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COS301 MINI PROJECT FUNCTIONAL REQUIREMENTS SPECIFICATION

Group 2a

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1 History

Date	Version	Description
17-02-2015	Version 0.1	Document Template Created
17-02-2015	Version 0.2	UP Logo Added
18-02-2015	Version 0.2.1	Intro, Purpose, Conventions and Description Added
19-02-2015	Version 0.2.2	Added Skeleton for Required functionality

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2 Introduction

The Computer Science Education Didactic and Application Research (CSEDAR) from the university of Pretoria. Have approached us in building a software platform to create a collaborative community by means of an online discussion. To aid students to excel in problem solving as group. Such a tool already exists for students to use however this tool lacks certain functionality, Lecturer - Student interaction, often students are unaware of who is higher ranked in terms of the course (Teaching Assistant, Tutor, Lecturer & student).

2.1 Purpose

This document serves to present the clients requirements on a functional level by use of use-case diagrams, Domain models, pre- & post conditions as well as possible input-output pairs.

2.2 Document Conventions

A ranking system of importance is used for the functional requirements based on a 'star' system with

- ***** - Critical
- **** - Important
- *** - Somewhat important
- ** - Nice to have
- * - Not considered

2.3 Project Scope

Short overview with limitations and restrictions of the project.

2.4 References

Tutorial on Use case diagrams - http://www.tutorialspoint.com/uml/uml_use_case_diagram.htm

3 System Description

Buzz will be a complete software unit which is to be integrated seamlessly with existing web servers to be used by courses to encourage the use of online discussion. Users will be able to climb ranks up the online discussion forum and achieve more functionality as they progress. The system will also have certain functionality incorporated into awarding users marks if required so by the teaching staff. Teaching staff will also be able to archive and summarise threads. Users will also only be able to post in threads which pertain to them at that specific time, thus having a thread become 'Ancient' and hence archived no new information may be added to said thread.

4 Functional Requirements

4.1 Use Cases

We can Add all the details from MagicDraw here

4.2 Required Functionality

The Following system processes detail the functional requirements of the individual points.

1. Users must create, Update and delete posts.
 - (a) Elaboration -
 - (b) Importance - *****
 - (c) Dependency level -
 - (d) Pre-conditions
 - i. Condition 1
 - ii. Condition 2
 - (e) Post-conditions
 - i. Condition 1
 - ii. Condition 2
 - (f) Requester

- 2. (a) Elaboration -
- (b) Importance -
- (c) Dependency level -
- (d) Pre-conditions
 - i. Condition 1
 - ii. Condition 2
- (e) Post-conditions
 - i. Condition 1
 - ii. Condition 2
- (f) Requester

3. Restrict the length of messages and the type of content allowed in messages based on the level where it is posted as well as on the status of the user posting the message.
 - (a) Elaboration -
 - (b) Importance -
 - (c) Dependency level -
 - (d) Pre-conditions
 - i. Condition 1
 - ii. Condition 2
 - (e) Post-conditions
 - i. Condition 1
 - ii. Condition 2
 - (f) Requester

4. Restrict users to post on specified levels based on their status.
 - (a) Elaboration - User interaction with the current Buzz space must be configurable by policy to allow users with higher levels to post to the Buzz space on higher levels such as directly below the main post while restricting low level users to only post in lower levels like sub level posts or even sub sub level posts. This allows high level users to post higher up in the Buzz spaces hierarchy while restricting low level users to the bottom.
 - (b) Importance - ****
 - (c) Dependency level - Relies on the ranking system to be implemented so that it can request user levels. A policy to govern the levels has to be supplied by the creator of the Buzz space.
 - (d) Pre-conditions
 - i. User must be part of the specific Buzz space.
 - ii. Policy acquired.
 - iii. User must try to post.
 - (e) Post-conditions
 - i. User successfully posted to the correct level as specified in the policy.
 - (f) Requester - System (This is an automated system requirement)

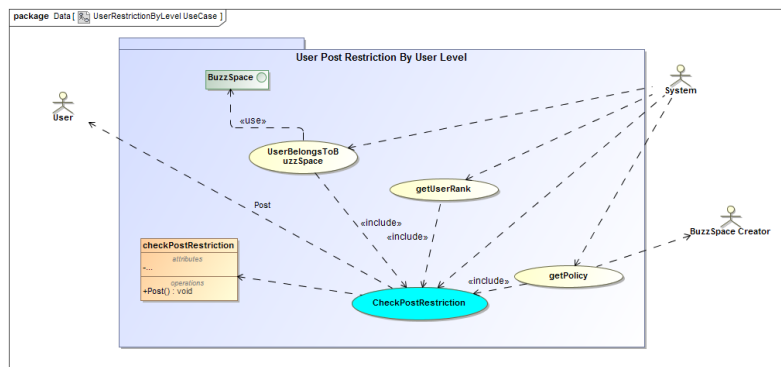


Figure 1: User Post Restriction By User Level Use Case

- 5. (a) Elaboration -
- (b) Importance -
- (c) Dependency level -
- (d) Pre-conditions
 - i. Condition 1
 - ii. Condition 2
- (e) Post-conditions
 - i. Condition 1
 - ii. Condition 2
- (f) Requester

- 6. (a) Elaboration -
- (b) Importance -
- (c) Dependency level -
- (d) Pre-conditions
 - i. Condition 1
 - ii. Condition 2
- (e) Post-conditions
 - i. Condition 1
 - ii. Condition 2
- (f) Requester

7. Create automated template based messages to individual users or specified groups
 - (a) Elaboration - This gives a template message about a topic to an individual user or a group.
 - (b) Importance - ***
 - (c) Dependency level - This depends on the user input; the system will parse through the words and build a summary accordingly
 - (d) Pre-conditions
 - i. Condition 1 - Users have to be registered.
 - ii. Condition 2 - Group must exist and have some members.
 - (e) Post-conditions
 - i. Condition 1 - Individual user gets a system generated message.
 - ii. Condition 2 - Group members get a system generated message.
 - (f) Requester - The System.

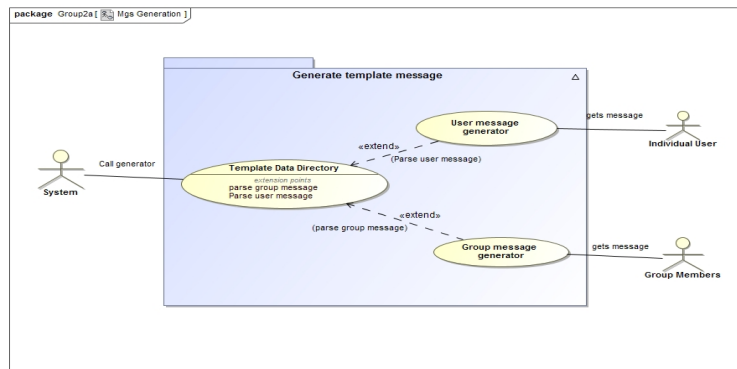


Figure 2: Generate Template Message for user or group.

8. Automatically change the status of a user based on the users participation
 - (a) Elaboration - The System should be configured in such a way that when a user participates often the user will progress through the levels of the system, Specific number of points required per level.
 - (b) Importance - ****
 - (c) Dependency level - Requires the users level to be implemented before a user can participate and increase in level, Users should be able to post on Buzz
 - (d) Pre-conditions
 - i. User is in level x
 - ii. User only needs y amount of points to progress
 - (e) Post-conditions
 - i. User achieved y amount of point
 - ii. User is now in level x+1
 - (f) Requester - System (Automatically checks each time a user posts)

- 9. (a) Elaboration -
- (b) Importance -
- (c) Dependency level -
- (d) Pre-conditions
 - i. Condition 1
 - ii. Condition 2
- (e) Post-conditions
 - i. Condition 1
 - ii. Condition 2
- (f) Requester

- 10. (a) Elaboration -
- (b) Importance -
- (c) Dependency level -
- (d) Pre-conditions
 - i. Condition 1
 - ii. Condition 2
- (e) Post-conditions
 - i. Condition 1
 - ii. Condition 2
- (f) Requester

11. Provide functionality to evaluate posts and vote for posts.

- (a) Elaboration -
- (b) Importance -
- (c) Dependency level -
- (d) Pre-conditions
 - i. Condition 1
 - ii. Condition 2
- (e) Post-conditions
 - i. Condition 1
 - ii. Condition 2
- (f) Requester

12. Gather statistical information on each user for graphical representation.

- (a) Elaboration - System must continuously gather each users contribution and participation in the Buzz space to allow the user to view a graphical representation of where they stand or rank up amongst their peers. Provide a game like scoreboard to motivate the users.
- (b) Importance - **
- (c) Dependency level - Requires the ranking system to be active in order to pull the stats.
- (d) Pre-conditions
 - i. User has participated at least x times to gather historical data
 - ii. More than y users have contributed to specific Buzz Space
- (e) Post-conditions
 - i. User receives the graphical representation of their participation.
- (f) Requester - User

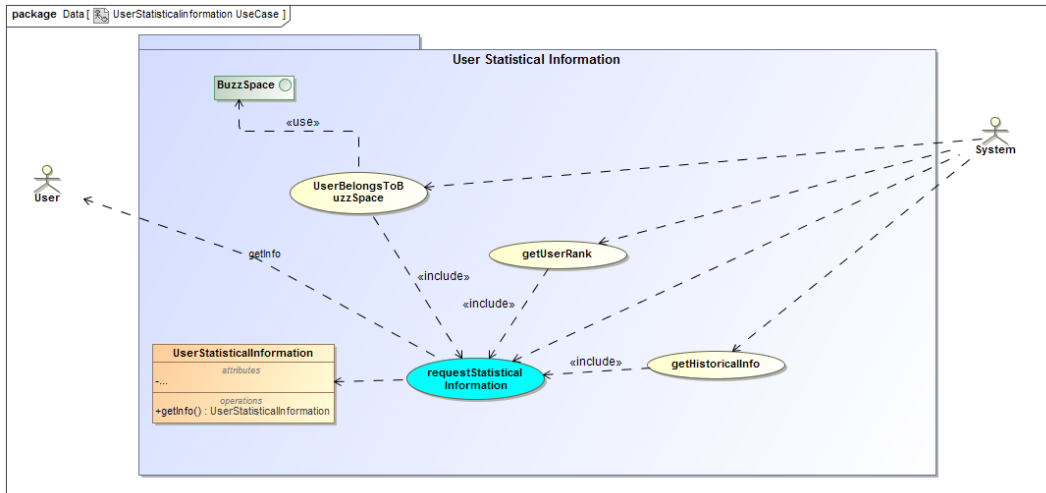


Figure 3: User Statistical Information

- 13. (a) Elaboration -
- (b) Importance -
- (c) Dependency level -
- (d) Pre-conditions
 - i. Condition 1
 - ii. Condition 2
- (e) Post-conditions
 - i. Condition 1
 - ii. Condition 2
- (f) Requester

- 14. (a) Elaboration -
- (b) Importance -
- (c) Dependency level -
- (d) Pre-conditions
 - i. Condition 1
 - ii. Condition 2
- (e) Post-conditions
 - i. Condition 1
 - ii. Condition 2
- (f) Requester

15. Apply self-organasation based on social tagging and allow the user to view according to the base structure, owns structure or public structure
 - (a) Elaboration - The user is able to add social tags that tell us more about a post thus is also able to search for a thread according to topics that have those social tags. But the user is also able to view according to the base structure given by the buzz system or specify their own structure there is also a general structure for the public who are not registered users. The system may also add tags by parsing user input for keywords.
 - (b) Importance - ***
 - (c) Dependency level - This feature depends on the user selecting tags in which to order the base structure of the posts that they see.
 - (d) Pre-conditions
 - i. Condition - Base structure of posts that is unsorted according to social tags.
 - (e) Post-conditions
 - i. Condition - Base structure of posts that is sorted according to social tags.
 - (f) Requester : The user.

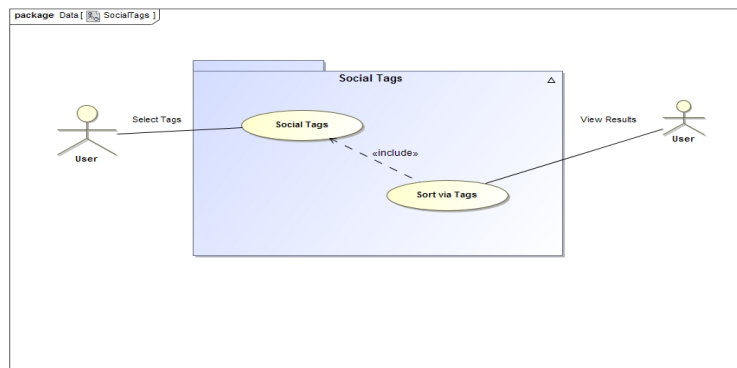


Figure 4: self-organasation of data via social tags

16. Detect if a post is plagiarised

- (a) Elaboration - The entire post will be checked to see if it has been copied directly from another source, a full post quote will be open searched in a search engine, if any hits are found the post will be marked as possibly plagiarised and send to administrator
- (b) Importance - **
- (c) Dependency level - User must be able to post to Buzz
- (d) Pre-conditions
 - i. User posts a post
- (e) Post-conditions
 - i. Post is marked as Plagiarised - Added to Buzz(Invisible, Message sent to user and Administrator
 - ii. Post is marked as not Plagiarised - Posted to Buzz
- (f) Requester

- 17. (a) Elaboration -
- (b) Importance -
- (c) Dependency level -
- (d) Pre-conditions
 - i. Condition 1
 - ii. Condition 2
- (e) Post-conditions
 - i. Condition 1
 - ii. Condition 2
- (f) Requester
- ...

4.3 Entity Relationship Diagrams

4.4 Data Dictionary

Description of entities.

5 External Interface Requirements

Requirements for user interfaces.

6 Technical Requirements

List of non-functional requirements.

7 Requirement Matrices

8 Open Issues

9 Glossary