Computer Systems Initiative

Presents

Phase 1

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1 Introduction

Computer Systems Initiative (CSI) is working on a twitter like application for the HAL corporation. This application is meant for mass communication between company locations to improve collaboration within. This will not only allow products to be made faster but better. Employees of the compnay will be able to log in to this website and will be able to follow other people in the company that work on the same project or share similar interests.

1.1 Purpose

The purpose of this application is to help members of a business coordinate their ideas and actions and keep everybody updated on events and deadlines. Further, it can be used by the general public as a means of communicating their ideas to the outside world. The first goal is to get the website up and running. Once the website is established and maintained we need to have a high rate of usage in the company. Without the support of the people in the company the idea of spreading knowledge and ideas doesnt become relevant. We are asking the company to ensure their employees actually get accustom to the website and use it daily.

1.2 Document Conventions

In this document the requirements will be represented in a bold **R**. We hope that this will make it easy to identify the requirements and the supporting text that goes along with it.

1.3 Intended Audience and Reading

The intended audience of this product are managers and team members developing a project. However, it can also be used for general public use of the people as a social application. The manager and team members will be able to use this website to aid their design and help solve problems within the company. This means a group of people are testing a product on one side of the world and they have questions they can ”Hoot” about the problem and tag the corresponding people who need to fix it on the opposite side of the world. This will allow better working enviornment thus a more fluid way of solving problems.

1.4 Product Scope

The product is intended for use within a business to coordinate project ideas and as a means to keep current with the actions of other team members. Using PHP as well as JavaScript there will be a home page called HALOC which will allow the user to see his/her hoots as well as people in the company. If he/she finds a Hoot they happen to be able to help or know someone else who can,the user can then comment and re-hoot the post to others.

1.5 References

Ghezzi, Carlo, Mehdi Jazayeri, and Dino Mandrioli. *Fundamentals of Software Engineering.* Upper Saddle River, NJ: Prentice Hall, 2003. Print.

”MySQL :: The World’s Most Popular Open Source Database.” *MySQL :: The World’s Most Popular Open Source Database.* N.p., n.d. Web. 02 Oct. 2013.

"PHP: Hypertext Preprocessor." *PHP: Hypertext Preprocessor.* N.p., n.d. Web. 02 Oct. 2013.

2 Overall Description

2.1 Product Perspective

The website will consist of a few key components. First is to be able to have an account in which represents you as employee of the HAL company. Second you will be able to post information for other people in the company to see. Third you will be able to follow other people that hoot something, this will allow you to continue conversation. These are just three major components of the website.

2.2 Product Functions

Below explains more of the requirements that we need to meet to have a successful website.

2.2.1 Function Requirements

R01: The system will allow users to create new accounts by providing a unique email, unique username, password along with their first name, last name. It also allows users to have an option of uploading a profile picture.
R02: The system will be able to Identify user by unique username. Duplicate email or username will not be allowed to register a new account.
R03: During password creation, the system will be able to tell how strong the password is.
R04: Users password will be able to be recovered when requested via the signed email. Password is allowed to be changed.
R05: Login, logout system will block user from viewing contents until user logins. It will also be able to block further attempts for 4 of failed logging in attempts.
R06: A user will be logged out after one hour of inactivity.
R07: Homepage will show the users posts, posts from people and hashtags that the user is following.
R08: No post deleting/editing will be allowed.
R09:"Following" system allows users to follow/unfollow other users and hashtags.
R10: Users will be able to see posts of the people they are following.
R11: The system also allows users to block a specific user from following them.
R12: Posting feature allows posts of 200 characters. Be able to have visual counter of how many character users have typed.
R13: Allow users to respond on a post by comments or like/unlike. The system will be able to count and show number of likes in a post . Posts are timestamps
R14: Hashtags can be used to correlate a post with a certain subject.
R15: Searching feature will allow users to search for other users or posts hashtag, by username, first name and last name. Results is sorted chronologically, alphabetically, limiting 10 posts per page.
R16: Notification feature will be able to notify users when being followed, liked and blocked via email.
R17: Comments will be seen as separate posts on the user's page and have a link to the original

link.

2.3 User Classes and Characteristics

Users of this software will be the developers and management employed by HAL. They will access the interface via a web browser in order to openly communicate within the company on important topics related to ongoing projects and technological enhancements. Managers will be able to continually monitor workforce progress partially based on activity within the system.

2.4 Operating Environment

This software will utilize a web based server and be accessed via web browser by users.

2.5 Design and Implementation Constraints

The main constraints are going to be the adaptation for different devices such as different web browsers as well as devices (i.e Desktop Computer, ios device, android, Chrome, FireFox, Safari etc.). At this time we arent concerned with the process of owning our own server as well as owning our own domain name for the website, these problems will be taking into consideration later.

2.6 Assumptions and Dependencies

1. We assume the users have access to any of the major browsers within the company internet.
2. We assume that the browsers support, and have enabled, javascript plugins.
3. We assume that cookies are enabled within the browser.
4. We assume that users are able to zoom in and out within mobile applications.

3 External Interface Requirements

Below is the initial user interface that we plan on using. There will be four dialogue boxes that each can be pressed to expand that type of Hoot. This will allow the user to decide how he/she views the Hoot's.

3.1 User Interfaces

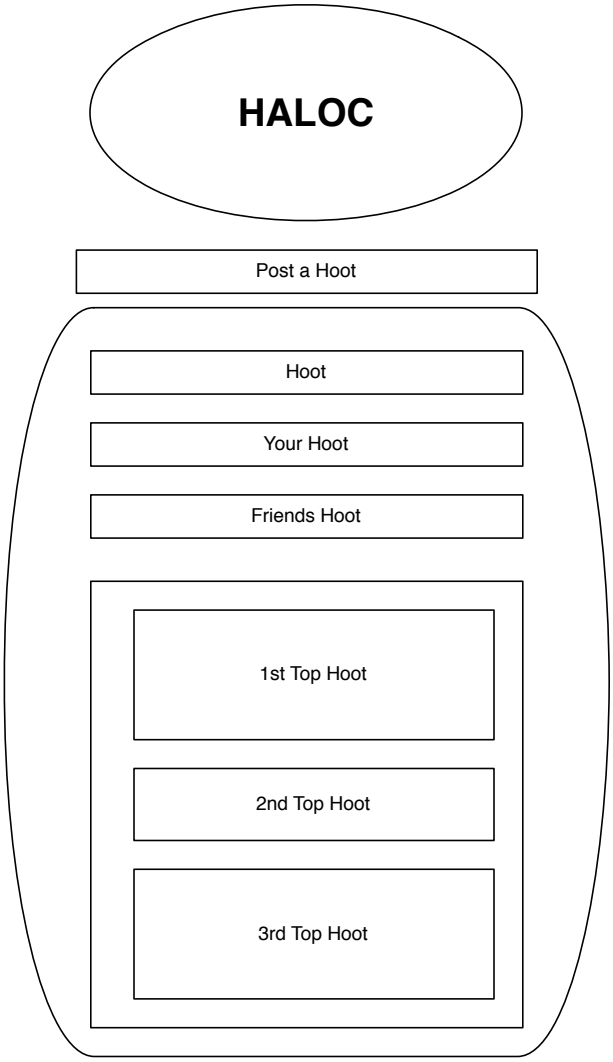

Figure 1: Shown above is the user interface in its preliminary design.

3.2 Hardware Interfaces

Php and MySQL

3.3 Software Interfaces

Directory Structure:	
.	Root directory
config.php	Configuration file for the program
index.php	Main page and login page
homepage.php	After successful login
register.php	Register for a new account
search.php	Search results listings
profile.php	See and edit your profile, view other profiles
userimages/	Profile images directory (saved with userId as filename)
temp/	Temporary folder for image resizing
classes/	
security/	Security related classes
db.php	Database configuration & access
user.php	User class
post.php	Post class
functions/	Function related to the operation of the software
security/	Security related classes
session.php	Session management
posts.php	Functions used to post & retrieve posts easily
image.php	Functions used to resize & upload images
search.php	Functions used to search through the database by user driven input
templates/	
css.css	Style sheet
engine.php	Function file for the templating
index	index page template
login	login page template
homepage	homepage template

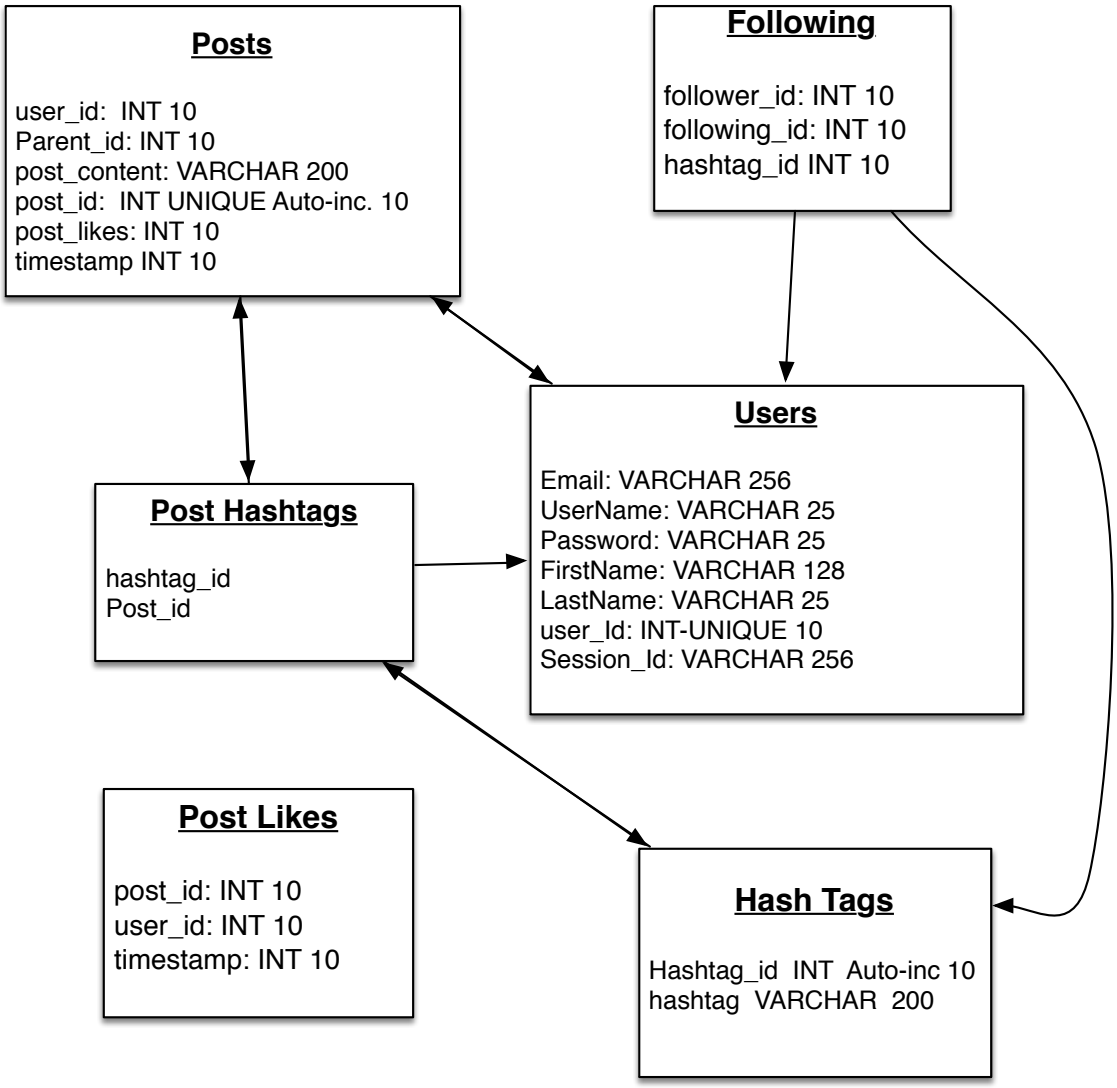

Figure 2: Shown above is the database to follow hashtags in its preliminary design.

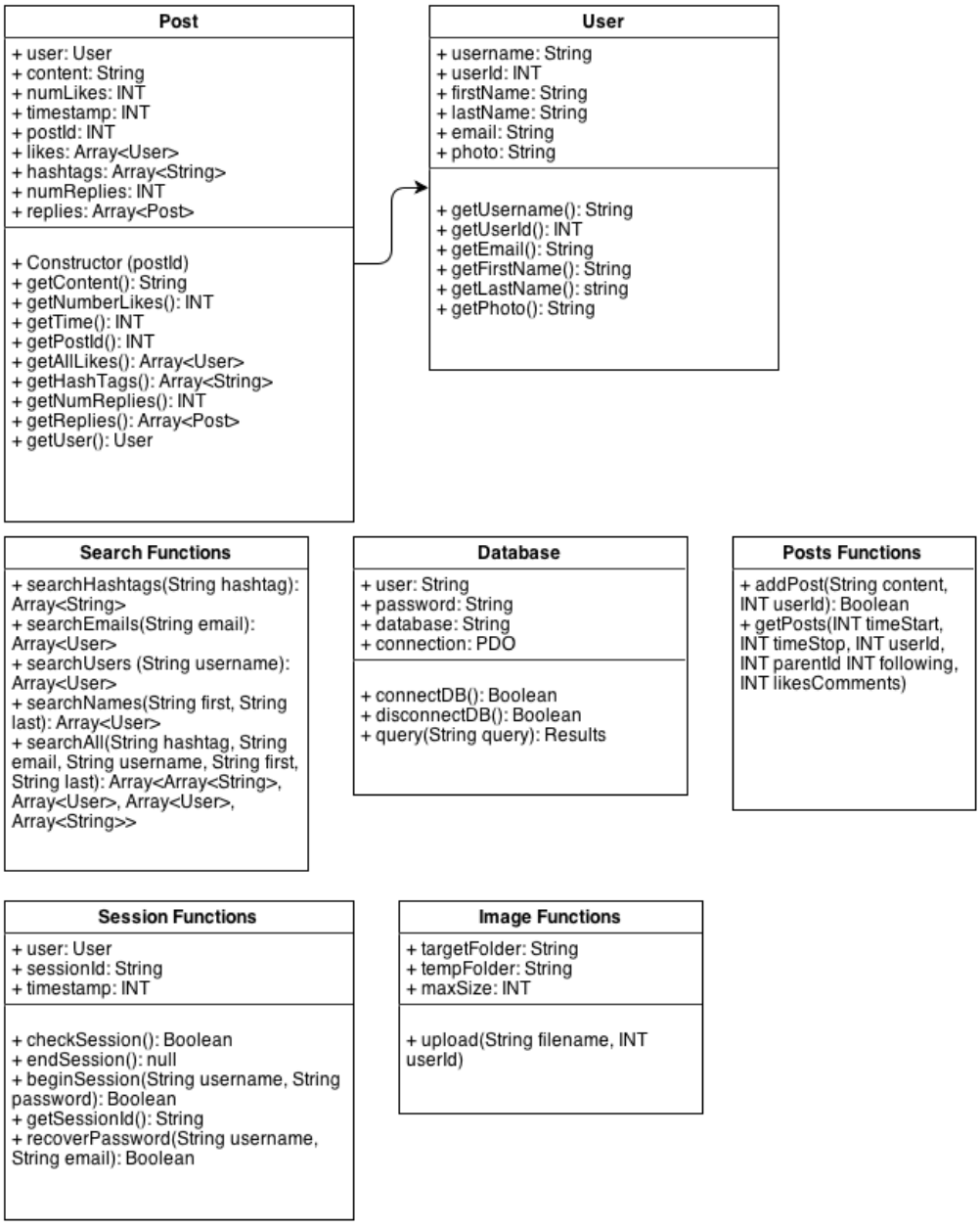

Figure 3: This UML explains how the classes are laid out

3.4 Communications Interface

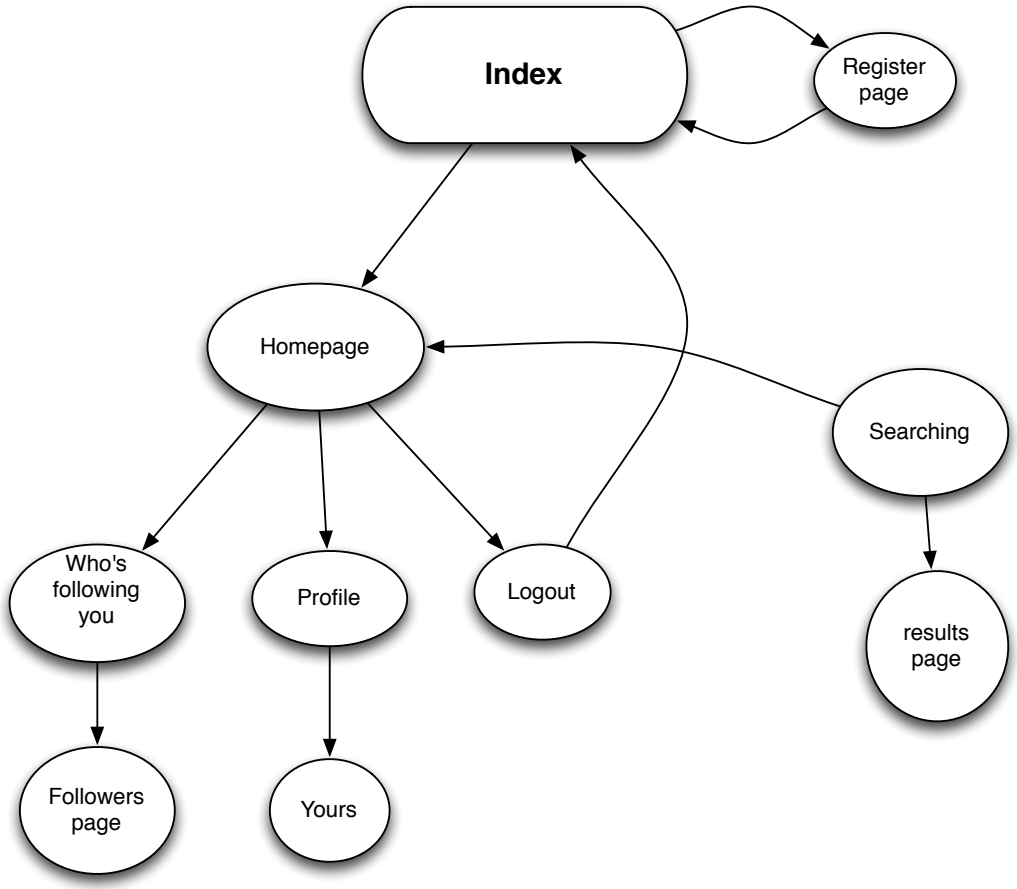

Figure 4: Shown above is the classes that will be used to implement HALOC.

4 Appendix A

Project Schedule

Milestones are set every 2 weeks, with a working product being produced.

Milestone 1 -

- Basic user interface utilizing HTML tables and basic HTML formatting
- User security system (login, registration, logout)
- User profiles updateable
- User can post (without hashtags)

Milestone 2 -

- User can use hashtags
- User can follow
- User can like/dislike
- User can respond
- Following, Trending, Liking columns are functional
- Interface update

- Interface cleanup (moving towards CSS/Javascript)
- Expandability

Milestone 3 -

Searching by username, email, names, likes, hashtags

Interface update

- Interactive dropdown menus
- Notifications
- Following

- Interactive columns
- User profile popups
- Expanding reply tables

Email notifications (daily aggregation)

Administrative Backend

Milestone 4 and Beyond

Testing

4.1 Constraints

Upgrades to the website will be zipped and sent to the customer. Profile picture will be limmited to 50 x 50 pixels, when hovering over a link or a name the pop up of the user will be 150 x 150 pixels. Hashtags are going to be limited to alphanumaric words.

4.2 Errors

If login fails, it returns to login page with an error message above the login text box, saying "Wrong user name or password".
If user has 4 failed login attempts they will be locked out for 5 minutes.
Any bad session_id will return to the home page.
If user trys to type a Hoot over 200 characters, it will return back to the home page.
Any form submissions from other websites or applications will not be accepted.
Wrong image format will be rejected, it will return back to the profile page.
All errors will show between the post dialog box and the Haloc ID.
If they make a word longer than 100 characters per line it will be cut off. A hyphen could be attached.
Pictures with odd aspecte ratios will be cropped.
Pictures are limited up to 1 MB.
If you try to follow someone you are already following you will recieve an error and refresh to that users page.
Any textbox over the character limit that has been defined by the database and client restrictions, an error will throw an error.
If someone trys to put in a script in the wrong box it will throw an error. We will search for scripts.