IMPLEMENTATION OF USER CENTERED DESIGN METHODS TO INCREASE USABILITY IN SOCIAL MEDIA APPLICATION CLIENT (MICROBLOG) WEB-BASED

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ABSTRACT

Microblogging is a form of a blog that allows users to write brief text updates that are usually less than 140 characters and make them public. Improved user is also encouraged by the establishment of Micro-blogging social media micro-blogging site, one that is widely used today is twitter. However, current users find web twitter microblogging is still minimal because the feature can only update them in text format only. One solution to this problem is to build a web-based client applications by applying UCD methods. UCD methods used to analyze the user needs to perform activities of UCD are: questionnaires, interviews, modeling and prototyping tasks. From the analysis results can be known limitations experienced by current users for example: users can not shorten a link, upload images, and do the translation. So twitter client that is built not only limited to the renewal in text format only.

Twitter client application development is supported by using the twitter API (Application Programming Interface) as a feature of communication to build the client with the properties of micro-blogging so you can add other services not yet provided a web twitter. Twitter client application can be accessed with the availability of a good internet connection and users who already have an account on twitter and understand how to work twitter. Thus users can use the twitter client application with additional features that are the result of the UCD process that can improve the usability (usability) twitter client built. This is evident because the user has to upload images, shortening the url, and do the translation.

Keywords: microblogging, twitter client, API twitter, user centered design,usability

1. Background

Man with all the diverse activities that gave birth to change the way we communicate to other human beings. Changes in these communications is not just happening in the media used, but on the content of communications made. The need for quick and effective communication gave birth to a new term called Microblogging. Microblogging is a form of a blog that allows users to write brief text updates that are usually less than 140 characters and publish them, either for all to see or restricted group chosen by the user. Improved user is also encouraged by the establishment of Micro-blogging social media micro-blogging site, one that is widely used today is twitter. This is also shown by the increasing twitter user. However, twitter web itself is still minimal feature because users can only update them in text format only. Users can not shorten a link, upload images, and do the translation. This is one of the constraints experienced by the current user. One solution to this problem is to build client

applications that meet those needs, but still clinging to the working principle of twitter. By adding a few features, so users feel less constraints faced so far. Facilitate the user in interacting the client application is built based on web due to ease of access, ie using only a web browser (usually already available on PC) so it does not need to install special client application.

Client application development is done by applying a user centered design (UCD), which is one method of design that became the basis of planning, design, and construction applications. UCD took the concept that development of a product be it hardware or software (including websites), user-oriented, has proven to create better usability level as proposed by Frank Spiller in User Centered Design 101. UCD activities conducted in this thesis is distributing questionnaires, interviews, modeling and prototyping tasks. Development of client applications are supported with the availability of twitter API (Application Programming Interface) as a feature of communication to build the client with the properties of micro-blogging so you can add other services not yet provided a web twitter.

1.2. Problem Formulation

From the description above background, then the problem can be identified namely, how to apply the user centered design method for the application client social media microblogging (twitter)web-based.

1.3.Purpose And Objectives

The purpose of the development application is to apply user centered design method for the application of social media web-based microblogging client. The purpose of this application development, namely:

1. Conducting studies in order to obtain an understanding of the usefulness (usability) by applying UCD methods.

2. With UCD method is expected to increase the usability (usability) of social media application client microblogging (twitter) web-based.

3. Enhancing convenience and usability in the use of social media microblogging client (twitter), especially for users who already have a twitter account and understand how to work Twitter, for example in the case of uploading images, shorten a link, and perform translation

2. Models, Analysis, Design And Implementation

2.1.Models

Software development model in the making of this application using the waterfall model. The stages contained in the waterfall model based on figure 1.1 is as follows:

a. System engineering

The first stage is done is to formulate a system that we are building. It is intended that the developer really understood that we are building systems and measures as well as any policy relating to the development of the system.

b. Requirements analiysis

Conducting an analysis of the problems faced and set the software requirements.

c. Design

Produce designs that meet the requirements specified during the requirements analysis phase. The end result of a very detailed design specifications, so easy to be realized at the time of programming.

d. Coding (implementation)

Coding that implements the design into a code or machine language understood by the computer using a particular programming language.

e. Testing (testing)

Testing program that produces truth. The testing process focuses on the internal logic of the software, ensure that all statements have been tested and determine whether desired results have been achieved or not.

f. Maintenance (maintenance)

Dealing with the finished software to run smoothly and avoid the disturbances that can cause damage.

2.2. Anlysis

2.2.1. Anlysis System

In the analysis carried out decomposition of the system of social media twitter microblogging namely by applying UCD methods to improve usability. This was done to identify and evaluate problems that are found weaknesses, opportunities, barriers that occur and needs, so it can be proposed improvement. Perform analysis on running system intended as the basis for design or repair the old system. And analysis results can be known weaknesses and shortcomings of the old system and can be designed or improved into a system more effective and efficient.

2.2.2. Problem Analysis

Twitter as a micro-blogging is still minimal because it only features it has features like reply tweets, original retweet, favorite, direct message and lists. Twitter also has its limitations because it can only do updates in text format, can not display the information in the format of the picture and do upload pictures as well as shorten a link. This has become one of the limitations in sharing information because users can only share information in text format only.

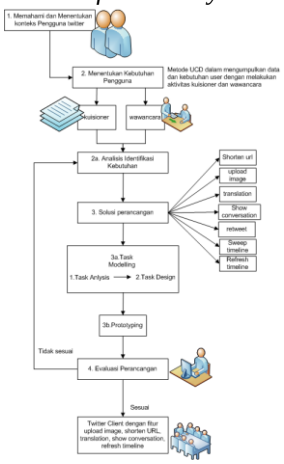


Figure 2.1 UCD Proces

2.2.3. Fungcional Analysis

When will build an application program, the first step to do that is by studying and analyzing the running system. Functional requirements on the twitter client application that is built will be illustrated with several diagrams that use case diagrams, sequence diagrams and class diagrams.

1. Use Case Diagram

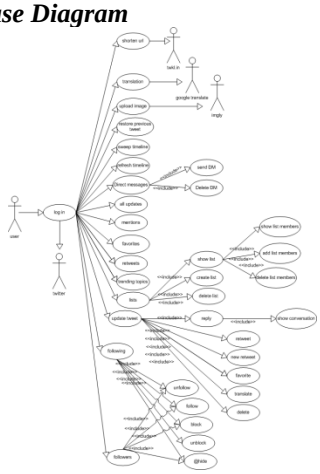


Figure 2.2 Use Case Diagram

2. Class Diagram

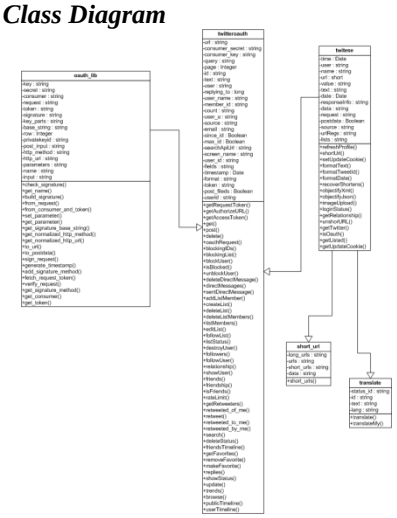


Figure 2.3 Class Diagram

3. Class Specifications

Table 2.1 Class Specification

No.	Nama Kelas	Jenis
1	Twitteroauth	Kontrol
2	Twitese	Kontrol
3	Oauth_lib	Kontrol
4	Translate	Kontrol

5	*Short_url*	*Kontrol*

2.2.4. Non-Functional Analysis

Non-functional needs analysis is the analysis needed to determine the system requirements specification. This specification also includes elements or components of what is needed for the system to be built until the system is implemented. This needs analysis also determines the necessary input system specifications, output will be produced systems and processes needed to process the input to produce a desired output.
In the analysis of non-functional system requirements is described analysis of the hardware (hardware), software (software), and the user (users) as a material shortage analysis and needs that must be met in the design.

2.3 Design And Implementation

A. Menu Structure

In designing an application that contains the menu structure required menus and submenus that serves to facilitate users in using the application. Here are described on the menu structure in this application:

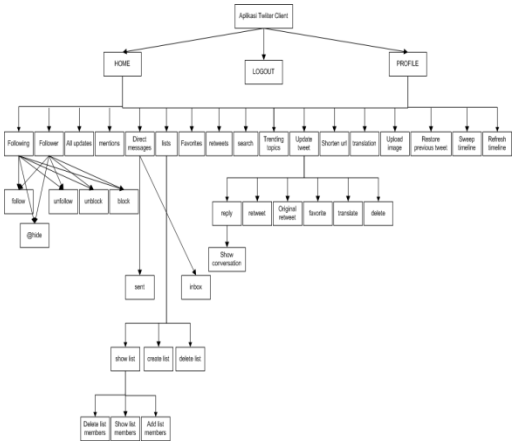


Figure 2.3 Menu Structure

B. Home Design Applications

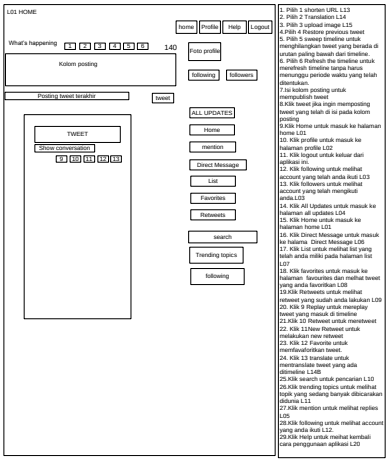


Figure 2.3 Home Design Application

2.4 Implementation

This stage is the stage where the system is ready for operation, which consists of a description of the implementation environment, and program implementation.

A. Hardware Implementation

The hardware used to implement the system are as follows:

a. *Processor :Dual core Mobile processor T4200 2.0 GHz*
b. *Hard Disk : 250 GB.*
c. *Memory : 1 GB*
d. *Monitor :14.1" Resolusi (1280 x 800)*
e. *VGA : 256 MB*

B. Software Implementation

The software used to implement the system are as follows:
a. Operating system: Windows 7 Ultimate 32 bit
b. For this software development using PHP, Javascript, by utilizing the Twitter API, twkl.in, and Img.ly, google translate, UCD methods and security protocol OAuth authentication with the design method using the Unified Modeling Language (UML).
c. A good internet connection to support communication with the server application twitter and some servers that use services such as twkln.in and img.ly. It is very important

because applications can not run on the local host.

C. Interface Implementation

Implementation of interface is done by each display program built and encoding in the form of program files.

3. Results Discussion

From analysis and design that has been done, the results of the application that was built to look like the following view:

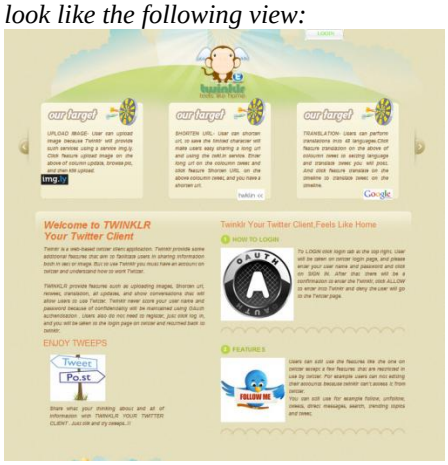


Figure 4.1 Views Welcome Page

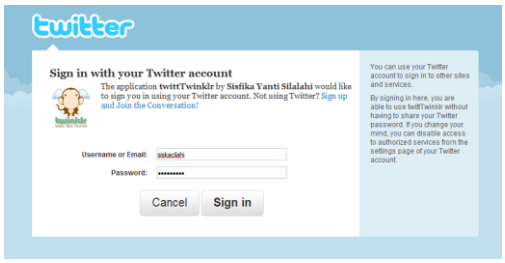


Figure 4.2 Views Login

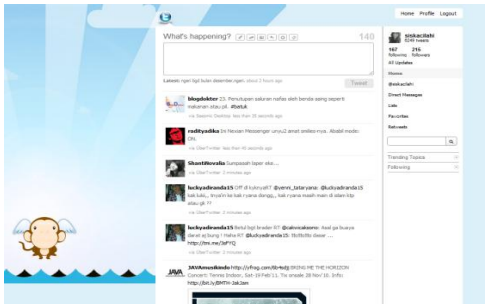


Figure 4.3 Views Home

4. Conclusions And Suggestions

4.1 Conclusion

Based on the analysis and testing has been done in this thesis it can be taken several conclusions, among others:

1. By applying UCD methods in social media application client microblogging (twitter client) has been to improve the usability (usability) social media client and in accordance with the characteristics of learnibility usability, efficiency, satisfaction, memorability, and errors.

2. Twitter client application built was pretty easily understood and used properly by the user.

3. Twitter client application that is built can be one choice in the use of microblogging twitter with some additional features that give users flexibility in sharing information because users have to upload images, doing translations and shorten a link (url). However, the twitter client application that was built is still limited to users who already have an account on twitter and understand how to work twitter.

4.2 Suggestions

Based on the above conclusions, the suggestions can be presented for input on this thesis is as follows:

1. Building a mobile version to be accessible via mobile phones.

2. Developing a translation feature so as not limited to translation of a standard language course.

3. Develop a twitter client application that provides a setting in various types of language to be used by anyone, anywhere.

4. For the future you can add features in accordance with the development needs of the user.

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