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UNIVERSITY OF PRETORIA
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DEPARTMENT OF COMPUTER SCIENCE

COS 301 - SOFTWARE ENGINEERING

COS 301 - Mini Project

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SIGNATURES: _____ DATE: _____

ARCHITECTURAL REQUIREMENTS

BUZZ SPACE LINK

For further references see [gitHub](#). March 4, 2015

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1 Change Log

2 Introduction

Designing and implementing a system as the one in question is a vast amount of work and requires a lot of planning and thinking. All the functional requirements needed for the system were covered in the previous phase. In this phase all the non-functional requirements will be covered. These are all categorized as architectural requirements.

2.1 Purpose

The main purpose of this document is to decompose the system at hand and fully describe the decomposition in terms of subsystem responsibilities, the mapping of the subsystem to hardware and the dependencies among the subsystems. Policy decisions that need to be made is also described in this document. This included decisions such as access control, data storage and control flow.

The document will cover all the non-functional aspects of the requirements including:
the architectural scope comprising the responsibilities,
the quality requirements for the software system,
the access and integration requirements, and
the architectural constraints.

2.2 Project Scope

The scope of this phase is understanding the functional requirements covered in the previous phase and using them to build and derive the architectural requirements needed for the implementation of the system.

3 Access Channel Requirements

3.1 Platforms

4 Quality Requirements

4.1 Performance

4.2 Reliability

4.3 Scalability

4.4 Security

4.5 Flexibility

4.6 Maintainability

4.7 Auditability

4.8 Monitorability

4.9 Cost

4.10 Usability

5 Integration Requirements

5.1 Integration Channel

5.2 Protocols

5.3 API Specifications

5.4 Quality Requirements

6 Architecture Constraints

6.1 System

The BuzzSpace has to be integrated into the CS departments website.

Reason: The users credentials from the CS LDAP will be used for authentication purposes in the BuzzSpace e.g. to register on the BuzzSpace to login.

6.2 User

- Only users registered for a module from the CS department will be allowed to participate in discussions on the discussion forums.
- Users who are registered as guests on the BuzzSpace will only be allowed to read and observe the discussion forums.

Reason: To manage who has access to the BuzzSpace.

6.3 Time

If a user is logged in and remains inactive for more than 30mins the user will have to login again to post on the forum.

Reason: To ensure security for user Authentication.

6.4 Technologies

- HTML

To create the skeleton of the BuzzSpace's front-end to enable users to login/logout create forums and participate in discussions.

- Javascript and AJAX

Used for the BuzzSpace's front-end to verify the login details of each user and will keep track of user login and participations on discussion forums.

- PHP

Allows the front end to communicate with the CS LDAP database to access user credentials for authentication purposes for logging in to the BuzzSpace.

- JavaEE

- JPA and JPQL

6.5 Architectural Patterns/Frameworks

- Layer (object-oriented design)
- MVC (Model View Controller)
- Peer-to-Peer Network
- Services Oriented Architectures

7 Policies

8 Traceability Matrix

9 References

PIETERSE, V. 2015. COS301: Mini project Buzz. In: Lecture notes issued online. University of Pretoria. Pretoria, South Africa

10 Glossary