Universita' degli Studi di Messina
Dipartimento di Matematica e Informatica

Database course project

veeForum

23 March 2015

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Part I

Non-technical

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Chapter 1

Client request

The client requests the design and implementation of a **forum creation/management framework** and a **modern responsive web forum browsing/management application**.

The client intends using the requested forum framework **to build communication platforms** for various projects, both for internal employee usage and interaction with the public.

It is imperative for the system to allow administrators to easily well-organized create **content-section hierarchies** and **user-group hierarchies**.

Administrators also need to be able to **give groups specific permissions for every section**.

Some sections will only be visible and editable to employee groups (e.g. internal discussion), some sections will be visible but not editable by the public (e.g. announcements), and others will need to be completely open to the public (e.g. technical support).

Being able to **keep track of user-created content** is also very important for the client.

Initially, tracking the date and the author of the content will be enough, but the system has to be designed in such a way that inserting additional creation information (e.g. browser/operating system used to post) will be trivial.

In the future, additional content types (e.g. videos, attachments) may be added to the system and their creation will have to be tracked as well.

This data needs to be independent from the contents, in order to easily allow administrators and project managers to gather statistical data on forum usage.

The web application has to be extremely simple but flexible as well. Administrators need be able to perform all functions described above through a responsive admin panel.

Content consumers and creators should be able to view and create content from the same responsive interface.

Moderators and administrators should be able to edit and delete posts through the same interface as well. User interface controls will be shown/hidden depending on the users permissions.

Chapter 2

Software Requirements Specification

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1. Introduction

This **Software Requirements Specification** (SRS) chapter contains all the information needed by software engineers and project managers to design and implement the requested forum creation/management framework.

The SRS was written following the **Institute of Electrical and Electronics Engineers** (IEEE) guidelines on SRS creation.

1..1 Purpose

The SRS chapter is contained in the **non-technical** part of the thesis.

Its purpose is providing a **comprehensive description** of the objective and environment for the software under development.

The SRS fully describes **what the software will do** and **how it will be expected to perform**.

1..2 Scope

1..2.1 Identity

The software that will be designed and produced will be called **veeForum**.

1..2.2 Feature extents

The complete product will:

- Provide a framework for the **creation and the management of a forum system**.
- Allow its users to **deploy and administrate** multi-purpose forums.
- Give access to a **modern responsive web application** to setup, browse and manage the forum.

veeForum, however, will not:

- Provide infrastructure or implementation for a complete blog/website. The scope of the software is forum building.
- Implement instant private messaging - user-to-user chat is beyond the scope of the project.

1..2.3 Benefits and objectives

Deploying veeForum will give its users a number of important benefits and will fulfill specific objectives.

- Companies and individuals making use of veeForum will have access to an **easy-to-install** and **easy-to-use** forum creation and management platform.
- Users and moderators of the deployed forums will be able to **easily create, track and manage** content and other forum users.
- Forum administrators will be given **total control** of the forum structure, users and permissions through an **easy-to-use** responsive administration panel.

1..3 Definitions, acronyms and abbreviations

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1..4 Overview

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2. General description

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2..1 Product perspective and functions

The product shares many basic aspects and features with existing forum frameworks such as **phpBB** or **vBulletin**: flat/threaded discussion support, nested sections, user attachments, etc.

veeForum improves on existing forum frameworks in the following ways:

- Provides a responsive web interface without postbacks.
- Allows users and moderators to subscribe and unsubscribe not only to posts, but to users and sections as well.
- Has a powerful real-time Facebook-like notification system that notifies users when tracked content has been added or edited.
- Gives administrator the possibility to design and manage complex permission hierarchies for user groups and single users.

2..2 User characteristics

veeForum needs to target both users that **only consume the content offered by deployed forums**, users that **actively create and manage content in deployed forums**, and users that **build and deploy forum instances**.

User-friendliness is essential for every target, but all the required functionality is effectively exposed to different user groups.

It is therefore required to have clear interfaces thar do not negatively affect the user experience by being either too complex or too simple (all features need to be exposed).

3. Specific requirements

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3..1 External interface requirements

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3..1.1 User interfaces

The product will provide both a desktop and a mobile user web interface.

- **Web interface**: it is required to provide a modern responsive web interface, compatible and tested with the most popular browsers (Internet Explorer 10+, Google Chrome, Mozilla Firefox). The web interface will give forum access to users and moderators, and administrator access to forum management staff.
- **Mobile interface**: is is required to provide a modern mobile application for the major platforms (Android, iOS, Windows Phone). The mobile application will allow browsing and content management of forums created with the product.

3..1.2 Software interfaces

The **open-source policy** of veeForum will allow framework users to expand or improve existing functionality and to interact with other existing technologies.

Accessing and modifying forum data will be possible through **RESTful** requests, returning and accepting **JSON** (Javascript Object Notation).

3..2 Functional requirements

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3..2.1 User/group management

- **Users**: users will be managed by the system. Users can register (or be manually added by an administrator). Registration can be configured to require a confirmation email or not.
- **Groups**: every user will be part of at least one group at all times. Groups are part of an hierarchy: they can inherit from each other. Groups can have permissions specific to sections and system-wide permissions.

3..2.2 Content hierarchy

- **Posts**: posts will be the base of the content hierarchy. They will contain HTML-enabled text and any number of attachments. Posts can be edited and deleted by the original owner.
- **Threads**: threads are groups of posts. Users with the correct permissions can create a thread in a specific section and have other users add posts or subscribe to it. Threads can be edited and deleted by the original owner.

- **Sections**: sections are content containers intended to group threads related to the same subject. Forum administrators and moderators can create sections and give users permissions to view or edit them.

3..2.3 Content tracking system

- **Creation data**: user-created content (posts, threads,attachments, etc) will have some data specific to its creation can be extended by forum administrators. Basic predefined data will consist of creation date and time. It will be possible to run statistical queries on content creation data.
- **Subscriptions**: users and moderators will be able to subscribe to specific sections, threads or user to track their contents. They will receive real-time notifications upon addition/editing of tracked content.

3..3 Example use cases

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3..3.1 Mobile game forum

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3..3.1.1 Brief description

A company developed a popular mobile game, with a wide audience. The company uses the veeForum framework to give users a place to discuss game strategy, give feedback on the quality of their product and receive technical support.

3..3.1.2 Actors

- Game developers.
- Game players.
- Forum management team.
- Technical support team.
- Feedback (PR) team.

3..3.1.3 Pre-conditions

- Release of a popular product with a wide audience.
- Game users need to register on the forum.

3..3.1.4 Flow of events

- Installation and configuration of a veeForum-enabled forum system by the forum management team.
- Creation of the sections and permission hierarchies by the forum management team.
- Registration and content creation by the game developers and game players.

3..3.1.5 Post-conditions

- Game players will be able to share their strategies and thoughts on the product.
- The technical support team will find all technical issues grouped in a convenient way and will be able to track individual issues. Technical support members will be able to communicate with each other in a private section.
- The feedback team will be able to track user suggestions and forward potential product improvements to the developer team.

3..4 Functional requirements

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