOC
PREMIUM JOTFORM SOFTWARE (3 months subscription)	RM185.70
CANVA TEMPLATE (life-time subscription)	RM10.00
POWERPOINT (life-time subscription)	FOC
MICROSOFT WORDS (life-time subscription)	FOC
TOTAL	RM195.70

3.8 GANTT CHART

PROJECT 1

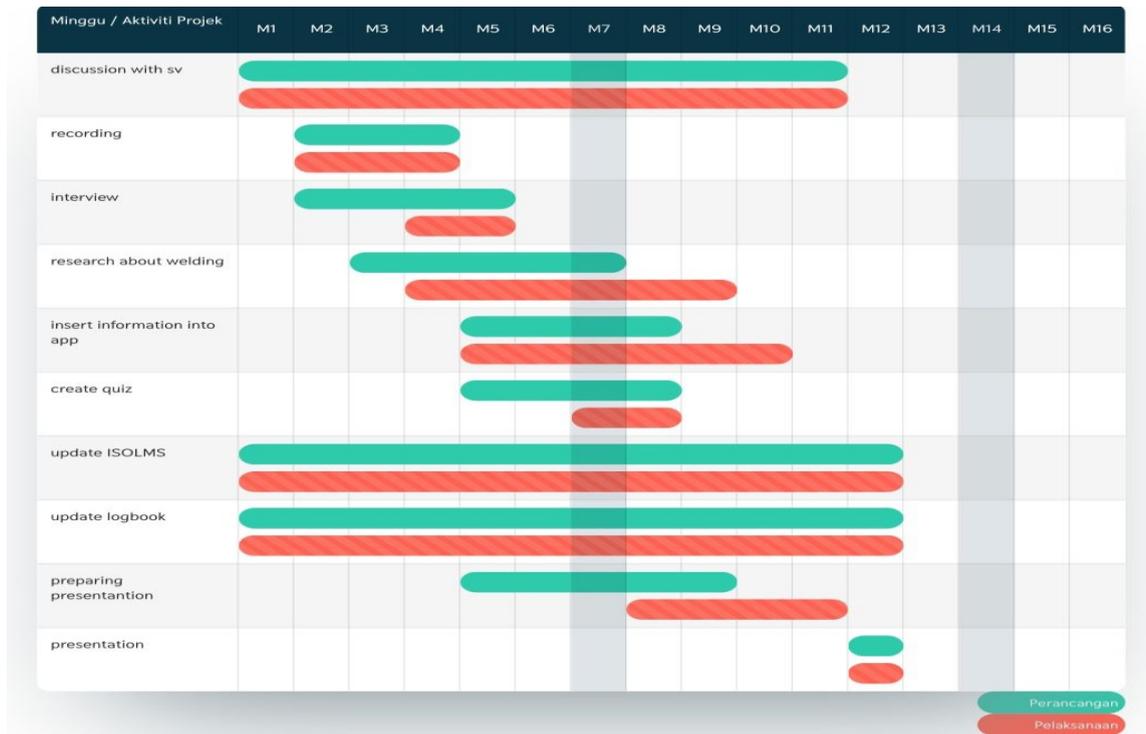| Minggu / Aktiviti Projek	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16
discussion with sv																
recording																
interview																
research about welding																
insert information into app																
create quiz																
update ISOLMS																
update logbook																
preparing presentantion																
presentation																

Perancangan
Pelaksanaan
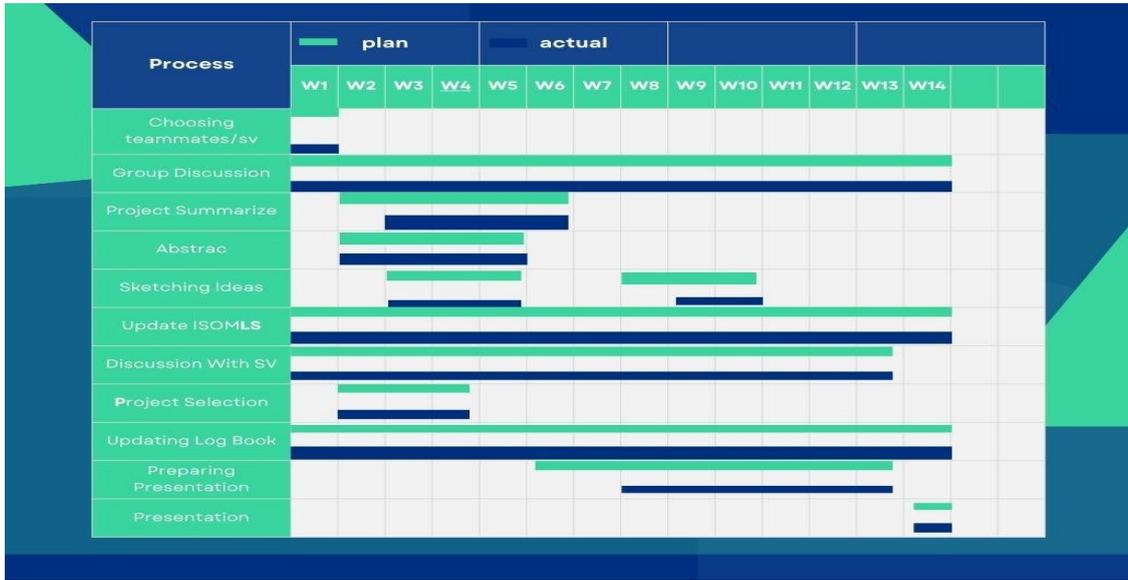
PROJECT 2

3.9 WORKING PROCEDURES

| ACTIVITES	DESCRIPTION
	Watch as Faiz skillfully performs MIG welding, expertly fusing metal pieces together with precision and care

|	
	We have recorded Sir Salleh as he demonstrates TIG welding, showcasing his expertise and technique for our video project.
	Danish is seen here performing arc welding, demonstrating his skills and techniques for our video project.
	Zainal is seen here performing gas welding, demonstrating his skills and techniques for our video project.
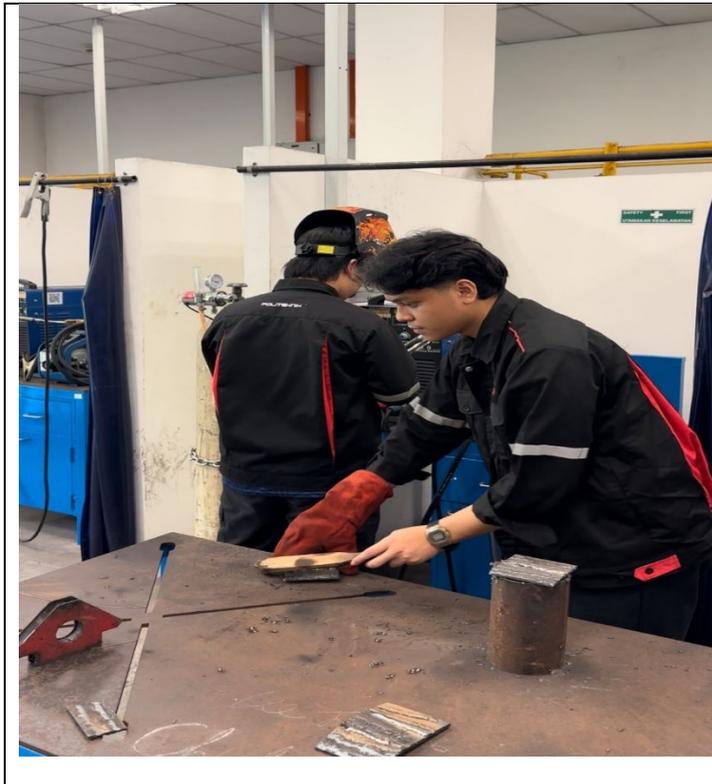
After completing their welding tasks, Faiz and Zainal took the time to clean up their workspace, ensuring everything is organized and safe for future projects

CHAPTER 4

4.1 DESIGN

Based on our project, we made some differences from existing products to make it used more efficiently. We have added more functions to our project, such as interesting quizzes and effects on our app that do not only have information about welding. In the picture below we can see what is on our apps to make it easier for people to choose each type of welding, safety precaution, quizzes and also an introduction about ourselves who created this app.
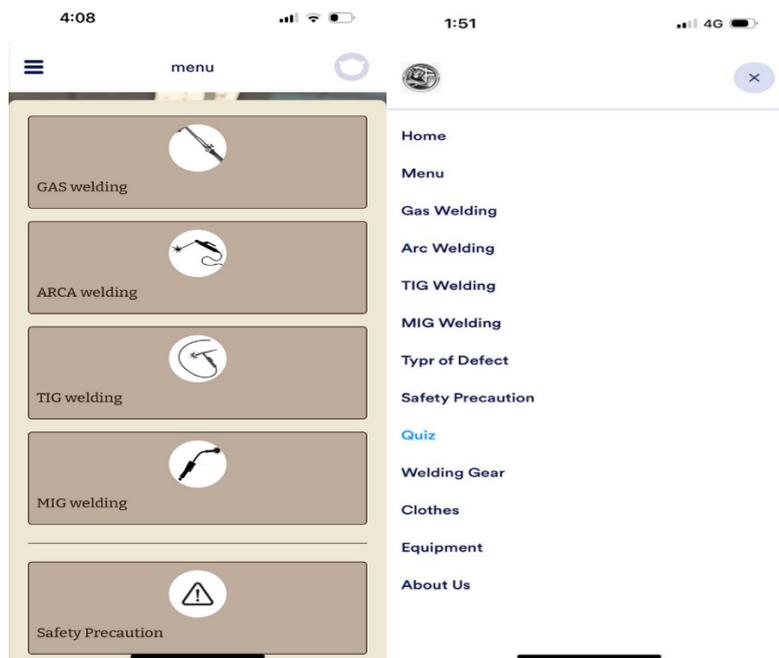
4.2 BILL OF MATERIALS

No.	Component	Price(per unit)	Total price
1	Jotform	RM 170.08	RM340.16
2	Canva	RM 30	RM 30
3	PowerPoint	FOC	RM 0
		TOTAL	RM 370.16

All these software have their own costs. The following table below is the price list of each software :

CHAPTER 5

5.1 CONCLUSION

The development of E-Weld Apps 1.0 represents a big step forward in technology-based support for welders. The software efficiently integrates necessary capabilities for project management, safety, and education, making it an invaluable resource for professionals, amateurs, and students alike. E-Weld Apps 1.0 has the ability to improve welding project planning and execution by increasing efficiency and improving safety procedures.

The user-friendly design, extensive functionality, and instructional materials all contribute to its efficacy. Overall, E-Weld Apps 1.0 is poised to become a vital tool in the welding community, assisting users in producing higher-quality results in their job.

5.2 IMPROVEMENT AND SUGGESTION

User Experience Enhancements

- **Feedback Mechanism**: Implement an easy-to-use feedback feature within the app for users to report issues and suggest improvements directly.

Educational Resources

- **Expanded Tutorial Library**: Increase the range of tutorials and videos covering advanced techniques, troubleshooting, and safety practices.
- **Certification Programs**: Partner with educational institutions to offer certification programs through the app, providing users with official credentials upon completion.

Safety Features

- **Incident Reporting Tool**: Add a feature for users to report safety incidents or near misses, fostering a culture of safety awareness.
- **Regular Safety Updates**: Provide push notifications for safety tips and reminders, keeping safety at the forefront of users' minds.

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JABATAN KEJURUTERAAN MEKANIKAL

JADUAL AGIHAN TUGASAN INDIVIDU KUMPULAN PROJEK

TAJUK PROJEK: E-WELD APPS 1.0

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Pengesahan Penyelia Projek :

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