SYSTEM ANALYSIS COURSEWORK

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A screenshot of a computer

Description automatically generatedCOURSEWORK REPORT: ISEEK ONLINE RECRUITMENT APPLICATION

The Name of our company is **KOTA Analytics** We are a team of skilled freelance developers who specialize in building systems and applications for companies that request our services. Our Mission is to produce long-lasting solutions to the issues our clients deal with.Our Motto is Determination, Dedication and Delivery.

**INTRODUCTION**

## **The Project**

The task presented to our team entails a project which requires the creation of a software system to handle job recruitment for iseek, a job recruitment organization. The project specifics require a portal for employers and applicants, respectively. The software to be created is a platform which manages vacancies for employers and applicants and enables applicants to apply for vacant positions uploaded by employers.

## **The Aim**

This project’s goal is to provide iseek and their customers (employers/applicants) a more efficient and straightforward manner of conducting their job allocation process. Through the creation of an online platform, we aim to make their employment and book-keeping processes significantly less tedious and less prone to human errors as the company’s expansions takes place.

## **Initial Idea**

The Initial Idea for this project is to create a software platform which helps iseek to manage job recruitment. The idea is to provide an e-platform for conducting iseek’s job recruitment services.

## **Why Can This Be a Real Business Need?**

The importance of this service to iseek would be clear in the method and efficiency of handling job recruitment operations which the proposed system can provide. This need is obtained to keep on top of the increasing number of clients which iseek is likely to gain as they expand. This business need is incredibly significant because at some point during the business expansion it may no longer be feasible to keep track of records and conduct business manually due to the risks of data loss and human error.

## **Team & Roles in Development of System Proposal**

Our team at KOTA consists of four members, Oluwanifise Obabire, Odi Ibezim, Takundanashe Chidamba & Ayo Apooyin. Our division of labor has followed a non-orthodox method. We have allocated several duties under the distinct phases of the SDLC to whoever we found most competent in handling that specific task.

## **Key Considerations**

A lot of factors would come into play in the creation and implementation of this software, below are three key considerations which if appropriately handled could mitigate potential issues arising from during the process.

**Familiarity**- This factor plays a huge role in the implementation and utilization of this system. Familiarity pays particular attention to the stakeholders who would be interacting with the system to either apply for job (applicant perspective) or employ an applicant (employer perspective). The major thing which this factor addresses is whether the interacting stakeholders would have enough prior knowledge and experience to effectively use the iseek portal to carry out their required task. Issues with familiarity can be discovered during the testing phase of implementation and can simply be mitigated by creating a simple-to-use technology which appears and functions similarly to already existing systems which users have high familiarity with.

**Finance**- This aspect refers to expenses incurred during the system's creation. This would play a vital role in the creation of this system as it would determine what materials the team members can access. The financing of this project would be provided by iseek and based on their budget. Funds would be allocated to different sectors for, payment of team members, acquiring of required equipment and maintaining the system (Krosel et.al 2022).

**Time**- Within this factor, issues of project planning and scheduling are considered. The time consideration aims to mitigate issues resulting in a project being delivered by its due date. To do this, a well draft schedule is to be made and adhered to. By allocating ample time to activities which require more time and less time to sections which do not require as much time for completion, iseek’s application should be ready for use by the 6-month deadline.

## **Methodology:**

To facilitate a smooth transition of the iseek recruitment system as K.O.T.A we could archive this goal, using several frameworks to determine the way we are going to be organizing and conducting processes and techniques to archive the desired iSeek online recruitment system. The following frameworks could be used to achieve this goal:

1.**Prototyping:**

* RAD Approach
* Involves creation of a rough version of system quickly and “grow” it into final system with repetitive refinement.
* Users get to work with prototype very quickly
* Feedback cycles let users identify changes and refine real requirements

However:

* Superficial analysis may cause problems.
* Initial design decisions may be poor.
* Overlooked features may be hard to add later.

2.**Parallel Development:**

This framework involves the division of the project into subprojects that can be worked on at the same time reducing the overall project length and time compared to the waterfall. As well as reducing the need for rework; with a shorter time, frame, less chance of requirements changing.

However, the creation of subprojects requires careful design decisions for if not the integration process at the end done properly becomes complex and difficult increasing the production cost and reducing the framework efficiency.

3.**Phased (OR iterative):**

* RAD approach:
* Develop the system in series of versions.
* Users get a system to use quickly.
* Users identify additional needs for later versions based on genuine experience. with current version.
* Greater flexibility and adaptability.
* More accurate project estimates.
* Enhanced collaboration and communication
* Reduced project risks.

However:

* Can be rigid, as each phase is dependent on the completion of the previous phase. This can make it difficult to adjust the project plan or respond to changes in project requirements or stakeholder feedback.
* Higher costs.
* Limited stakeholder engagement.

**CHOSEN METHODOLOGY**

To provide smooth software development according to iSeek requirements. We are going to use **Phased methodology** as our core framework to structure, plan, and control the process of the iSeek online recruitment system. The phased approach will allow us to adjust the features that need to be added next and put most time, attention (and budget) on the things/features that matter most. Phased methodology will also let us break down the system into smaller phases that we can work on as a team to ensure everything is working smoothly and that the result satisfies the client’s expectations and objectives (Stevens,2023).

# **PROJECT PLANNING**

## **FEASIBILITY AND RISK ANALYSIS**

## **TECHNICAL FEASIBILITY:**

In Technical Terms, this project requires moderate effort on different parts of the system. The project has been broken down into smaller sub-sections that are handling different parts of the system. We have broken down the plan into two sections namely: Web Traffic and Advertisement & Web Security and Staff Compatibility.

**Web Traffic and Advertisement**

**RISK DESCRIPTION:**

In this subsection of the analysis, the Web Traffic and Advertisement section of the project are feasible technically. We have decided to build an attractive user-friendly website that would optimize customer satisfaction whilst keeping to standard law and procedure.

We require suitable infrastructure to support a high-end website. This includes powerful firewalls, Back-up servers for emergencies, and authentication methods to prevent online fraud. Furthermore, legal, and regulatory requirements in advertising should be taken note of and complied with.

After extensive research we have found the tools that can be used to improve the SEO(Search-engine-optimization) ranking of the website. However, the features and specialties of each tool must be considered when making the right choice for your website. Examples of tools that are used to boost SEO traffic of a website are Ahrefs, KWTFinder, and Woorank. They are the most popular tools today.

The competition between different recruiters can pile up quickly and, in that process, bury other jobs that need attention too. This could result in the HR manager seeking other costly sources of recruitment like social media and even billboard advertisements. This is because the search algorithm tends to favor more established companies over newer ones. This has a moderate impact on growing or upcoming companies as they would have to spend more to get the same results Popular companies do.

* So, a part of our team would focus on building and maintaining the website to make it attractive to the users.
* Another would engage in the advertisement and prevent any form of copyright infringement that could be involved.
* Another would check and ensure that the created website sticks and abides by standard protocol so that we have a great SEO (Search-engine-optimization) score of at least 90/100.

## **REQUIREMENTS:**

Our team would require access to a powerful SEO tool to allow larger traffic to the website. We recommend Ahref ,KWTFinder and Woorank as these are the top 3 SEO Software this year. We would also require the use of ad generators to create awareness of our system across many platforms on the internet and social media. This might require us to partner with a few companies involved in advertising.

## **POTENTIAL IMPACT:**

* It would also be a bit to weed out the bad or unsuitable candidates from the required ones.
* It is also likely to suffer from less website traffic as it a new and upcoming recruitment system. It would have to compete with other old and reigning systems.

**WAYS TO MITIGATE: (No Impact, Low Impact, Moderate Impact, Severe, Jeopardy)**

* By programming the job search algorithm to be fair to all companies based on a first come first served procedure.
* Having a good SEO(Search-engine-optimization) score so that good traffic from customers visit our website. To have a good SEO score, good security, good User interface, good use of graphics and illustration.

## **Web Security and Staff Compatibility**

**RISK DESCRIPTION**: Based on our current assessment the compatibility with the current infrastructure of Iseek should be all right. They have hardware that would be useful for this project, but they would need an upgrade since they want to expand. Additionally, Web security would be provided as user data is stored on the server and under the data protection act user personal information and data must not be breached.

## **REQUIREMENTS**:

We would require powerful antivirus and we also need to set up firewalls in our system that would prevent cyber-attacks from taking place. We would also require access to hardware and software as we must build a new server for the system, and it must also be secured.

**POTENTIAL IMPACT**:

* The company will need to hire more staff to upload the paper CVs of applicants to the system database.
* The company should also be ready to buy new hardware and software materials for the server we would have to build.

**WAYS TO MITIGATE: (No Impact, Low Impact, Moderate Impact, Severe, Jeopardy)**

* Get the staff to make more use of the online system.
* Install suitable user interface to make use of the online system easily
* Install multiple authentication methods to prevent online scams and identity theft.

**RISK ASSESSMENT TABLE FOR TECHNICAL ASPECT**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| RISK | RISK DESCRIPTION | PROBABILITY (1-10) | IMPACT | RISK CATEGORY | MITIGATION PLANS |
| 1 | Unfamiliarity with new System | 3 | Low Impact | Insignificant risk | Set up tutorials in the system to increase familiarity |
| 2 | Large Size Of the project | 4 | Low Impact | Medium risk | Increase number of staff, purchase enough equipment to suit needs |
| 3 | Low SEO Ranking | 5 | Moderate  Impact | Medium Risk | Keep the Website simple, keep up with changes in the google algorithm. |
| 4 | Credit Card Scams | 6 | High Impact | High Risk | Track customer transactions, encrypt transaction data, use secure layers of authentication to protect data |
| 5 | Cyber security  Risks | 6 | High  Impact | High Risk | Install Quality  Firewalls, 3 ensure all transactions are protected with SSL Certification, dispose old data, and keep relevant ones,  Run ethical hacking tests regularly. |

## **ECONOMIC FEASIBILITY:**

**Description of tangible Costs and Benefits:**

A cost-benefit analysis was performed (see below) and we have allocated money to be spent on the development and operational costs that would be necessary for the creation and sustainability of this system. This analysis aims to capture the development and operational costs that would be incurred during this project and the tangible and intangible benefits that would also be received when the project is completed. The table below gives a precise explanation of the analysis.

**COST AND BENEFITS ANALYSIS: (£60,000 to be spent)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Development Costs | Development  Costs (£) | Operational Costs | Operational  Costs (£) | Tangible Benefits | Intangible Benefits |
| Server and Database Maintenance | 10,000.00 | Software Licensing fees | 6,700.00 | Increased rate of production | On-time Completion of Project |
| Purchase Of new Hardware and Software | 9,000.00 | Cloud Storage fees | 25.00 | Reduced error rates | High quality results |
| Monthly Antivirus Subscription | 59.00 | Project Launch and Installation | 15,000.00 | Customer Data Protected | Increased Customer Loyalty and Trust |
| Total Development Costs | 19,059.00 | Total Operational Cost | 21,725.00 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| RISK | RISK DESCRIPTION | PROBABILITY (1-10) | IMPACT | RISK CATEGORY | MITIGATION  PLANS |
| 1 | Reputational Risk during advertisement | 3 | High Impact | Low risk | Strict compliance to laws regarding communication and advertisement |
| 2 | No previous Knowledge or experience with new equipment | 4 | Low impact | Low risk | Training of staff |
| 3 | Loss of data when upgrading to new systems to storages | 5 | Medium impact | Medium Risk | Backup data before upgrade |
| 4 | Financial Crises due to economic policy | 7 | High Impact | High Risk | Set up financial failsafe to prevent company crash |

## **Organizational Feasibility:**

Looking at it from an organizational perspective, this project has an elevated risk. The executives of the company have supplied us with enough funds to accomplish this project

Staffing Requirements: More staff would need to be added to the current staff as we would have to convert hundreds of paper-based applications into a digital format. Staff would also need to be trained to ease compatibility with the new system.

Business Structure: Looking at it from an organizational perspective, a high-risk business involving the confidential data of the clients should never be set up as a sole proprietorship because it would be difficult to attract investors and customers. It is also hard to insure (Reference by: Lahla Wolfe on liveabout.com). The C.E.O. and top Iseek executives expect reliable results from this project and as stated in our motto we will deliver!

### Legal requirements: We would need to register our company with the CPIC, and we would also need to obtain various permits that would allow us to operate. We would need to also comply with laws that have been put in place by the government as we sign various contracts and agreements with recruitment agencies and advertising boards.

The users of this system are applicants, jobseekers and employers who need reliable recruitment agencies to give them the respective jobs/ workers they need. Although there are some concerns about the purchase of new equipment as we may need more than we planned for since it is a growing company. I would also like to once again raise the issue of inexperienced staff that may need to undergo training to increase familiarity between staff and the system.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| RISK | RISK DESCRIPTION | PROBABILITY (1-10) | IMPACT | RISK CATEGORY | MITITGATION  PLANS |
| 1 | No previous Knowledge or experience with new equipment | 4 | Some impact | Insignificant risk | Training of staff |
| 2 | Loss of data when upgrading to new systems to storages | 5 | Moderate impact | Medium Risk | Backup data before upgrade |
| 4 | Staff Burnout | 6 | Medium Impact | Medium Risk | Regular break between work hours. Use shift rotations to prevent staff burnout |

## **PROJECT SCHEDULING**

To ensure a successful implementation of the phased methodology we are going to start with a kick start meeting briefing the team about the project at hand and ensuring that everyone is comfortable with the approach. So, when looking into scheduling this project we will need to split the development of the system into smaller modules that are to be done on a weekly basis, this requires a continuous routine which in turn allows for the planning, analysis, design &implementation. of the system before the deadline.

This project has a team of 4 members namely Odi, Ayo, Korede and Takundanashe. As Odi is the leader of the team, he would have to assign tasks to the team members and ensure suitable individual tasks and appropriate workload for members. For the project to have no problems we will need to set up weekly catch ups on the tasks. This way K.O.T.A can complete this project for iseek within the allotted time (4 months). Our team will have to be consistent with this to be able to make progress on the application in time so that we do not miss the deadline date for this project.

During the phases for the iseek project we will be using a Gantt chart to analyze the tasks we have completed in the stages of our project. The Gantt chart was created by Ayo and the rest of the team at K.O.T.A. Ayo was also responsible for providing the data used for the analysis.

**GANTT CHART:**

This Gantt chart provides a detailed schedule for the planning, analysis, design, and implementation phases, with clearly defined timelines and assigned responsibilities. It demonstrates a thorough comprehension of the duration of each stage and the individuals responsible for their respective roles.

**(PLEASE USE THE ZOOM FEATURE TO VIEW THE IMAGE)**

# Timeline Description automatically generated

**PERT DIAGRAM:**

This pert diagram shows all information on the planning, analysis, design, and implementation for our project schedule.

Diagram

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## **REQUIREMENT GATHERING:** (CHOSEN METHOD = QUESTIONNAIRE)

## **Questionnaire:**

For this online system to be a success primarily need to get our customer’s view (iSeek Users). To do this we could use several investigative research instruments like interviews, surveys, questionnaires and focus observations. But due to the nature and size of iSeek, we saw it most appropriate to use online questionnaire’s, not only because they are easy to answer and less time consuming, but they are also relatively cheap as there is no need for KOTA, iSeek administrator or the applicants to utilize funds on physical meetings.

Although we might face issues with blank(non-answered) question which we could resolve by deploying closed(yes/no) questions. Questionnaires are going to be our main method of data capture as they are largely scalable, thanks to the internet, and maintain people’s anonymity compared to other approaches such as face to face and over telephone interviews (Cleave, 2023).

## **Focus Observation**

As an alternative to our questionnaire, we could use observations as this gives us first-hand information through asking the system users questions and noting what needs to be done in the new updated system to address the current system restraints. Not only are we getting accurate information, we are also able to study our fundamental areas of interest as we are putting ourselves in the shoes of the of day to day user of iSeek.

## **Sample Questionnaire:**

Please complete the following questionnaire to the best of your ability. This questionnaire is to get your insight of the current iSeek recruitment system. Your responses will be used as aid for the KOTA team. It should take 10 minutes or less, when you are done, please return in the collation box as provided. Thank you for taking time out of your day to answer this questionnaire.

First Name (\*):

Last Name (\*):

1.How satisfied are you with the current iSeek recruitment system?

excellent very good good average incompetent

2. Please tell us why you feel that way?

3.What Challenges do you face when applying for a job with iseek?

4.How likely are you to recommend us, to a friend or colleague?

Very Likely Somewhat Likely Indifferent Very Unlikely

5.What would you recommend we do when sorting for eligible applicants as an employer? And why.

6.What Changes would you like to see in a new recruitment system that you have not seen in any other recruitment system?

## **REQUIREMENT LIST:**

In this section the functional and non-functional requirements would be listed as shown by the key below.

**F-Functional requirement:** This is what the system must do, 1 its features and functions.

**NF- Non-functional requirement:** This contains the characteristics of the system and its general properties.

It contains the functions of the employers, applicants and admin.

But first here is the list of the requirements:

**Employer** should be able to:

* Register (F)
* login- (F)
* set maximum number of applicants and deadline date to close application- F
* view CV of candidates- F
* pay administrative fees- F
* get alert confirming debit of administrative fees- F
* set date and time for interviews with successful applicant- F
* review the history of candidates accepted and declined.
* contact support- F

**Applicants** should be able to:

* edit and replace CV- F
* search and apply for vacancies- F
* accept and reject invitations- F
* View and give reviews and ratings on companies they have worked for. - F
* Allow applicants to enter their expected pay. - F
* contact support- F

**Administrator** should be able to:

* manage employer and applicant data- F
* manage vacancies of companies on the website- F
* manage payment received- F
* generate reports on the website. -F

**FUNCTIONAL REQUIREMENT LIST:**

|  |  |
| --- | --- |
| PROCESS ORIENTED | INFORMATION ORIENTED |
| Employer should be able to register | The Employer should be able to review the history of candidates accepted and declined. |
| Employer should be able to login | Allow applicants to give reviews and ratings on companies they have worked for. |
| Employer should be able to get alert confirming debit of administrative fees | Allow applicant to edit and replace CV |
| Employer should be able to set company up for hiring on the website | The website should store user data and information. |
| Employer should be able to set maximum number of applicants for a vacancy | Admin should be able to manage employer and applicant data |
| Employers should be able to review the history of candidates accepted and declined. | Allow applicants to check history of companies they have applied to |
| Employers must be able to contact applicants and vice versa | Admin should be able to manage payment received |
| Allow applicants to upload supporting documents from device to website | Admin should be able to generate reports on the website. |
| Allow applicant to search and apply for vacancies |  |
| Allow applicant to accept and reject invitations |  |
| Allow applicants to enter their expected pay. |  |
| Admin should be able to manage vacancies of companies on the website |  |
| User should be able to contact support  Employer should be able to set date and time for interviews with successful applicant |  |
| Employer should be able to pay administrative fees |  |

**NON-FUNCTIONAL REQUIREMENT LIST:**

|  |  |  |  |
| --- | --- | --- | --- |
| OPERATIONAL | PERFORMANCE | SECURITY | CULTURAL&POLITICAL |
| The website should work on both android and apple devices. | The website database must be updated weekly | Website must prevent access to unauthorized personnel | website should protect user data and information asper the Data Protection Act |
|  | The website database must be real-time. |  |  |

# **FUNCTIONAL ANALYSIS**

## Diagram Description automatically generated**USE CASE DIAGRAM**

## **ANALYSIS OF THE DIAGRAM:**

The above case diagrams give an overview of the iseek online recruitment system inner functions, where the applicants, employers and the administrator have different access levels.

Applicants and employers have some similar functions like logging in, registering, editing their registration information, and viewing and giving the system review a, so does the administrator and the employer can both manage the job vacancies.

|  |  |  |
| --- | --- | --- |
| Applicant | Employer | Administrator |
| Track status | Pay administrative fees | Give discounts |
| Search for vacancies | Manage interview | Generate reports |
| Check for interview updates |  | Manage payments |
|  |  | Manage applicants and employers |

**STRUCTURAL ANALYSIS**

A picture containing timeline

Description automatically generated**CLASS DIAGRAM:**

**CLASS DIAGRAM ANALYSIS**

## The above Class diagram shows the 4 classes within the iSeek online system (Users, Applicants, Employer, Administrator), illustrating the use of inheritance with the Users class as the parent class and the Applicant, Employer and Administrator as the child classes.

The User class represents the parent class, with attributes inherited by other classes like name, surname, gender, phone, and address. It also has methods for registering, logging in, updating details, contacting support, and exiting the system if necessary.

The Applicant class represents the jobseekers, it inherits attributes and methods from the User Class like the person's personal information. It also has its own methods for checking invitations, searching for vacancies, tracking applications, and rating the iSeek services.

Employer class, just like the applicant class it inherits attributes and methods from the User class, but has its own attributes like the company name, location, registration number and the employerID, as well as its own methods like manage invitations, review application, and track recruitment matrices.

Administrator class represents the iSeek staff members/owners with attributes such as administratorID and methods like manage applicants and employers which allows the administrators to monitor other system users and facilitates the generation of reports based on several criteria.

**DATABASE DESIGN:**

Diagram

Description automatically generated**ERD DIAGRAM**

**SAMPLE SQL:**

The ERD above was transferred into a sample server using Access functionality and then tested to receive the following outputs using SQLs queries.

1) The SQL below shows how to select the Applicants with more than 2 years of work experience and a bachelor's degree.

SELECT Applicant.name, Applicant.surname,Applicant.gender,Applicant.workExp,Applicant.levelofeducation

FROM Applicant

WHERE workExp>2 AND degree='bachelor';

**ANALYSIS OF THE ABOVE CODE:**

The WHERE statement specifies that the data selected should only include applicants with more than 2 years of work experience and a bachelor's degree.

2) The SQL below shows how to get New Notification when a match is found.

INSERT INTO notifications (message, employerID, applicantID)

SELECT CONCAT ('A new match has been found with ID ', Applicant.applicantID), Vacancy.employerID, Applicant.applicantID

FROM Applicant

INNER JOIN Vacancy ON Applicant.applicantID= Vacancy.applicantID

INNER JOIN Employer e ON Vacancy.employerID = Employer.employerID

WHERE Applicant.workExp > 2 AND Applicant.degree = 'bachelor';

## **SAMPLE SQL CODE ANALYSIS:**

The above SQL code selects data from three tables (Applicant, Vacancy and Employer) and inserts it into the notifications table.

INSERT INTO notifications (message, employerID, applicantID) - This line is the start of the SQL statement and specifies the table and columns where the data will be inserted.

SELECT CONCAT ('A new match has been found with ID ', Applicant.applicantID), Vacancy.employerID, Applicant.applicantID - This line is the SELECT statement that retrieves the data to be inserted into the table. The CONCAT function is used to concatenate the message string with the applicantID.

FROM Applicant INNER JOIN Vacancy ON Applicant.applicantID= Vacancy.applicantID INNER JOIN Employer e ON Vacancy.employerID = Employer.employerID - This line specifies the tables and joins needed to retrieve the necessary data. It joins the Applicant table with the Vacancy table using the applicantID and joins the Vacancy table with the Employer table using the employerID.

WHERE Applicant.workExp > 2 AND Applicant.degree = 'bachelor' - This line specifies the conditions to retrieve only job seekers who have more than 2 years of work experience and have a bachelor's degree.

**UI PROTOTYPE**

Three UI prototype pages are designed. They cater to specific functions of the Admin, Applicant and Employer. The functions implemented enable the admin to generate a finance report; this document operates by allowing the admin to select a specific date range which he would like the report to cover, after which the amounts which the employers have paid for services during the specified period would be displayed in a column on the page along with corresponding employer. After this process, the admin can then decide to generate the report in a format for download onto the device.

**The Applicant UI prototype** displays a screen which enables the user to register to the iseek platform. The user is required to navigate to the registration page where he will fill in his personal details and upload his CV before officially registering to the company.

**The Employer** page enables the employer to manage vacancies, this is done by accessing the vacancy section of the employer home page, after which the employer can easily switch on or off the availability of positions. After this the employer must click on the update button for the change to reflect on the iseek website to users.

**USE SCENARIOS**

Table, timeline

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**UI PROTOTYPES**

**Admin Applicant Employer**

Graphical user interface, application

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**NAVIGATION STRUCTURES**

Across the three prototypes there are a variety of components which have been implemented in order to provide certain functions to the users. The placement of these structures has been thought out to aid ease-of-use and follow layout of similar software.

Several Navigation diagrams have been added to aid inter-page connection and intra-page motion. Some of these designs include, the scroll bar on the admin page which aids intra page motion by enabling the admin scroll up and down to locate certain employers, thus aiding the general functionality of the page. On both the Admin and Employer prototypes there is a “home” icon, this is another navigation device which helps the user to return to the home page from the section which they are currently within; this function provides an avenue for inter-page navigation as it allows the user change pages. There is a “back” button in the top left corner of the applicant page which serves to help a potential applicant return to the previous page where he could choose to login or leave the website.

**UI STANDARD**

Within the prototype, design elements have been implemented to ensure easy usability as well as well as aid page aesthetics. To ensure this, particular attention has been paid to color coordination across the different pages to the website and easy to read font style to aid user experience.

**Interphase template**

This describes the set of objects, actions, and icons which Have been utilized in creating functionality in the pages. Contents of the design template include:

* Drop down bar for date selection (Admin prototypes)
* Employer/ Applicant button (Admin prototypes)
* Generate document button (Admin prototypes)
* Input boxes for Applicant details (Applicant prototypes)
* Registration button (Applicant prototypes)
* On/Off icon (Employer prototypes)
* Update button (Employer prototypes)
* Chat icon (All prototypes)
* Options (All prototypes)

**Interface metaphors**

Real world concepts have also been implemented in these prototypes to ensure a smooth and engaging user experience. The interface metaphors utilized across the pages include:

* The home image; for returning to the home page.
* The document icon in the cv section of the applicant registration Page this icon indicates the requirement of a formal piece of writing to the user.

**UI EVALUATION**

**How could the system be improved?**

Essentially, we would carry out test to practicalize the functionality of these prototypes real operating scenarios. This opportunity would enable the discovery of potential bugs and situations which may not have been adequately catered to. This would be carried out before a final version of the utilizable software is published.

Accordingly, of all the evaluation techniques **Heuristic and Interactive** would-be optimal approaches as the former (**Heuristic**) will enable the team to have a standard to achieve as we would tailor our page design to the known principles and existing rules of thumb; this would enable the creation of a software which users would have a high level of familiarity with. The latter (**Interactive**) on the other hand would entail the users utilizing the prototype with a team member present, this process would enable direct feedback on potential changes as the users would be opportune to inform the team on any inconveniences caused by the design, any uncatered needs and any potential additions. The nature of the software and the high volume of users would certainly require such methods as familiarity and user input would be essential in creating a comfortably usable software.

**Evaluating the System based on UI Design Principles**

The major principles considered in the creation of this prototype and how we have attempted to justify them:

**Layout:** Upon inspection of the three prototypes, it can be noted that clear page sectioning has occurred, across the pages app bars are present and just beneath them a header section has been provided for each page. We were able to group similar content in the same area of the pages, for instance looking at the employer vacancy management page, beneath the header section the page was split into a section displaying the available positions and another section displaying the availability of these positions. Equally, upon inspecting the prototype for admin generation of reports, it can be noted that the page has been sectioned into areas for display of outputs and for inputs from the admin. These designs have been able to ensure a self-contained page which has a natural intuitive flow to it as users won’t require much brain work to understand the content of the page.

**Content Awareness:** Ensuring the user understands the contents of each page has been done by making clear headers for each page and sub-sectioning pages according to the functionality which they provide.

**Aesthetics:** Quite simple minimalistic designs have been used across the pages whilst maintaining a color scheme to ensure uniformity. With particular attention to the applicant registration page, white spaces have been implemented to section the page at each user input point, making it easier on the eye for the user. Standard color patterns have been followed and appealing text designs have been used with the implementation of capital letters and use of serif fonts.

**Consistency:** Consistent prototypes have been created across these UI samples. All parts of the proposed software would work in the same way and the design enables users to predict what comes next. Equally, upon completion of certain tasks the user can apply that knowledge in completing other tasks as the method of application is consistent. Looking at the employer and applicant prototypes, inspecting the former, upon completion of one vacancy management task the user would be able to complete other vacancy management task, as they would already be conversant with switch on/off the availability. Similarly, upon filling out a particular detail in the applicant registration section the user would be able to complete the tasks on that page due to consistent application methods.

**Minimal User Effort:** This has been ensured by creating a system in which users can accomplish tasks without excessive amounts of action required. In the implementation of this feature, the three click rule has been followed as users will not be required to click more than three times from the main menu to arrive at their desired location on the software.

**Usability:** Creation of the sense of ownership as well as implementation of quality interaction has helped to ensure a usable page in which users are enabled to effectively use and/or learn how to operate the software. By implementation of common rules of thumb, usability has been ensured for users with adequate technology experience.

**INDIVIDUAL REFLEECTION**

**Odi Ibezim**

The group roles were defined such that each member was allocated a specific task or section specified on the coursework details document. We didn’t follow a particular order but went with what we thought people we’re comfortable with working on. **Takundanashe** played a vital role in this project providing very vital feedback on most of the sections and taking up work to help team members on occasions. **Ayo** did a good job in executing his tasks and was always ready to work, he consistently requested help in areas he was not comfortable and ended up getting a hang on all his work. Oluwanifise was always prompt to execute tasks, he called for meetings often to catch up with everyone and produced good quality of work despite his large workload. Myself, besides leading the group, I was still tasked with completing sections of the project as well, I believe I led the group very well and produced very high-quality amount of work in my aspects. The marking scheme has been graded such that person who was mainly tasked with completing a section receives a 3 in that section whilst the others who helped and gave important feedback on that section receive a 2/1/0, depending on the level of input.

**Ayo Apooyin**

I am pleased to report that our project was a success, thanks to the excellent teamwork and equal contributions from everyone involved. We maintained good communication throughout the project and made a point of scheduling regular face-to-face meetings in the library, which we all attended. Our commitment to the project was evident in the fact that we spent several hours working on it twice a week. Each team member took responsibility for their assigned tasks and offered support when needed, demonstrating a high level of accountability and collaboration. Overall, our effective teamwork was the key to our project's success.

**Takundanashe Chidamba**

I believe that the group project was a success as every member showed dedication and great communicative skills throughout the whole process. Throughout the writing of this proposal, I and each team member did their assigned work to the best of their abilities. Specific tasks were assigned to each group member during our weekly meetings according to their preference and knowledge of the fields, but it truly felt like a group effort as members would consult with each other and offer advice and assistance whenever needed. I was personally assigned with the write up of the methodology, designing of the UML use case Diagram, class diagram and the ERD (Entity relationship diagram) but from time to time I had to switch to other sections of the projects to stay on track as the deadline approach. As I mentioned before, I sometimes had to approach others for help and clarification on aspects that I did not fully understand.

**Oluwanifise Obabire**

During this project, from planning to execution we had frequent face-to-face meetings as well as online meetings to keep tabs on each other and to ensure steady communication at all ends. We all assigned different roles to ourselves, and we checked each other’s work to ensure that there was no mistake in it.

I would say the project is a success as all goals and objectives as listed in the assessment guide. My role in this project was to write the feasibility risk assessment, the making of the sample questionnaire and the requirement list. But more than often, I also helped the other group members with their own projects, sparing them from stress.

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