

## CHAPTER 3

### RESEARCH METHODOLOGY

These are some steps that has to be done on this research :

#### 1. References Collection

The first step to do in this final project is looking for some journals or references that related to the topic. In this project, five journals are used as reference material to discuss about the smartphone selection. The topic of this project is about a recommender system, how to implement the slope one algorithm to the program, and how it works.

#### 2. Data Collection

The next step is collecting data. The data is obtained from [www.kaggle.com](http://www.kaggle.com) with keyword *Amazon Review:Unlocked Mobile Phones*. The original file is CSV extension with a size of about 131 MB which consists of four hundred thousand rows and six columns. In this project, data will be stored in CSV format by tidying unnecessary data.

#### 3. The Diagram Program Design

In this step, the design program based on the data that was collected. The design of the program consists of input in the form of rating from user when the list of rating gadget displayed. The rating will be processed by the slope one algorithm using collaborative filtering method that results a list of gadgets recommendation which is match with user interest when rating the previous stage. The design about specification step will be illustrated through the flowchart from the start to finish.

#### 4. Implementation

The next step is to implement what has been learned in the previous chapter and the design that has been designed into the PHP programming language. The original file is CSV extension with a size of about 131 MB which consists of four hundred thousand rows and six columns. The data will be stored in phpmyadmin.

#### 5. Program Testing

After implementation, the program that has been made has to be tested. Testing on program is done to find out whether the program is running properly or not and to resolve bugs or errors and the unfinished coding. When errors or bugs are resolved, the next testing is to find out that the usage data it will produce the best recommendation. If the program testing is done and works well, it means, the slope one algorithm can be used to solve the problem.

#### 6. Conclusion

Slope one algorithm using collaborative filtering method can be implemented to build recommender system if the user member who is logging in and other users have already given ratings on some product gadgets, including the items that are accessed by user login.

#### 7. Project Report

The last step in this project is to write the project report. The project report consists of the initial process of project to achieve the result in accordance with the purpose itself.