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Goal-Directed Design in User Interface Design: A Case Study of the Tax Corner Polije Website

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ABSTRACT

Tax procedures are often considered difficult, demanding much documentation and a robust comprehension of continually evolving legislation. This situation makes it difficult for taxpayers on campus and in the neighborhood to calculate taxes, obtain information, and independently report their tax responsibilities. But in addition to focusing on technology, tax websites must also be able to assist users in reaching their objectives. Goal-Directed Design (GDD) places a strong emphasis on having a thorough grasp of user goals so that the solutions developed not only complete administrative chores but also comprehend the wants, goals, and behaviors of the users. GDD helps create designs that focus on what users really want by analyzing different situations, planning how users will interact, creating user profiles, and gathering user data. We tested the interface using the System Usability Scale (SUS) and received a score of 90.38%, indicating an exceptional level of usability.

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1. INTRODUCTION

The advancement of digital transformation requires organizations to strive for services that are rapid, transparent, and simple to use for the general public. Tax services are one sector that needs digital innovation. Tax Center (TC) is a tax service at a university whose job is to provide tax education and assistance in filling out taxpayers' SPTs and other tax services [1]. TC at Jember State Polytechnic is one of the SPT handling help services, and it is an extension of the tax programs implemented by the Directorate General of Taxation and the Jember Pratama Tax Office [2]. Tax procedures are often perceived as complicated, requiring a lot of paperwork and a strong understanding of the changing rules [3]. This situation makes it difficult for taxpayers on campus and in the surrounding community to access information, calculate their taxes, and report their tax obligations independently. Furthermore, they do not receive adequate educational support regarding taxes, which leads to a lack of optimal tax compliance.

However, designing a tax website should not only focus on technological issues but also assist users in achieving their objectives in an effective, efficient, and simple manner [4]. Many digital tax services are underutilized due to poor user interface design, complex interaction processes, or non-intuitive data display. The Polije Tax Corner website, which serves as a resource for tax information and advice, was designed to promote public education and tax compliance on campus and in the community[5]. Politeknik Negeri Jember (Polije) is a vocational campus that includes a tax center providing tax services. Currently, the administrators of the Polije tax center require a website accessible to the public, academic staff (lecturers), and personnel involved in research and community service who need to submit tax reports such as SPT, prepare financial reports for research and community service activities, and access other tax-related services.

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To solve these problems, the goal-oriented design (GDD) method was implemented throughout the design process [6]. GDD stresses a thorough understanding of user objectives, ensuring that the solutions created not only do administrative chores but also comprehend their goals, behaviors, and wants [7]. GDD assists in the creation of designs that are directed toward the primary user objectives through the stages of user data collecting, persona development, scenario analysis, and interaction flow design [8-9]. These services include information center services, tax consultations, annual tax filing assistance, financial reporting, campus-based research and community service activities, and other services suited to community requirements.

Goal-directed design is essential to ensure that the website being designed is understandable to users [10]. Goal-directed design can enable a faster and more effective user flow for performing tax activities. It can help reduce input errors and misconceptions by providing a clearer, goal-oriented display. GDD can also improve the quality of tax services by providing a more intuitive and personalized user experience.

The strategic initiative included creating the Polije tax corner website, carefully designed to offer useful digital services that help users meet their tax responsibilities and improve their understanding, which encourages tax compliance in the community and on campus.

2. METHODE

This research uses the GDD method with six stages, including research, modeling, requirement definition, framework definition, refinement, and support, as shown in Figure 1. The GDD method is a technique developed by Alan Cooper that focuses on interface design to identify user goals and behaviors [11]. This research involved creating a model that uses user personas to identify needs, ensuring the application being designed is usable and meets those needs [12][13].

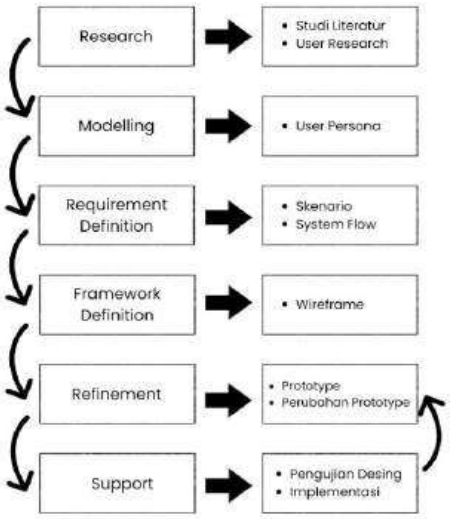

Figure 1. Goal-Directed Design Steps

3. RESULTS AND DISCUSSION

3.1. *Research*

The research phase includes a literature analysis that uses the understanding and application of usability as a measure to assess the feature requirements for the Tax Corner Polije website. Currently, queries are formulated based on the usability implementation presented to participants, including:

1. The Polije Tax Center on campus hosts students who volunteer to assist with taxes.
2. The administrators of the Polije Tax Center will manage the Polije Tax Corner website.
3. Several lecturers from the Polije campus will be involved in this initiative.
4. The campus-supported village community operates a company.

Table 1 presents a framework for developing questions using usability. Five aspects were used to develop the questions: learnability (three questions), efficiency (three questions), memorability (three questions), error (two questions), and satisfaction (one question). These questions represent the basic usability components demonstrated to tax volunteers, tax administrators, and lecturers at the Polije campus.

Table 1. Questionnaire with Usability Implementation

Question Types	A LIST OF QUESTIONS	
	No	Pertanyaan
Learnability	1	What color is the identity of the tax center polije?
	2	What services are available at the Polije tax center?
	3	Who will be able to access the tax corner polije website later?
Efficiency	1	What is the most efficient flow of each of the available services?
	2	What differentiates user type access from the use of the tax corner polije website?
	3	What are the tasks of each type of user on the tax corner polije website?
Memorability	1	What are the prominent characteristics of the polije tax center service?
	2	What makes it easy for you to remember an application that you always access?
	3	What visual elements can help you remember a function?
Error	1	What kind of features can prevent users from making mistakes when using services on the tax corner polije website?
	2	What errors do you often encounter when using an application?
Statisfaction	1	What kind of experience do you expect from using the Tax Corner Polije application?

3.2. *Modelling*

Tahap pemodelan menghasilkan persona pengguna yang memberikan informasi tentang perilaku, tujuan pengguna, dan interaksi pengguna. Persona pengguna memiliki beberapa elemen yang terdiri dari nama pengguna, pekerjaan, dan tujuan utama [12]. Gambar 2 adalah persona pengguna Tedy Dharmawan, seorang relawan pajak di kampus Polije dan juga administrator Pusat Pajak Polije.

Figure 2. Tax Volunteer User Persona at the Polije Tax Center

Furthermore, modeling also generates a user flow to facilitate the design of the Tax Corner Polije website. Figure 3 shows the user flow of the Tax Corner Polije website, which consists of a landing page, login page, request page, payment page, and feedback page.

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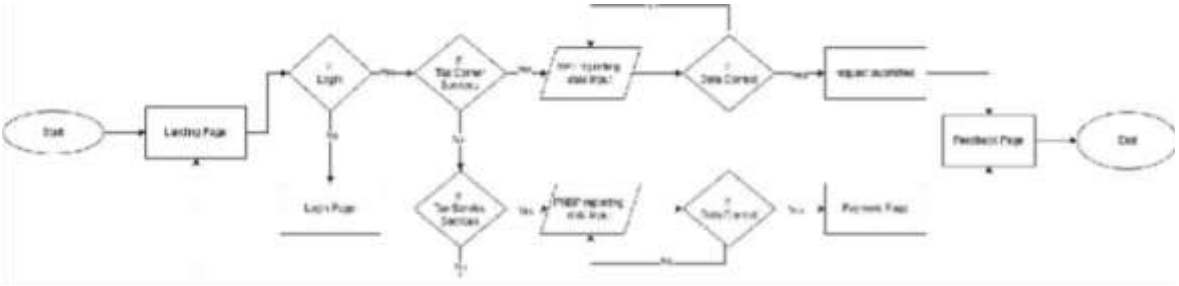

Figure 3. *User Flow Website Tax Corner Polije*

3.3 Requirement Definition

Based on the user flow data, user and system requirements are formulated [14]. In the requirement definition, the following requirements are identified: 1) user management, 2) content management, 3) submission management, 4) payment management, 5) payment management, 6) feedback management, and 7) expert data reporting. Table 2 explains the requirement definition and prepares the activity plan.

Table 2 Activity Plan Based on Needs Definition

Definisi Kebutuhan	KEBUTUHAN WAKTU KERJA	
	No	Lama Pengerjaan
Database Setup	1	1 week
Authentication Implementation	2	1 week
User Management Implementation	3	
Content Management Implementation	4	
Submission Management Implementation	5	4 weeks
Payment Management Implementation	6	
Feedback Management Implementation	7	
Report and Data Export Implementation	8	1 week
Notification Integration	9	

3.4 Framework Definition

The Framework Definition phase resulted in a user interface design created using Figma to define the appearance of the Polije tax corner website. Several pages were developed to meet user needs, based on the usability questionnaire collected in the research phase and developed during the modeling phase.

3.4.1. Login Page

The login page in Figure 4 is designed with a modern split-layout approach, separating the functional area (left) from the welcome area (right). The left side uses a clean, white background that highlights the login form, creating a sense of focus and ease. The right side uses an elegant, deep navy blue to establish a trustworthy and professional brand image. This approach aims to provide a login experience that is not only functional but also visually appealing.

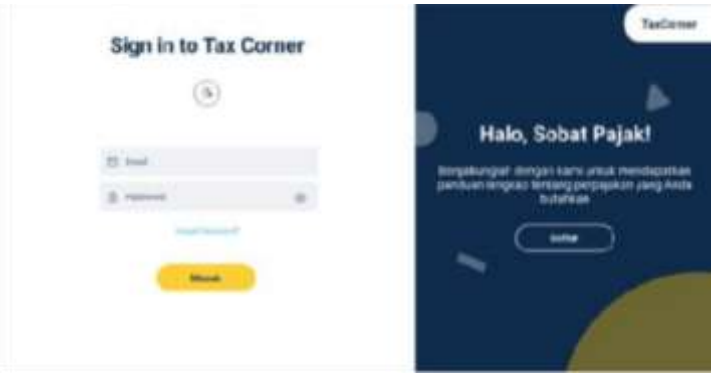

Figure 4. Login Page

3.4.2. Registration Page

The registration page, as shown in Figure 5, uses a split-layout design concept consistent with the login page. However, the layout is reversed. The functional side (right) is now dedicated to the registration form, while the informational side (left) is used to welcome back users who may already have an account. This layout reversal visually differentiates the function of this page from the login page while maintaining the overall design harmony. The dominant use of white space in the form area aims to create a clean impression and keep users focused while filling in their data.

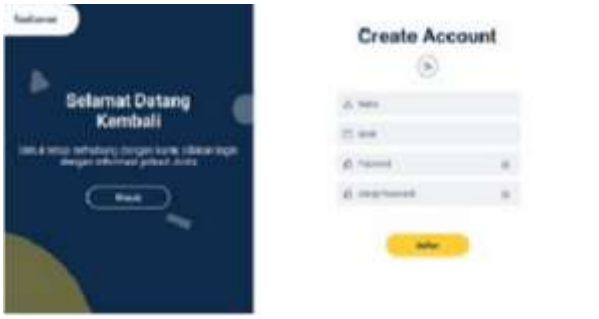

Figure 5. Create Account Page

3.4.3. Landing Page

The landing page in Figure 5 is designed as a comprehensive digital showcase for Tax Corner. Its purpose is to establish credibility, communicate services, and guide visitors to action. The design uses a flowing, vertical structure, starting with a strong introduction, followed by service details, social proof (team), updates, and the physical location. A consistent blue and yellow color palette is used to convey professionalism and energy, while ample white space keeps the content easy to read and avoids clutter.

Figure 6. Landing Page

3.4.4. News Portal Page

The news portal page has the goal to deliver tax education and information. The news portal page depicted in Figure 6 positively influences the public by encouraging tax education and information; hence, it facilitates compliance with tax requirements.

Figure 6. News Portal

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3.4.5. Polije Tax Corner Service Page

The Polije Tax Corner website offers several services, as shown in Figure 7, such as tax reporting, financial reporting research, and help with preparing financial reports for Non-Tax State Recipients (PNBP) connected to research and community service activities.

Figure 7. Tax Corner Services Page

3.4.6. Service Process Page

After users select a service from the "Tax Service" page (for example, "PNBP Reporting"), they are directed to the service process page. This page is designed as a multi-step form to collect the necessary data in a structured and user-friendly manner. The page's design focuses on ease of data entry and clear process guidance. The use of step indicators at the top provides users with a visual representation of their position in the process. The illustration on the left provides a friendly visual touch, while the form on the right is neatly organized for efficient completion. The service form's appearance is shown in Figure 8.

The primary focus of the design at this stage was clarity and ease of transaction. The payment process is often a crucial point; therefore, a service process page with minimal instructions and a common QR code payment method was presented, as shown in Figure 9.

Figure 8. Service Form Page

Figure 9. Payment Method Page

3.4.7. Feedback Page

The questionnaire page design shown in Figure 10 prioritizes ease and speed of completion. The dark blue background, complemented by subtle graphic elements, creates a calm and professional atmosphere, allowing users to focus on completing the form. The form is presented in a card with adequate contrast for easy reading. Questions are structured in an intuitive rating scale format to minimize cognitive effort.

Figure 10. Feedback Page

3.5 Refinement

The refinement phase results in a single cycle of the Tax Corner Polije website application interface. At this stage, changes to the interface evaluation are highly likely. Target users tested the design and provided evaluations for the transaction feature. There are changes to the interface of the service process page, specifically the payment confirmation feature. Figure 11 illustrates the interface design modifications for the payment feature, showcasing methods that QRIS can incorporate. The sequence is then continued by filling out the questionnaire, resulting in a feedback pop-up in Figure 12, followed by payment confirmation via WhatsApp, as shown in Figure 13.

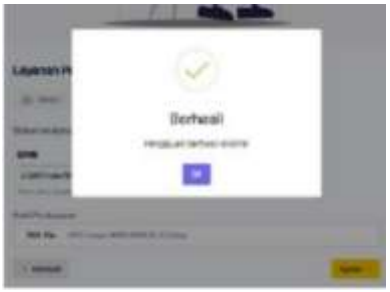

Figure 11. Submission Notification Page

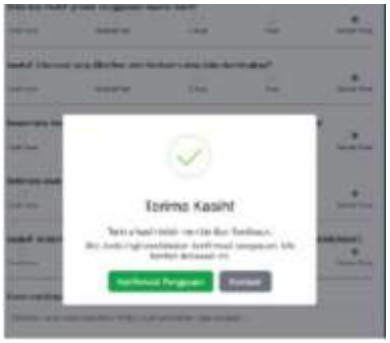

Figure 12. Feedback Pop-up Interface

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3.6 SupportFigure 13. Payment Confirmation Via Whatsapp

Researchers used the System Usability Scale (SUS) method [15] in testing the Polije Tax Corner website application with a sample of 15.4% lecturers, 15.4% Polije Tax Center tax volunteers, and 38.5% Polije Tax Center administrators, as shown in Figure 14.

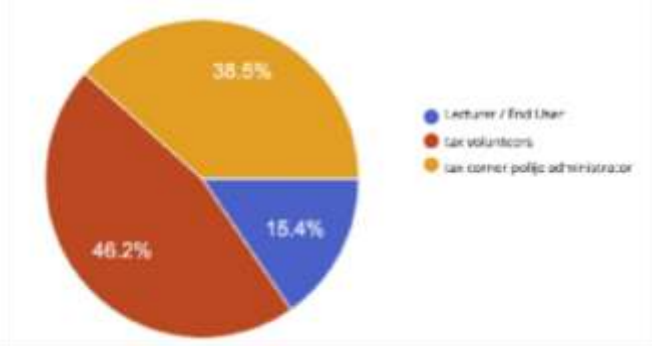

Figure 14. Types of Respondents for the Tax Corner Website Test

There are ten questions with a Likert scale of 1 to 5, which are converted into a score of 0 to 4, then added and multiplied by 2.5 to produce a score range of 0-100 [8]. This test involved 13 respondents with an average SUS score of 90.38. The minimum score in the test was 75, while the maximum score was 100. Based on the SUS score threshold of 68, which is generally used as a usability cut-off, we can conclude that the results of the Tax Corner Polije website test for the tax corner indicate a very good level of usability (excellent) according to the targeted respondents who are application users. The value information graph is shown in Figure 15.

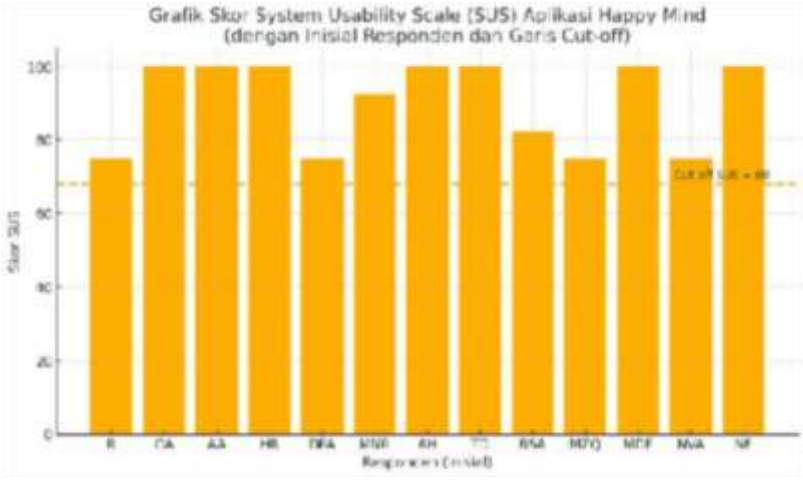

Figure 15. Score Graph with System Usability Scale

4. CONCLUTION

The lack of public knowledge about taxes, combined with the complicated process of managing financial reports due to a lack of help, makes the Tax Corner Polije website a useful place to tackle these problems. The construction of the Tax Corner Polije website aims to deliver an application that assists users in achieving their objectives successfully, efficiently, and comfortably, grounded in personas and behavioral insights. Users can assess the effectiveness of the developed interface using the System Usability Scale. The result yielded a rating of 90.38%, signifying that the developed interface possesses a highly satisfactory level of usability, categorized as "excellent."

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