

CHAPTER III RESEARCH METHODOLOGY

3.1 Research Method

The basis of research method used as the material for the completeness of data and information is applied research where discipline of science that applies existing scientific knowledge to develop more practical application. Research is done with respect to practical realities, application and development of science generated by basic research in real life. This research is an applied research is because we do research based on result of the development and aim to resolve a problem. (<http://www.jstor.org/stable/25049339>). See Figure 3.1 for the research flow.

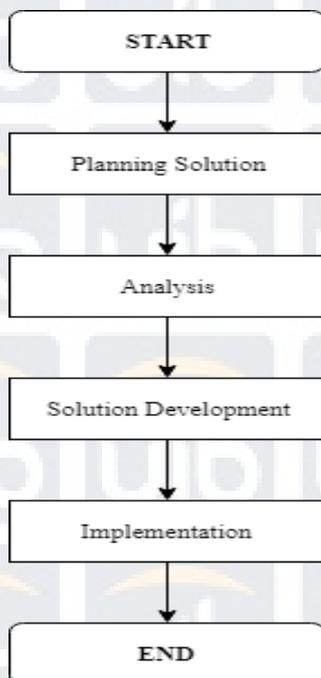


Figure 3.1 *Research flow*

In Figure 3.1, research is start with planning a solution from the stated problem. The current problem is by using website, how to provide and display information for user about job vacancy that is from an internal database and internet and how is the process of applying it. After recognize the problem, we will plan the solution by using applied research based on research and working experience.

The reason website is used to provide information is because more people is using internet to search the product or services they needed, it is quicker and easier to update information which is where our information is gathered from internet, and it is always accessible. After the result analysis is done, we start to sketch the website wireframe, create user interface design and type of technology to use. After that, we will proceed to development stage where the website is created.

This research is using Extreme Programming as the development method which is consist of six phases. After the development attended to the final phase, it will proceed to implementing the system by transferring the website to a server.

3.2 Website Development

This research is focuses on the design of job searching website. The starting point for this is by collecting user stories, initial requirements and design.

We start planning the wireframe or mockup for visual representation of user interface that we are going to create in sketch. This is simply a guide to the suggested content structure for each page. At this point to, we plan the schedule for building project within due date and create user stories such as user can search job

information according to their requirement, user can apply the job via website by upload required documents or company can add job and choose candidate to contact by the recommendation of the system.

In iteration to release phase, we start creating the website itself. The graphic elements that has been designed in the previous phase is used to create the actual website. The homepage is created first and then followed by the login, register and so on and the created pages released in small part with continues integration and deploy in small release. The layout creation is created and user acceptance testing is performed. All codes have unit tests to eliminate bugs and the code passes all unit tests before release. The last phase of development is upload it to a server after passed testing. We will make sure everything works fine and always be prepared to make changes in another case.

If there are changes or new functionality is needed, we will go into maintenance phase. If the new functionality is not able to develop in economically, then it will go to the death phase. In maintenance phase, we keep old system running while building new functionality until the system has all the needed function and customer is satisfied.

3.3 Required Tool

There are several tools that is needed in order to develop a website which is Microsoft's Visual Studio Code editor, Angular framework, Heroku. VS Code is an editor which is developed by Microsoft. We use Microsoft's VS Code because it lets you build and debug modern web and cloud applications. Code is free and

available on Linux, Mac OSX, and Windows. VS Code editor has syntax highlighting and autocompletes with IntelliSense which provides smart completions based on variable types, function definitions and imported modules. Debug can from the editor with break points, call stacks, and interactive console. Working with Git and other SCM providers. Lastly, it is extensible and customizable which run in separate process, ensuring that it won't slow down the editor.

Heroku is used for deploying web application. Heroku is a fully managed container-based cloud platform, with integrated data services and a powerful ecosystem, for deploying and running modern apps. The Heroku developer experience is based on an app-centric approach to software delivery, and integrates with today's most popular developer tools and workflows.

The Heroku platform runs your apps inside dynos — smart containers which execute on a reliable, fully managed runtime environment. You can deploy code written in Node, Ruby, Java, PHP, Python, Go, Scala, or Clojure or use a custom buildpack to deploy apps in another language you choose. And you can scale your app instantly by increasing the number and type of dyno your app runs in.

Angular framework is used to develop website and it is a development platform for building desktop and mobile web application by using Typescript/JavaScript and other languages. Angular is developed by Google. Angular can be uses to build apps for any deployment target such as web, mobile

web, native desktop and native mobile. It has built feature with simple, declarative templates with own components and use a wide array of existing components.