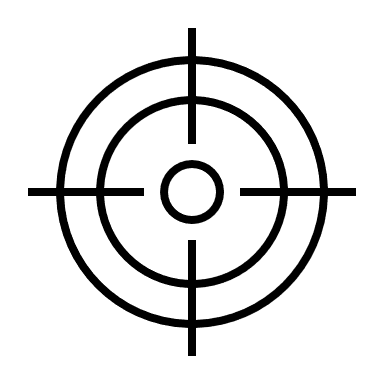
**Casual jobs database v.1**

**Project Closure Report**



A close up of a sign

Description automatically generated

**Project Team:**

Supun Chandra Malimage – Project Manager

Kalaivani Ilango – Team Member

Ruban Ravi Sebastian – Team Member

19th October 2020

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| **Project Closure Report** | | | |
| **Project Name** | Casual Jobs Database V.1 | **Project Client** | Clement Sudhakar Swarnappa |
| **Project Manager** | Supun Chandra Malimage | **Project Advisor** | Steve McKinlay |
| **Project Description** | A unique job matching algorithm to automate job matching between employers and job seekers. | **Project Sponsor** | Wellington Institute of Information Technology. |

# Summary:

The project “Casual Jobs Database V.1” is a web-based application which serves as the purpose to support international and tertiary students to find part time and casual jobs easily. We, SKR team took responsibility to develop the project under the guidance of the client, Clement Sudhakar Swarnappa, a senior lecturer and an academic staff member at WelTec. The main purpose of building this job website is to override the hardships prevailing in finding part time jobs by the students. This job portal has been developed to enhance the job opportunities in efficient manner and to reduce the obstacles faced by the students and employers.

This report describes the project closure information highlighting the historical data such as achieved deliverables, team performance, difficulties encountered, tools used, project outcome and the product overview. Further it covers the critical evaluation of all relevant aspects and recommendations for future projects. All the information given in this report has client’s written approval and acceptance of all the team members.

We, SKR team has successfully completed this project and handed over to the client on 28th September 2020. In this report, listed all the milestones achieved with its respective finalized dates and expected dates.

# Project Manager’s Report:

The Casual Jobs database web application project was initially started on 08th July 2020 by gathering required information which has given by the client. As the project officially started on 13th July 2020, we have selected our team members according to the project requirements. We have successfully planned and well prepared with a team contract which all the team members can present to work as per their availability and work experience.

We have successfully granted the clients’ approval for the project on our first meeting and got delayed on preparing the project proposal as we have experienced some difficulties for arranging milestone deadlines and selection of methodology. During first few weeks, all the team members used to follow tutorials and researches related to the project. We have received the official project proposal approval on 31st August 2020, and we all started doing the work in very smart way. Each project deliverable, we have contacted the client and got his official approval for further implementation and changes.

We have driven with confident and maximum client satisfaction factors which emphasized to achieve our goals more practical way. In some points we have struggled with searching support and we have contacted our project advisor and other respected tutors to find the best outcome. As a team, we have successfully handed over the project to the client officially on 28th September 2020 with all the relevant documents including functional and non-functional testing. We have given administration and user training for the client which client can independently make future implementation.

As the project manager of this project, I am proud of my team members, they have contributed their experience and knowledge to finalize this project successfully with maximum client satisfaction. We all work equally to achieve all the project deliverables faster. As we have finalized the project 15 days prior to the expected date, our client has appreciated teamwork and gave his regards to all my team members. I always used to tell my team members, not to work hard, work smart. Together we achieve that which no one can achieve alone.

# Rapid Application Development Methodology

We have chosen "Rapid Application Development" methodology to develop our web application. RAD methodology suitable for the small size team and there is less long-term planning involved in the process. Based on the RAD methodology, we have done testing in each phase, including the initial phase which has supported us with the concrete output. We also did some researches about RAD methodology to use it in an efficient way for our web application.

We managed to complete each stage based on the RAD methodology. We worked on gathering information and prepared the proposal under the business modelling. Gathered information, prepared data to start with development based on the data modelling. We used the gathered information during the data modelling stage into the process modelling stage. Under the process modelling, we have done some changes and optimization in the information we gathered to enhance the development.

We initially took some time to prepare the questionnaire in order to kick-start the development. After successfully created the questionnaire, we started preparing the wireframe prototype and designed the prototype in a way that we can start developing the functional prototype which is clickable. Based on the RAD methodology, we have done the development stage by stage which helped us to manage the time and meet the deadline.

# Project Deliverables – Planned, Achieved, Explanation:

**Milestone 1: Project Proposal approval**

**Planned date:** 19-08-2020 **Achieved date:** 31-08-2020

**Estimated Total Hours:** 288 hours **Actual Consumed Hours:** 480 hours

As a team, we have received approval for the bid document and kick-started the project with initial preparation of Proposal document. We have gathered many information and did several researches for project development. We segregated the proposal headings among ourselves and started to prepare the proposal. We did lot of research in choosing the methodology and finally selected RAD methodology for our project. We faced few difficulties in making the Gannt Chart for assigning tasks and hours for the team members. We got valuable guidance from our advisor and coordinator for completing the proposal. Our initial plan is to get the proposal approval by 19th of August, unfortunately we have got this proposal approved on 31st of August.

**Milestone 2: Wireframe Design Approval**

**Planned date:** 31-08-2020 **Achieved date:** 31-08-2020

**Estimated Total Hours:** 192 hours **Actual Consumed Hours:** 192 hours

Though, we have been delayed with the previous milestone of proposal approval, we as a team were able to speed up, back on track and completed the Wireframe, Questionnaire, and sitemap before the deadline. Under the Wireframe Design Approval, we have completed Sitemap, questionnaire, and Wireframe to start with the front-end development. We have received the first appreciation from the client for our work along with some suggestions which motivated us to gear up for the next milestone. We have not only completed these tasks under this milestone, along with we created a client approval template based on “Rapid Application Development” methodology.

**Milestone 3: Front-end Design Approval**

**Planned date:** 09-09-2020 **Achieved date:** 22-09-2020

**Estimated Total Hours:** 161 hours **Actual Consumed Hours:** 353 hours

After getting wireframe design approval, we, SKR team started to develop front-end design for the project. We segregated the task among ourselves and started to develop the front-end design. We have started with jQuery, jQuery UI and bootstrap to initiate the basic user inputs. Then we have realized that the date, time inputs fork for the questionnaire wizard cannot be done with jQuery, jQuery UI and bootstrap. We have spent lot of time on searching for compatible date, time input library within jQuery. Then we have adopted jQwidgets library for date, time dropdown inputs. For the time duration calculations, we used movement JS, jQuery plugins. While working on this milestone, we as a team parallelly working on the next milestone which is Database design.

We as a team faced ultimate pressure while working this milestone as we had very less time to achieve this milestone and the next one with only one day difference. However, we as a team decided to put extra effort, stretch ourselves to get this done in a timely manner. Our team effort turned out well and we completed this milestone by the expected deadline.

**Milestone 4: Database Design Approval**

**Planned Date:** 10-09-2020 **Achieved date:** 22-09-2020

**Estimated Total Hours:** 14 hours **Actual Consumed Hours:** 14 hours

Along with the previous milestone, we have also completed this milestone by the expected deadline. Client was overwhelmed with the team’s performance and appreciated again. We have faced few obstacles in designing the Entity Relationship diagram, relationship between classes, class diagram and the activity diagram under this deliverable. During design of tables, we have implemented foreign keys between relevant tables. As per the front-end inputs we faced few issues with building foreign keys between locations, sublocations, job titles and availability timetables. Only by the support of the advisor and team effort, we were able to achieve these milestones successfully.

**Milestone 5: Back-end Design Approval**

**Planned Date:** 30-09-2020 **Achieved date:** 28-09-2020

**Estimated Total Hours:** 319 hours **Actual Consumed Hours:** 303 hours

Under this milestone, we have covered the major task of this project such as Backend & Process modelling, Employer Panel, Job Seeker Panel, Job Matching, and Matched profiles. We have faced some issues with front end time availability data transferring to back-end. We didn’t get exact time difference in the back end as shown in the front-end user interface. Then we started to examine the issue behind the calculation error. Again, we have made some changes in front end calculation as well as php back end calculations. For job matching algorithm, we have made separate functions for each questionnaire wizard option.

Similar to previous milestones and deliverables, we were also able to achieve this milestone by the expected deadline. We as a team not only achieving the milestones by the given deadlines but we also make sure that each milestone meets the client’s expectation and serve the purpose of creating this application. Since we have been testing the application parallelly for each milestone based on the RAD methodology, we are also done with testing along with document which helped us to plan for the client HO and presentation well ahead of the actual deadline.

**Milestone 6: Client HO and Presentation**

**Planned date:** 12-10-2020 **Achieved date:** 28-09-2020

**Estimated Total Hours:** 48 hours **Actual Consumed Hours:** 48 hours

By the team effort and support, we as a team were able to complete the working project along with output well ahead of the original deadline. We were able to submit all the documents and necessary files to client and given brief demonstration about the project, tools used to build this project, necessary files, web application. We shared all the necessary files to client through GitHub, got the approval and signed off. We as a team can proudly say that we have achieved the goal with working output by 28-09-2020 against the original deadline of   
12-10-2020.

# Project Outcome:

The main scope of developing Casual Jobs Database V.1 project is to support students to search, apply and find job easily. We, SKR team took responsibility to do this project. We developed this project based on RAD methodology. We successfully developed a unique automated job matching algorithm with provides the job match between the employer and the job seeker. Each milestone is completed successfully by client’s approval. Client was 100% satisfied with the project output.

Students who face difficulties in finding casual jobs can make use of this unique job matching portal. Employer and Students can register into the job portal and get benefitted through this portal. We developed this job portal with high range of standards and quality. We, SKR team strive hard and put lot of efforts to make this website successful.

Casual Jobs Database project helps the team members to gain knowledge and skills to the greater extend. We SKR team learnt how to handle the project with the stipulated timeframe, how to collaborate with the team members, how to handle obstacles and how to manage the given task. This project paves the way to enhance our talent efficiently and enable us to accomplish our goals.

# Team performance and difficulties encountered

During the project, first six weeks, our team had lot of confusions and conflicts due to poor coordination between team members. With effect from 18th September 2020, all the team members agreed to present in the WelTec to continue the work. Since that day, we had good communication between each other, and we have started to work more efficiently than work from home.

We have agreed in team contract to make penalties on late commers and absents. As a team, we strongly applied it to all the team members which can prevent their late present and absents. Due to these decisions, we had a great collaboration between all the team members, and we enjoyed a lot while work together.

All the team members worked in a good manner to understand each other and we have achieved our goals in the targeted date.

# Lessons Report:

* In this whole project lifecycle, we as a team had many opportunities to learn new skills as an individual and as a team.
* While doing this project as a group, we learnt how to manage the team, understanding, and coordination between team.
* We learnt to manage the conflict situation which arose during the development stage, understood how to handle the conflict situation between team.
* Initially there were no time management in the project team, but we learnt to manage our times by being punctual, organize the tasks which really helped us to manage the deadline in a proper way

# Tools used to build this application:

The below attached table explains about the tools and techniques used to build the web application.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Product Name** | **Version** | **Description** |
| 1. | Pencil Project | 3.1.0ga | Wireframe and Site map of the Casual Jobs Database web application. |
| 2. | Visual Paradigm | 16.2 | Use case diagram, Class diagram, Activity diagram, and ERD diagram |
| **3.** | Apache web server | 2.4.xx | Development and final deployment (production) web server |
| **4.** | PHP | 7.2.xx | Web language to develop entire system |
| 5. | MariaDB | 10.4.xx | RDBMS to deal with data |
| **6.** | phpMyAdmin | 5.0.xx | Admin graphical interface for RDBMS |
| **7.** | HTML | 5 | Latest technology with highest browser support |
| **8.** | CSS | 3 | Latest technology with various types of inbuild features such as loops, animations, and media queries |
| **9.** | Bootstrap | 4.5.x | Use prebuild CSS classes to optimize responsiveness |
| **10.** | FPDF | 1.82 | PHP library to generate PDF files |
| **11.** | jQWidgets | 10.0.2 | Prebuild jQuery widgets to build user interface. |

# Product Quality Review:

Casual Jobs Database V.1 job portal has been built with high standard quality of software and hardware. This website has a robust database which can store a greater number of data. The unique feature of this job portal is the automated job matching algorithm which provides the job matching with the weightage score between employer and job seeker. The system uses cloud flare SSL certificates to encrypt data transfers between user and the system. This job portal focuses on user’s ease of using application, flexibility to handle controls and highly versatile.

This web application is easy to learn and the data present in the system is more accurate. This web application is user-friendly and easy used by all the users. Training is not required to access the system. The controls present in the system are self-explanatory. This portal is more efficient and scalable, it can handle increased number of user traffic and data volume. The system is flexible and portable.

This web application can be accessed from any browser. It has user-friendly interface and responsive. It helps to create job profiles and post jobs specifications with minimal inputs and it also help job seeker by selecting the availability and filtering the job match profiles.

## Expected Benefits:

The project has completed successfully with fulfilling all the client requirements and future needs. This system comes with a highly scalable robust database structure which can be used to add more features easily without changing the system structure.

This system supports user behavior tracking, location, and IP address tracking to prevent malicious attacks. Also, is has ability to add as many as job titles, locations, sub locations and other required features to make the system more user-friendly. This system can generate real-time seeker resumes and employer job advertisements in PDF printable format.

Further, this system can match job profiles against job advertisements on the go. It comes with keyboard less questionnaire wizard which users can easily build their profiles faster than ever. All the new users can verify their home or office address by using address dropdown tool in this system.

Job seekers can have multiple job profiles as per their preference. As per required job types, users can have ability to change their availability, experience, and qualification. Within the system, seekers can rate employers with comments and, employers can rate with comment on seekers. This helps all the users to have brief idea before they apply for the job or before shortlist any candidate.

This unique job matching algorithm is fully automated, and it helps employers to find suitable candidates faster without hesitation. On the other hand, job seekers can see the shortlisted job profile in a pdf format to identify the job nature and find their own capability of undertaking the job. This helps job seekers to work with multiple employers and in various time frames to organize their work environment.

# Recommendation for future projects:

Within the Casual Jobs Database V.1, we have implemented a robust database to be enabled with scalability, and reliability. By using latest framework for the front-end, such as bootstrap and jQuery library can be performed individually to expand the project in near future. This system fully functional with accessing via any device along with further implementation in mobile application development using angular react JS and ionic. Also, for the back-end improvements and deployments, we used latest web technologies including Apache, PHP, MariaDB, and expandable FPDF library.

We have created User manual along with the Admin manual which would enable the user to have proper guidance and future administrators should be able to make changes using the Admin manual with further adaptations of new libraries.

# Conclusion:

We, SKR team strived hard to complete this project by the expected timeframe and with the outstanding quality and standard. As planned, we were able to complete this project before the deadline by ensuring the highest quality, sustainability, and the reliability. The client was fully satisfied with all the expected deliverables.

We successfully finalized this project with our teams’ unconditional perseverance, collaboration, and dedication. We heartfully thank our advisor, coordinator, and the client for their incredible guidance for resolving issues during the project.