

JOB PORTAL PROTOTYPE USING DESIGN THINKING METHOD: A CASE STUDY AT DJUANDA UNIVERSITY

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Abstract

The significance of higher education in cultivating proficient human capital cannot be exaggerated in the current global context. The University of Djuanda is committed to bridging the divide between job seekers and recruiters by offering innovative solutions that acknowledge the ever-changing nature of employment prospects. This study centres on creating a Job Portal utilizing Design Thinking as a transformative methodology. The University of Djuanda utilizes Design Thinking, a problem-solving approach renowned for its cognitive, creative, and practical methods, to gain insights into its students' requirements, difficulties, and preferences. The primary goal is to develop a Job Portal that is pertinent and fulfilling, consequently enhancing user contentment and nurturing enduring associations while also tackling the constraints of conventional recruitment methods. The primary approach employed is Design Thinking, which maximizes problem-solving efficacy. The research aims to develop a Job Portal that prioritizes the needs of job seekers and recruiters by demonstrating empathy towards them. The portal will undergo iterative ideation, prototyping, and testing to enhance its features and functionalities. This process aims to cater to the specific requirements of all stakeholders involved in the recruitment process. A User Experience Questionnaire (UEQ) was administered to 20 participants, consisting of 10 job seekers and ten recruiters, to evaluate the user experience. The visualization employed a questionnaire comprising six Likert-scale questions, spanning from "Strongly Disagree" to "Strongly Agree." The results indicate a significant level of user contentment, affirming the efficacy of the Design Thinking methodology in developing a Job Portal customized to meet the varied requirements of job seekers and recruiters.

Keywords: Design Thinking, Job Portal, Prototype

I. INTRODUCTION

Higher education has become an essential factor in advancing human resources in the era of globalization. University graduates' skills, knowledge, and experiences play a crucial role in shaping the direction of their careers. The scope of employment opportunities has broadened to encompass conventional contractual and permanent positions, internships, freelance work, and project-based engagements. The array of job opportunities encompasses diverse work policies, spanning from traditional in-office work to hybrid models and remote options such as telecommuting or location-independent work. Therefore, higher education institutions must promote the investigation of career prospects that correspond to individual aptitudes and preferences, especially for students, alums, and the general public.

Universitas Djuanda, a higher education institution committed to delivering high-quality education, acknowledges the necessity for inventive solutions to enhance the connection between job seekers and recruiters. The university aims to tackle the evolving landscape of career prospects. Both students and alums frequently encounter challenges when searching for employment (Inkson, 2012). The recruitment procedures heavily depend on conventional approaches such as distributing flyers, participating in job fairs, receiving recommendations from acquaintances, and utilizing social media networking. The Internet can expedite employee selection and other human resource functions about recruitment, particularly in cases

involving significant geographical separation. The internet and electronic media adoption has significantly revolutionized business practices, as demonstrated by the growing number of organizations and individuals utilizing this technology (Ramkumar, 2018). Although numerous job portals are available, many need more comprehensive features, especially when monitoring job application progress and results. The university plans to utilize its partnerships with businesses, industries, and government entities to provide students and alums access to a Job Portal managed by the university.

The current system has limitations, emphasising the need for a platform to handle various job listings and offer practical solutions for all parties involved in the recruitment process. This study addresses the challenges by implementing a Job Portal using Design Thinking as an innovative approach. Design Thinking is a systematic approach and collection of techniques to generate additional customer benefits (Waidehlich, 2018).

Design Thinking has effectively addressed intricate problems through cognitive, creative, and pragmatic approaches. Gaining insight into the requirements, difficulties, and inclinations of university students and alums enables the university to develop pertinent and gratifying offerings and amenities, ultimately enhancing contentment and fostering enduring connections. Design thinking provides a novel methodology for fostering innovation and resolving problems. Nevertheless, there is a notable disparity between advocates and detractors concerning the subject's fundamental characteristics, suitability, and resultant effects (Micheli, 2019).

Elsbach (2018) has investigated the correlation between the application of design thinking and organizational constructs, specifically organizational culture, at the organizational level. The research has substantial social and economic ramifications beyond the immediate university setting. The Universitas Djuanda Job Portal aims to enhance students' readiness for the job market while offering advantages to companies seeking exceptional candidates. Moreover, the Job Portal can generate substantial revenue in the future by offering advertising services and premium features.

Considering this context, the importance and pertinence of this research are evident, aiming to significantly enhance the efficiency and efficacy of the recruitment process while advancing higher education at Universitas Djuanda. The subsequent sections will explore the precise goals of the research, highlighting the latest advancements in the selected research subject and underscoring the significance of tackling the identified obstacles.

II. METHODOLOGY

2.1 Scope

This research aims to create Job Portal prototypes at Djuanda University using design thinking practices. It does not delve into the technical details of web application development or related technological aspects. The research will primarily concentrate on testing these Job Portal prototypes with job seekers and employers. Additionally, we aim to gather user feedback by applying Design Thinking principles to facilitate continuous improvement.

This study employs an iterative development model rooted in the Design Thinking approach, enabling ongoing enhancements through user feedback. *Design Thinking* is a methodology that emphasizes the comprehension of customer requirements by considering both technical feasibility and economic viability (Pereira, 2018). The tools used in Design Thinking to develop generated concepts are predominantly visual and tangible. Elaborate outlines, visual narratives, precise blueprints, two-dimensional and three-dimensional visual representations, and quick prototypes are increasingly used in design (Tschimmel, 2012).

This research will adopt the Design Thinking approach, involving the following stages: Empathize, Define, Ideate, Prototype, and Test.

1. Empathize: Initiation involves gathering initial data through interviews, surveys, and observations to understand the needs, challenges, and preferences of Students, Alumni, and recruiters related to the Job Portal.
2. Define: Based on the insights gained in the initial stage, the research team will clearly define the main problems and user needs.
3. Ideate: Brainstorming sessions will be conducted to generate diverse ideas that have the potential to address the identified problems and meet the defined needs.
4. Prototype: Building on the generated ideas, the research team will create a prototype of the Job Portal. This prototype will serve as an initial visual representation of the planned solution.
5. Test: The prototype will undergo testing by users, including Students, Alumni, and recruiters, to assess usability, satisfaction, and effectiveness. User testing will involve direct feedback and questionnaires.

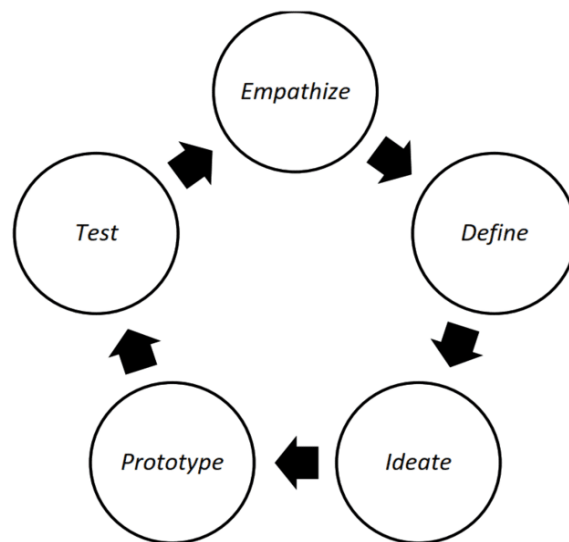


Figure 1 Design Thinking Framework

2.2 Job Seeker Page

On the job seeker page, individuals can utilize the job vacancy search feature, which is facilitated by the following enhancements:

1. Job search functionality based on job title or company name.
2. Refine job searches by salary range.
3. Narrow down job search by location.
4. Refine job searches based on education level.
5. Apply a filter to the job search results based on the number of years of work experience.
6. Filter job searches according to working hours, such as part-time, full-time, or internship.
7. Feature for creating an online Curriculum Vitae and Portfolio.
8. Functionality for appending supplementary documents such as diplomas, academic transcripts, or proficiency certificates.
9. Details regarding the job advertisement's publication date and deadline.
10. Provide details regarding approved worker quotas and individuals who have submitted applications through the portal.
11. Details regarding qualifications and job responsibilities.
12. Details regarding the advantages acquired, salary, allowances, work amenities, and dress code.
13. Functionality for submitting job applications through the online platform.

14. Implement a functionality that allows users to track the entire recruitment selection process, from the application stage to the HRD interview process, user interview, and final announcement of their pass or fail status.
15. Introducing a feature that allows users to take written selection exams using a proctoring system.
16. Implement a feature that enables scheduling interviews based on the candidate's availability, as determined by the search company.
17. Etc.

2.3 Recruiter Page

Recruiters can utilize the job vacancy posting feature on their page, which is facilitated by the following convenient features:

1. Features of job vacancy advertising.
2. Features related to the management of corporate information.
3. The job vacancy information feature is categorized by salary range.
4. Location-based job vacancy information feature.
5. Education-level job vacancy information feature.
6. The job vacancy information includes the number of years of work experience required.
7. The job vacancy information feature is categorized based on working time, including part-time, full-time, internship, or project positions.
8. Critical attributes of accessing the job applicant's Curriculum Vitae and Portfolio.
9. The search function identifies candidates who align with job preferences.
10. The feature provides information about the expiration of advertisements.
11. Information feature regarding the determination of accepted worker quotas and applicant quotas.
12. Provides details regarding qualifications and job descriptions.
13. Provides details regarding the benefits acquired, including salary, allowances, work facilities, and dress code requirements. Alternatively, conceal the specific salary figure.
14. This feature allows users to track the entire recruitment selection process, from applying to undergoing an HRD interview. It also includes user interviews and updates on whether the user has successfully passed.
15. Implement a feature that enables administering written selection exams using a proctoring system.
16. The system includes a feature that enables the scheduling of interviews based on the candidate search company's available time slots.
17. Etc.

2.4 Admin Page

The Admin page, overseen by the Web Admin of Djuanda University, offers the following features.

1. Administration of company lists and advertisement lists on the portal.
2. Administration of users, encompassing individuals seeking employment and companies seeking to hire.
3. Validate or authenticate company data for genuineness from the employer.
4. Exercise moderation in job advertisements to mitigate the risk of scams and writing inaccuracies.
5. A dashboard that displays diverse statistics regarding the utilization of the portal.

III. RESULTS AND DISCUSSION

3.1. Prototype Job Seeker Page

This prototype is specifically tailored to meet the requirements of individuals seeking employment. This section will comprehensively explain the layout, features, and functionalities on the job seeker page.

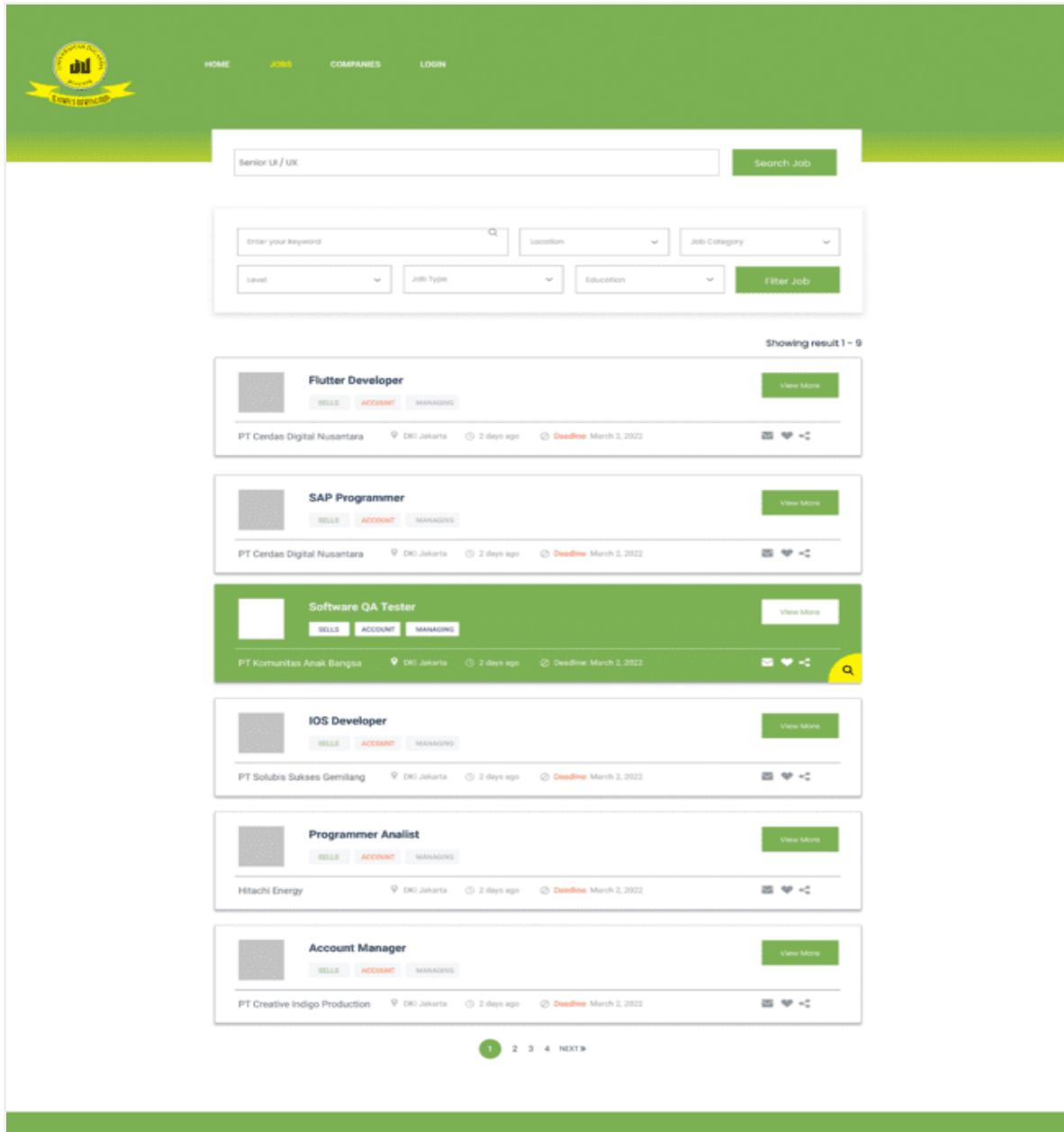


Figure 2 Job Seeker Page

3.2. Prototype of the Recruiter Page

This page is designed with a specific emphasis on the requirements and preferences of recruiters. This document will thoroughly examine the framework, instruments, and communications integrated within the recruiter page prototype.

POST A JOB:
Please Complete the form below

General

Title *

Job Title

Location *

Choose Location

Category *

Choose Category

Level *

Choose Level

Type *

Choose Type

Job Description *

Job Description

Additional Information

Additional Information such as Willing to be placed in a certain province or city according to the job location, etc.

Qualifications

Education *

Choose Education

Min. Age

Min. Age

Max. Age

Max. Age

Minimum Qualifications *

Minimum Qualifications

Required Skills

Required Skills

Salary & Benefits

Currency

Choose Currency

Wage

Choose Wage

Min. Salary

Min. Salary

Max. Salary

Max. Salary

Benefits

Benefits

Publications

How to Apply *

Direct

Refer

Featured Job *

No

Yes (Credit Left : 2)

Post Date *

Text

Closing Date *

Text

Please inform how to apply. (Refer Only)

submit

Figure 3 Recruiter Page

3.3. Prototype of the Admin Page

This section provides a detailed description of the prototype for the admin page, focusing on the essential controls and management tools required for system administration. We will specifically utilise the widely recognised content management system (CMS) platform WordPress, for the admin page. Nevertheless, we modify the arrangement of the menu to cater to specific requirements.

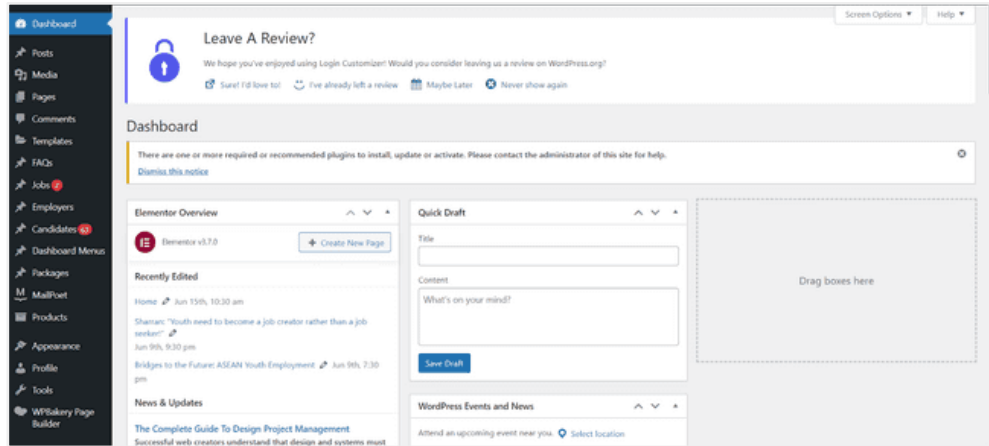


Figure 4 Admin Page

3.4. Previous Research

The results of this investigation will be contrasted with prior studies carried out on related subjects. This comparison examines the coherence or disparities in outcomes and offers a comprehensive framework. In the context of the present research, a comparative analysis is undertaken with a prior study conducted by Pinjari et al. (2019) on the development of an online job portal using the Web Information System Development Methodology (WISDM). In contrast, our current research employs the Design Thinking approach. The focus of both studies revolves around the construction of three distinct roles within the job portal ecosystem, namely Job Seeker, Recruiter, and Admin. The following table delineates the variances in features and methodological approaches between the two studies:

Table 1 Comparison of approaches

Aspect	Design Thinking	WISDM
Approach	Centered on empathy, ideation, and prototyping.	Focused on the analysis of needs and web system design.
Development Steps	Iterative cycle: Empathize, Define, Ideate, Prototype, Test.	Specific steps like needs analysis, system design, etc.
User Focus	Emphasizes deep user understanding and needs.	Focuses on system and technical analysis.
Flexibility and Adaptability	Flexible and adaptive to changes.	Potentially more rigid with a systematic approach.
Effectiveness and Efficiency	Effective in creating innovative solutions with relevant impact	Emphasizes efficiency in system development.
Strengths and Weaknesses	Strengths lie in intuitive and user-relevant solutions.	Strengths lie in providing systematic guidance in system development.
Results and Impact	Results in innovative approaches with relevant impact.	Focuses on efficient outcomes in system development.

The contrast in methodological approaches highlights the distinct viewpoints and tactics employed in creating online job portal systems. The intricacies in characteristics and approaches contribute to thoroughly comprehending the progressing terrain in job portal research and development.

3.5. Test Results

Below are the findings from the prototype evaluation survey, assessed using the Likert scale. The Likert scale is a widely utilized psychometric scale in research that involves questionnaires. Survey research commonly employs this approach as the most prevalent method for measuring responses (Anjaria, 2022). Attitude and rating scales are among the most widely used measuring instruments in fields such as sociology, psychology, information systems, politics, economy, and other domains. However, research methodology studies have not provided specific suggestions on the proper selection of rating scales for research. One of the most fundamental and popular scaling methods used in social science research is the Likert scale (Pinjari et al., 2019).

Both job seekers and recruiters provided assessments on various crucial factors:

1. Information Clarity: The degree to which users easily understand the information presented in the prototype, whether they are job seekers or recruiters.
2. Usability and Accessibility: The extent to which users can easily navigate and comprehend the prototype's content.
3. Functionality: The efficacy of the search feature on the prototype in locating appropriate job positions or candidates.
4. Responsiveness and Interactivity: The degree to which the prototype offers a prompt and interactive experience while being used.
5. Overall user experience: Analysis of the level of ease and efficiency in the job application or selection process utilizing the prototype.
6. Overall Satisfaction: Assessing whether the prototype fulfils users' expectations.

The survey results will provide a more profound comprehension of user feedback on the prototype and serve as a foundation for further consideration in evaluating the effectiveness of the developed Job Portal design. The survey results for each question are displayed in Figure 5 below.

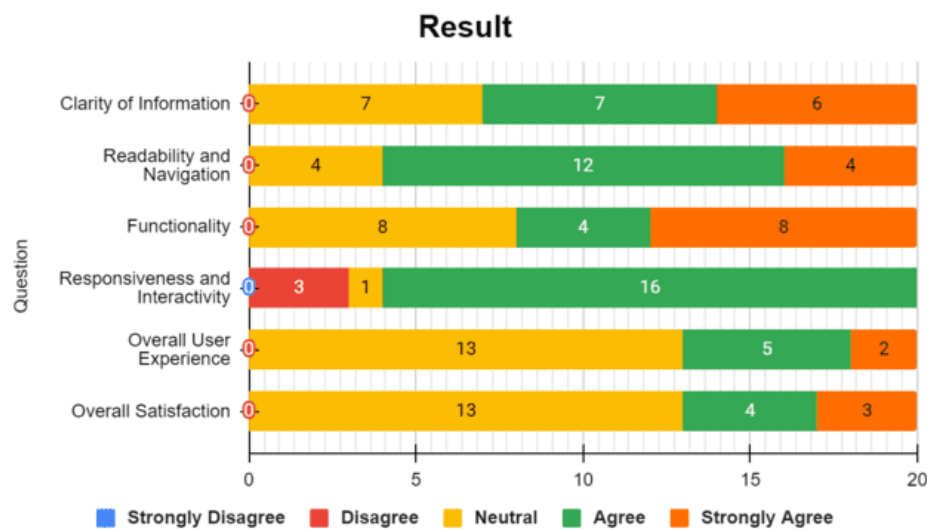


Figure 5 Likert Scale Result

Table 2 Likert Scale Score

Scale	Value	Criteria Min	Criteria Max
Strongly Agree	5	80.00%	100.00%
Agree	4	60.00%	79.99%
Neutral	3	40.00%	59.99%
Disagree	2	20.00%	39.99%
Strongly Disagree	1	0.00%	19.99%

Subsequently, we will calculate the product of each value derived from the survey in Figure 5 with the corresponding value in Table 2, resulting in the subsequent presentation of the respective percentage values in Table 3. Variable Y is calculated by multiplying the maximum value of the scale, which is 5, by the number of respondents, which is 20. This results in a final value for Y is 100. The percentage of the total score is then calculated by dividing the total score by variable Y.

Table 3 Score Criteria

Question	Total Score	Total Score / Y	Score Criteria
Clarity of Information	79	79.00%	Agree
Readability and Navigation	80	80.00%	Strongly Agree
Search Functionality	80	80.00%	Strongly Agree
Responsiveness and Interactivity	80	80.00%	Agree
Overall User Experience	69	69.00%	Agree
Overall Satisfaction	70	70.00%	Agree
Mean	76.33	76.33%	Agree

IV. CONCLUSIONS

The utilisation of the Design Thinking methodology in the development of Job Portals has made a notable impact on the advancement of science and technology, particularly in creating job portals that prioritise user experience. This approach prioritises user empathy, idea exploration, and prototyping to deliver innovative solutions that cater to user needs. Within scientific and technological advancement, this research holds favourable implications for the progression of the Job Portal system. Adopting design thinking allows for more inventive and user-centric solutions, enhancing the overall user experience. On the Likert scale, we can only calculate the value of each question. However, by looking at the average of the overall values, we can conclude that the score is 76.33%, which falls within the "Agree" criteria range.

In a broader sense, this research has implications not only for technological aspects but also for the social, cultural, and economic environment. Job portals created using a Design Thinking approach can enhance the efficiency of job searches, facilitate connections between job seekers and recruiters, and offer a more intuitive and user-friendly platform. Hence, this study provides a significant contribution in terms of scientific and technological advancements and yields a wide-ranging positive influence across diverse social and economic domains. The findings of this study are communicated using plain language to ensure accessibility for readers who are not experts in the field.

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