The Development of an Employment Website

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Abstract

This research aimed to create and evaluate an employment website, focusing on both technical quality and end-user satisfaction. Employing the System Development Life Cycle (SDLC) model, the team defined eight core functionalities: (1) user login, (2) member management, (3) data verification for job postings, urgent applications, and internships, (4) job details, (5) data management for job applications, urgent applications, and internship applications, (6) a contact channel, (7) applicant notifications, and (8) application status tracking. A total of two web development experts and one graphic design expert assessed the system's quality, while 30 end-users—comprising students and recent graduates—provided feedback on user satisfaction.

Data collection involved a quality-assessment form for specialists, a user-satisfaction questionnaire, and direct observations of interactions with the prototype. Descriptive statistics, including mean and standard deviation, were used to quantify responses. The findings indicated that experts rated the overall website quality at a good level, citing strengths such as intuitive design and straightforward navigation. Parallel to these results, user satisfaction was also good, with particular appreciation for the system's clarity, responsiveness, and seamless user experience.

By offering practical features tailored to both job seekers and employers, the website addresses modern recruitment challenges. The study underscores the importance of well-structured functionalities and user-focused design principles. Moreover, it highlights how digital tools can effectively bridge the gap between candidates and potential employers, streamlining the hiring process in a manner that is both efficient and user-friendly.

Keywords: Employment Website, Job Search, System Development Life Cycle (SDLC)

Introduction

Background and Significance

In an age dominated by rapid scientific and technological innovation, online platforms profoundly influence how individuals communicate and seek information. Digital transformations have permeated virtually every sector of society, particularly in how organizations and job seekers connect. Traditional, paper-based recruitment has been steadily eclipsed by digital job boards, social media postings, and specialized employment websites. This shift can be partly attributed to the global rise of internet penetration, the proliferation of mobile devices, and widespread adoption of broadband connectivity (National Information Technology Committee Secretariat (NITC), 1996).

Recent global challenges such as the COVID-19 pandemic have further accelerated this transition by making conventional, in-person recruitment channels less accessible and prompting employers to explore online alternatives more aggressively (Phromsida, 2021). As social-distancing measures constrained face-to-face interactions, job seekers had to

embrace digital platforms to find suitable opportunities, and employers had to adapt to a remote or partially remote hiring framework. While many online job portals exist, gaps persist in terms of user experience, localized opportunities, and specialized features (e.g., internships, urgent applications) that cater to students, recent graduates, or entry-level candidates.

Problem Statement

Rajamangala University of Technology Krungthep, like many higher-education institutions, annually produces a substantial cohort of graduates seeking employment. Despite exposure to mainstream job-search engines, these individuals often lack a dedicated, user-centric platform that simplifies the application process and provides crucial functionality—such as uploading resumes, verifying job postings, and receiving application-status notifications.

Simultaneously, employers require a system that efficiently manages job listings, internship postings, and urgent vacancies, all within an intuitive interface that verifies user data and assists in screening qualified candidates. Without a specialized and carefully designed platform, both employers and job seekers risk inefficient processes, missed networking opportunities, and duplicate communication efforts.

Objectives

To address these issues, this study set out three main objectives:

1. **Develop a Functional and User-Friendly Online Job-Search Website**

The website is intended to serve as a one-stop portal, offering secure registration, job-listing management, resume submission, and direct contact channels.

2. **Evaluate the System's Quality through Expert Assessments**

Web development experts and graphic design specialists were consulted to assess design coherence, technical performance, and the alignment of features with user needs.

3. **Examine User Satisfaction Based on the Website's Performance and Usability**

Feedback from a sample of end-users—primarily recent graduates and interns—was collected to gauge whether the platform effectively addresses their recruitment needs and meets usability standards.

Scope of the Study

1. Population: The broader user population includes student interns, new graduates, and organizations (businesses, public agencies, and nonprofits) seeking suitable applicants.

2. Sample Group: For this research, 30 interns and new graduates from Rajamangala University of Technology Krungthep were randomly selected to evaluate the website.

3. Expert Group: Two specialists in web development and one in graphic design rated the website's technical and aesthetic quality.

The developmental focus encompassed eight essential system functionalities: user login, member management, data verification for job postings, job-detail displays, data management for multiple job-application types, contact channels, applicant notifications, and application status tracking.

Literature Review

Online Job-Search Platforms

A robust body of research underscores the widespread adoption and impact of online job-search platforms. Banpakot (Banpakot, 2013) examined the development of a job-search

website for elderly individuals and demonstrated that thoughtful design—emphasizing large fonts, simplified language, and uncluttered layouts—could enhance usability across varying age groups. One noteworthy finding was that even users with minimal internet literacy could benefit significantly from well-designed sites, highlighting the critical role of user-centric design principles.

Thianpermpool and Muhammad (Thianpermpool and Muhammad, 2017) analyzed how demographic factors (e.g., age, educational background, and income) and online behaviors (e.g., frequency of internet usage, favorite application channels) affect job seekers' satisfaction in Bangkok. Their study revealed that experience in internet usage strongly correlated with satisfaction levels and perceived outcomes in job searching. This aligns with the current study's focus on new graduates and interns, many of whom possess moderate to advanced digital skills yet still require a supportive, structured environment to navigate entry-level positions successfully.

Additionally, research by Chonrattanatham et al. (Chonrattanatham et al, 2016) on state-run employment centers illustrated that job-search limitations, awareness of available resources, and readiness to enter the workforce can vary considerably by gender and educational attainment. Although these factors were not found to be statistically significant in all instances, they underscore the importance of inclusive features. Employment websites must balance robust functionality—like resume-building tools and automated job matching—against simplicity and accessibility.

System Development Life Cycle (SDLC)

Developing a reliable software application often entails following the System Development Life Cycle (SDLC), a stepwise framework guiding projects from initial concept to final deployment (Raj, Singh, and Bansal, 2014) (Pei, Baohui, Chao, and Lan, 2009) (Khan and Beg, 2013). The phases typically include:

1. Problem Identification: Pinpointing project objectives and addressing core user needs.

2. System Analysis: In-depth understanding of required features, workflows, and constraints, often captured in diagrams or specifications.

3. System Design: Translating analysis into architectural blueprints, data models, and user-interface mockups.

4. System Development: Writing and integrating code, employing tools such as Visual Studio Code, PHP frameworks, and MySQL databases (Cui, Huang, Liang, and Li, 2009) (W3Schools, 2023).

5. System Testing: Detecting errors through functional, performance, and user-acceptance tests.

6. System Installation: Deploying the final product in a live environment, followed by ongoing support and maintenance.

Adhering to SDLC's structured approach ensures that key requirements are clearly defined and validated at each stage. Problems discovered late in development are typically more time-consuming and expensive to fix, underscoring the value of iterative feedback loops and consistent documentation.

Rating Scales for Website Assessment

Quantifying user feedback and expert opinions is crucial for continuous improvement. Rujchanaphan (Rujchanaphan, 2013) noted the effectiveness of five-point Likert scales in capturing nuanced assessments of usability, design, system reliability, and overall satisfaction. Such scales enable project teams to pinpoint areas of weakness and compare results over time or across user segments.

In the context of web-based systems, these rating instruments often explore dimensions like:

• **Interface Design:** Layout clarity, color schemes, font readability, and logical grouping of functions.

• **System Functionality:** Feature completeness, reliability, response speed, and integrative data flows.

• **Presentation:** Coherence of displayed data, consistency of visual themes, and appropriateness of graphic elements.

• **Overall Impression:** Users' holistic view, factoring in intangible elements like user trust, perceived value, and brand alignment.

By systematically analyzing mean scores and standard deviations, developers can weigh the significance of each aspect and correlate user satisfaction data with identified system improvements.

Methodology

Research Framework

Building on the SDLC conceptual model, this project employed a structured approach encompassing: (1) Problem Identification, (2) System Analysis, (3) System Design, (4) System Development, (5) System Testing, and (6) System Installation. An iterative process was crucial, with user feedback and expert evaluations shaping subsequent refinements.

Problem Identification

Preliminary interviews and focus group discussions were conducted with students and administrators at Rajamangala University of Technology Krungthep to ascertain common hurdles in traditional recruitment. During the COVID-19 pandemic, site visits and face-to-face interactions decreased, amplifying the need for digital solutions. Stakeholder feedback highlighted the desire for an accessible platform to post, locate, and apply for jobs and internships efficiently.

System Analysis

The project team performed an analysis of typical user requirements:

1. **Student/Job Seeker Needs:** Simple account creation, profile management, resume upload, quick job search filtering, and real-time application status updates.
2. **Employer Requirements:** Job-posting forms, data verification steps, candidate management dashboards, and integrated communication channels.
3. **Administrative Functions:** Oversight capabilities (e.g., user banning, job-post monitoring for fraudulent postings), secure database management, and statistical reporting (e.g., number of active postings, daily site traffic).

During this phase, Entity-Relationship (E-R) diagrams were produced to map out relationships among tables such as user accounts, job listings, applications, and notifications. Use-case diagrams additionally clarified how each stakeholder (administrator, employer, job seeker) interacts with the system.

System Design

The design phase translated functional requirements into more tangible deliverables:

• **Information Architecture:** A site map enumerating main pages (Home, Job Listings, User Dashboard, Employer Dashboard, Contact) and subpages (Job Details, Resume Upload, Payment Page for boosted listings, etc.).

• **User Interface (UI) Mockups:** Low-fidelity wireframes ensured key features were accessible. Emphasis was placed on intuitive layouts, clean icons, and minimal text clutter.

• **Color Palette and Typography:** A neutral color scheme was chosen to appeal to a broad demographic, while fonts were selected for readability across varied screen sizes.

System Development

Implementation leveraged:

1. Visual Studio Code: A versatile editor supporting rapid iterative development.

2. PHP: For server-side scripts managing dynamic content, form submissions, and database queries (Cui, Huang, Liang, and Li, 2009).

3. MySQL: For robust data storage and efficient retrieval of job listings, employer profiles, user resumes, and more (W3Schools, 2023).

4. HTML/CSS/JavaScript: For structuring content and enhancing interactive functionalities on the client side.

A modular approach allowed the team to develop core components—login, job posting, resume submission—independently before integrating them. During development, strict version control protocols and frequent internal reviews minimized bugs and ensured consistency.

System Testing

Before launch, testing was performed in iterative cycles:

- **Functional Testing:** Verified that each feature (e.g., job searches, notifications) worked as intended.
- **Usability Testing:** Invited sample end-users to navigate the site, complete tasks, and provide real-time feedback, which guided design tweaks.
- **Performance Testing:** Checked load times and concurrency handling, particularly for searching and listing thousands of job entries.
- **Security Testing:** Ensured the login process, password storage, and data verification processes complied with recommended security best practices.

Any identified technical issues were documented, prioritized, and resolved prior to final rollout. The feedback from each testing cycle informed minor design revisions and performance optimizations.

System Installation

The refined website was deployed on a managed hosting environment equipped with PHP and MySQL. The platform's domain name was acquired and linked to the production server, enabling real-world accessibility. Post-launch, the research team continued to gather user feedback, addressing any emergent bugs and planning subsequent enhancements.

Evaluation Process

Two forms of evaluation were integral to gauging the project's success:

1. **Expert Evaluation:**
   - **Panel Composition:** Two web development experts and one graphic design expert.
   - **Evaluation Criteria:** (a) Web Design (layout, color schemes, and typography), (b) System Functionality (feature completeness, reliability), (c) Presentation (organization of displayed content), and (d) Overall Perspective (general impression and alignment with stated objectives).
   - **Rating Scale:** Five-point Likert scale (1 = lowest, 5 = highest).
2. **User Satisfaction Survey:**

- **Sample:** 30 individuals—students, recent graduates, or interns—who used the site under simulated or real recruitment scenarios.
- **Questionnaire Sections:** Measured (a) usability and navigation, (b) clarity of job postings, (c) functionality (resume upload, notifications, etc.), (d) site aesthetics, and (e) overall satisfaction.
- **Data Analysis:** Descriptive statistics (mean, standard deviation) were computed to provide aggregated insights into user perceptions.

Results and Discussion

Results

Website Development Outcome (RQ1)

Upon conclusion of the development cycle, the **final website** integrated eight major features, each carefully tested and refined:

1. **Login Page**
   - Secured by modern hashing algorithms for passwords.
   - Allowed for role-based user access (job seekers, employers, administrators).
2. **Member Registration Page**
   - Simplified sign-up flow, capturing essential details (name, email, desired role).
   - Included automated email verification to reduce spam accounts.
3. **Home Page**
   - Featured trending job openings, quick search functionality, and site updates.
   - Provided links for quick employer or job-seeker sign-in.
4. **Job Details Page**
   - Displayed comprehensive data: job title, responsibilities, qualifications, location, and compensation.
   - Offered direct application links or "save job" options for registered members.
5. **Resume Submission**
   - Allowed users to upload PDF or Word documents.
   - Integrated basic file-type and size checks for security.
6. **Job Registration Form**
   - Enabled employers to post vacancies, specifying job roles, required skills, deadlines, and potential benefits.
   - Incorporated an internal verification step for posted content.
7. **Payment Page**
   - Reserved for employers seeking premium listing features (e.g., job highlights, priority placements).
   - Supported multiple payment gateways and immediate job-post visibility upon confirmation.
8. **Employer and Applicant Management**
   - Employers could view applicant lists, filter by qualification, and update job statuses.
   - Automatic notifications informed candidates of any status changes (e.g., shortlisting, interview schedule).

In addition to these functionalities, responsiveness was built in, ensuring that core features rendered well on both mobile devices and desktop screens. Preliminary user feedback recognized the straightforward navigation, short load times, and overall consistency of the user interface.

Quality Assessment by Experts (RQ2)

Following system deployment, expert evaluators provided structured feedback (Table 1).

Table 1: Expert Quality Assessment

Dimension	Mean	S.D.	Level
1. Web Design Aspect	4.25	0.62	Good
2. System Functionality Aspect	3.92	0.29	Good
3. Presentation Aspect	4.25	0.75	Good
4. Overall Website Perspective	4.09	0.51	Good
Overall	**4.13**	**0.57**	**Good**

- **Web Design Aspect (Mean = 4.25):** Experts complimented the intuitive layout, color balance, and consistent navigation flows. They recommended further personalization options (like user avatars or adjustable site themes), but overall design synergy was considered strong.
- **System Functionality Aspect (Mean = 3.92):** While still rated as good, the lower mean compared to other categories suggests room for refinements, particularly around advanced features like job-search filters or chat-based assistance.
- **Presentation Aspect (Mean = 4.25):** Visual clarity and cohesive formatting of text, images, and icons received positive remarks.
- **Overall Website Perspective (Mean = 4.09):** The panel recognized the project's alignment with the stated objectives, commending the manageable learning curve and minimal technical hiccups.

User Satisfaction (RQ3)

A total of 30 end-users completed a standardized questionnaire, measuring various satisfaction dimensions (Table 2).

Table 2: User Satisfaction Assessment

Dimension	Mean	S.D.	Level
1. Web Design Aspect	4.38	0.71	Good
2. System Functionality Aspect	4.43	0.63	Good
3. Presentation Aspect	4.47	0.63	Good
4. Overall Website Perspective	4.41	0.68	Good
Overall	**4.42**	**0.66**	**Good**

- **Presentation Aspect (Mean = 4.47):** Stood out as the highest average dimension, indicating users appreciated the organized visual structure and clarity of job postings.
- **System Functionality Aspect (Mean = 4.43):** Emerged as an essential component driving satisfaction, affirming that the fundamental features—like applying for multiple jobs seamlessly—met user needs.
- **Overall Website Perspective (Mean = 4.41):** Echoed positive user experiences across the board, reinforcing that the website was user-friendly, reliable, and fulfilled its promise of simplifying job searches.

Users frequently mentioned that the website's straightforward design, quick job searches, and immediate notifications about application statuses greatly contributed to a favorable experience. Some suggested adding real-time chat or video-interview scheduling options, which might serve as areas for future enhancement.

Discussion

Interpreting the Expert and User Feedback

Both expert evaluators and end-users rated the website as good overall. The alignment between technical experts' feedback and lay-user experiences underscores the site's core strength: balancing robust functionality with accessible design. In line with Banpakot's (Banpakot, 2013) work, focusing on clarity and simplicity remains vital to user engagement. Even as job seekers become more digitally literate, they still value interfaces that do not demand excessive navigation or technical effort.

Reflecting on the SDLC Approach

By thoroughly following an SDLC-based methodology, the project team was able to mitigate common pitfalls such as late-stage design changes, unaddressed stakeholder requirements, and insufficient testing. System prototypes were refined in iterative cycles, incorporating inputs from prospective end-users to ensure that features aligned closely with real-world expectations. This resonates with established best practices, confirming that each SDLC phase is indispensable for building a stable, user-approved web platform (Raj, Singh, and Bansal, 2014) (Pei, Baohui, Chao, and Lan, 2009) (Khan and Beg, 2013).

Relevance to Existing Literature

Findings corroborate existing research discussing digital hiring interfaces in uncertain socioeconomic conditions. For instance, Thianpermpool and Muhammad (Thianpermpool and K. Muhammad, 2017) highlight how user satisfaction often hinges on demographic factors and internet usage patterns. Although the sample in this study largely comprised digitally adept university graduates, the repeated emphasis on intuitive design suggests that even tech-savvy cohorts value ease of use. Similarly, the system's alignment with recognized design heuristics (e.g., consistent layout, quick load times) resonates with broader studies that tie streamlined visuals to user retention.

Practical Implications

The success of this project has tangible implications for universities, employers, and job seekers:

- **Universities:** Can integrate such platforms into their career-support ecosystems, offering students direct channels for internships, part-time jobs, and full-time employment opportunities upon graduation.
- **Employers:** Gain access to qualified entry-level talent pools via a user-friendly interface that also verifies data accuracy and automates candidate notifications.
- **Job Seekers:** Benefit from an environment where postings are timely, legitimate, and filterable based on personal career goals. Advanced functionalities like urgent postings allow those with immediate needs to expedite the application process.

Limitations

1. **Sample Size:** Only 30 end-users were surveyed, all of whom were current or recent students. Expanding the participant range might yield more nuanced insights into website performance across different age groups or industries.
2. **Advanced Features:** The platform does not currently incorporate advanced analytics or recommendation engines (e.g., suggesting roles based on user profiles), which could enhance user satisfaction further.

3. **Employer Engagement:** This study focused heavily on the job seeker's journey; future iterations could explore how employers perceive the applicant-management dashboard and refine features that would streamline their recruitment cycles.

Conclusion and Suggestions

Summary of Findings

This research successfully **developed and evaluated an employment website** that addresses modern recruitment needs, particularly within academic institutions. Adopting the SDLC model, the team systematically tackled each project phase, from defining user requirements to deploying the final product. Assessments by both experts and end-users affirmed the site's strong performance in terms of design coherence, functional reliability, and overall user satisfaction. By offering features such as easy registration, file uploads, and real-time status updates, the site effectively bridges the gap between job seekers and prospective employers, making the hiring process more transparent and convenient.

Contributions to Practice

The website's modular and clear design stands as a blueprint for other educational institutions or small to medium-sized organizations seeking to develop similar platforms. It shows that focusing on the fundamentals—secure login mechanisms, coherent job postings, and straightforward communication channels—can foster positive user experiences. In an era where remote operations and digital transformations dominate, such a platform serves as a critical conduit for ensuring continued employability and organizational productivity.

Directions for Future Research

1. **Feature Expansion:** Integrating recommendation systems driven by machine learning could personalize job suggestions for candidates. Tools like chatbots could also provide real-time guidance for first-time users.
2. **Longitudinal Studies:** Observing usage patterns over a year or more would clarify how job seekers and employers adapt to the platform's features and whether recurring visitors remain satisfied or encounter repeated issues.
3. **Comparative Analyses:** Benchmarking this website against commercial job boards would illuminate competitive advantages or areas that require further refinement.

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