

Information Tracking System Business Requirements

Author: Jeff Zhuk

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Table of Contents

INTRODUCTION	3
1. PROJECT GOALS.....	3
2. USER INTERFACE REQUIREMENTS	4
2.1 Provide facilities for users to register and login	4
2.2 Allow users read the subjects of the content and select any subject for reading	4
2.3 Allow any user (after login) enter an idea or a suggestion.....	4
2.4 Allow any user (after login) provide comments on the idea or suggestion	4
2.5 Allow authors to update (edit) existing record entries	4
2.6 Allow a privileged user to review and assign a new record to a team member for implementation and then check the status	4
2.7 Allow administrators to manage user records and to introduce and assign team roles	4
2.8 Provide SEARCH for information entries.....	5
3. DETAILED FUNCTIONAL REQUIREMENTS	5
3.1 Provide facilities for users to register and login	5
3.2 Allow users read the subjects of the content and select any subject for reading	5
3.3 Allow any user (after login) enter an idea or a suggestion.....	5
3.4 Allow any user (after login) provide comments on the idea or suggestion	5
3.5 Allow authors to update (edit) existing record entries	5
3.6 Allow a privileged user to review and assign a new record to a team member for implementation and then check the status	5
3.7 Allow administrators to manage user records and to introduce and assign team roles	6
3.8 Provide SEARCH for information entries.....	6
4. DATA ARCHITECTURE REQUIREMENTS.....	6
4.1 Provide facilities for users to register and login	6
4.2 Allow users read the subjects of the content and select any subject for reading	6
4.3 Allow any user (after login) enter an idea or a suggestion.....	6
4.4 Allow any user (after login) provide comments on the idea or suggestion	6
4.5 Allow authors to update (edit) existing record entries	6
4.6 Allow a privileged user to review and assign a new record to a team member for implementation and then check the status	7
4.7 Allow administrators to manage user records and to introduce and assign team roles	7
4.8 Provide SEARCH for information entries.....	7
5. NON-FUNCTIONAL REQUIREMENTS	7
5.1 Technical requirements	7
5.2 Usability requirements (GUI)	7
5.3 Reliability, Availability, Scalability and Performance.....	7
5.4 Performance of the system	8
5.5 Security	8
5.6 Quality requirements/Failure Messages	8

INTRODUCTION

1. Project Goals

Develop **Information Tracking System (ITS)** as a Java-based Web application with the following options – services:

- Provide facilities for users to register and login
- Allow users read the subjects of the content and select any subject for reading
- Allow any user (after login) enter an idea or a suggestion
- Allow any user provide comments on the idea or suggestion
- Allow authors to update (edit) existing record entries
- Allow a privileged user to review and assign a new record to a team member for implementation and then check the status
- Allow administrators to manage user records and to introduce and assign team roles

- Provide SEARCH for information entries

2. User Interface Requirements

User Interface Requirements are based on the Project Business Goals

2.1 Provide facilities for users to register and login

The Registration screen will prompt for User Profile data, including email (as login) and password with the Confirm Password field

The login screen will prompt a user for the Login (email) and Password fields.

2.2 Allow users read the subjects of the content and select any subject for reading

Provide the Content screen with the list of content subjects

Display each subject with the Date and Author fields

2.3 Allow any user (after login) enter an idea or a suggestion

The Enter Content screen will provide the following fields:

- Subject
- Content
- Priority, as a drop list with Low, Regular and High priorities

2.4 Allow any user (after login) provide comments on the idea or suggestion

The Enter Comment screen will only have the text field for Comments

2.5 Allow authors to update (edit) existing record entries

Provide the Update button and the screen for authors reading their own entry or comments

2.6 Allow a privileged user to review and assign a new record to a team member for implementation and then check the status

Provide administration fields for privileged users reading or updating the entry

2.7 Allow administrators to manage user records and to introduce and assign team roles

Provide the Manage Users and Manage Roles screens for administrators with the team members and roles fields

2.8 Provide SEARCH for information entries

Provide the SEARCH screen with several SEARCH criteria

3. Detailed Functional Requirements

Detailed Functional Requirements are based on the Project Business Goals

3.1 Provide facilities for users to register and login

Upon Registration the system should email a user the link to finalize the registration process. The system will use the email address provided by the user on the Registration screen. The system should get the response from the user and only then store User Profile and allow the user to login.

The login process should check email and password fields with the database records and after the match start a valid session.

3.2 Allow users read the subjects of the content and select any subject for reading

Select the subjects from the database, check if there is parent-child hierarchy and only display the parent subjects.

When a user selects one of the subjects, select the content from the database and display together with all related comments.

3.3 Allow any user (after login) enter an idea or a suggestion

Upon submission a new entry (an idea or a suggestion), store the subject, priority, and content in the database together with automatically captured Date and Author name.

3.4 Allow any user (after login) provide comments on the idea or suggestion

Upon submission a new Comment, store the comment in the database together with automatically captured Date, Author, and a connection to a related subject.

3.5 Allow authors to update (edit) existing record entries

Upon displaying any content, check if a user is the same person who created the content or a comment, and if so, provide additional facilities to Update the record.

3.6 Allow a privileged user to review and assign a new record to a team member for implementation and then check the status

Provide administration fields for privileged users reading or updating the entry

3.7 Allow administrators to manage user records and to introduce and assign team roles

Allow administrators to SEARCH for a user and update a User Profile.

Allow administrators to display Teams and Team roles.

Allow administrators to add, update, or delete a Team Role.

3.8 Provide SEARCH for information entries

Allow SEARCH for every criteria and allow wild card searches over the entries and comments.

4. Data Architecture Requirements

Data Architecture Requirements are based on the Project Business Goals.

Data should be stored in a single relational database (RDBMS), such as Oracle XE or MySQL.

This section serves as data architecture analysis part and offers some ideas on data tables to support the required functionality.

These ideas will evolve and change to more precise form in the Data Design document.

4.1 Provide facilities for users to register and login

Two tables: User Profile and User Accounts will support registration and login. User Accounts will include email and password fields, while all other data will be stored in the User Profile table. This separation is done for security reason. Accounts table will only be used for user authentication during the login process. For all other cases, the User Profile table will be used.

4.2 Allow users read the subjects of the content and select any subject for reading

The Content table will store the content together with the subject and other related fields.

4.3 Allow any user (after login) enter an idea or a suggestion

Store a subject, priority, and content in the Content table together with automatically captured Date and Author name.

4.4 Allow any user (after login) provide comments on the idea or suggestion

Store Comments in the Comments table together with automatically captured Date, Author, and a connection to a related subject.

4.5 Allow authors to update (edit) existing record entries

Allow Update of the Content and Comments tables.

4.6 Allow a privileged user to review and assign a new record to a team member for implementation and then check the status

The Teams table will hold team names and team roles.

The Teams table will have relationships to the User Profile table, connecting a specific user with the Team and Team Role.

The common field connecting most of the tables is the User Email address field.

4.7 Allow administrators to manage user records and to introduce and assign team roles

Provide SELECT and Update statements for the Teams and User Profile tables.

4.8 Provide SEARCH for information entries

Provide SELECT statements for every criteria and allow wild card searches for the Content and Comments tables.

5. Non-functional requirements

5.1 Technical requirements

- **Language, Scripting, Framework** : JAVA, HTML, Java Server Pages (JSP), Servlets, Java Database Connectivity (JDBC), Data Service or Spring Framework, JavaScript, Angular JS
- **Concepts/Process**: Java OOPS concepts, RDBMS, Web programming
- **Database**: Oracle 11g XE or MySql
- **IDE – Eclipse Java EE for Web Developers**
- **Web server** : Apache Tomcat

Note:

The developed system should run under any of the following platforms: UNIX, Linux, Mac, Windows

5.2 Usability requirements (GUI)

- The system shall provide a uniform look and feel.

5.3 Reliability, Availability, Scalability and Performance

- The system is not mission-critical.

- The performance depends on the Internet connection on the Server side as well as the Client side and Server hardware selection.
- Expected response delay is within 1-2 seconds with expected 3-5 user simultaneous access.

5.4 Performance of the system

- The product shall be based on web and has to be run from a web server.
- The product shall take initial load time depending on Internet connection strength which also depends on the media from which the product is run.
- The performance shall depend upon hardware components of the client/customer.

5.5 Security

- The system shall use secure sockets when client enters HTTPS in the browser.
- The system shall check for user activity and end the session automatically after a period of inactivity about 60 minutes.
- The system shall not leave in the cookies user's confidential information, such as password, etc.

5.6 Quality requirements/Failure Messages

- 100% Test coverage before deployment
- In the case of any error, the system will provide a generic uniform message to a user with automatic notification to a development team.