Spring Framework

Training Assignments

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Hanoi, 06/2019

RECORD OF CHANGES

No	Effective Date	Change Description	Reason	Reviewer	Approver
1	01/Oct/2018	Add the new labs	Create new	DieuNT1	VinhNV
2	01/Jun/2019	Update template	Fsoft template	DieuNT1	VinhNV

Contents

CODE:	JSFW.L.A103 (CMS)
TYPE:	LONG
LOC:	N/A
DURATION:	360 MINUTES

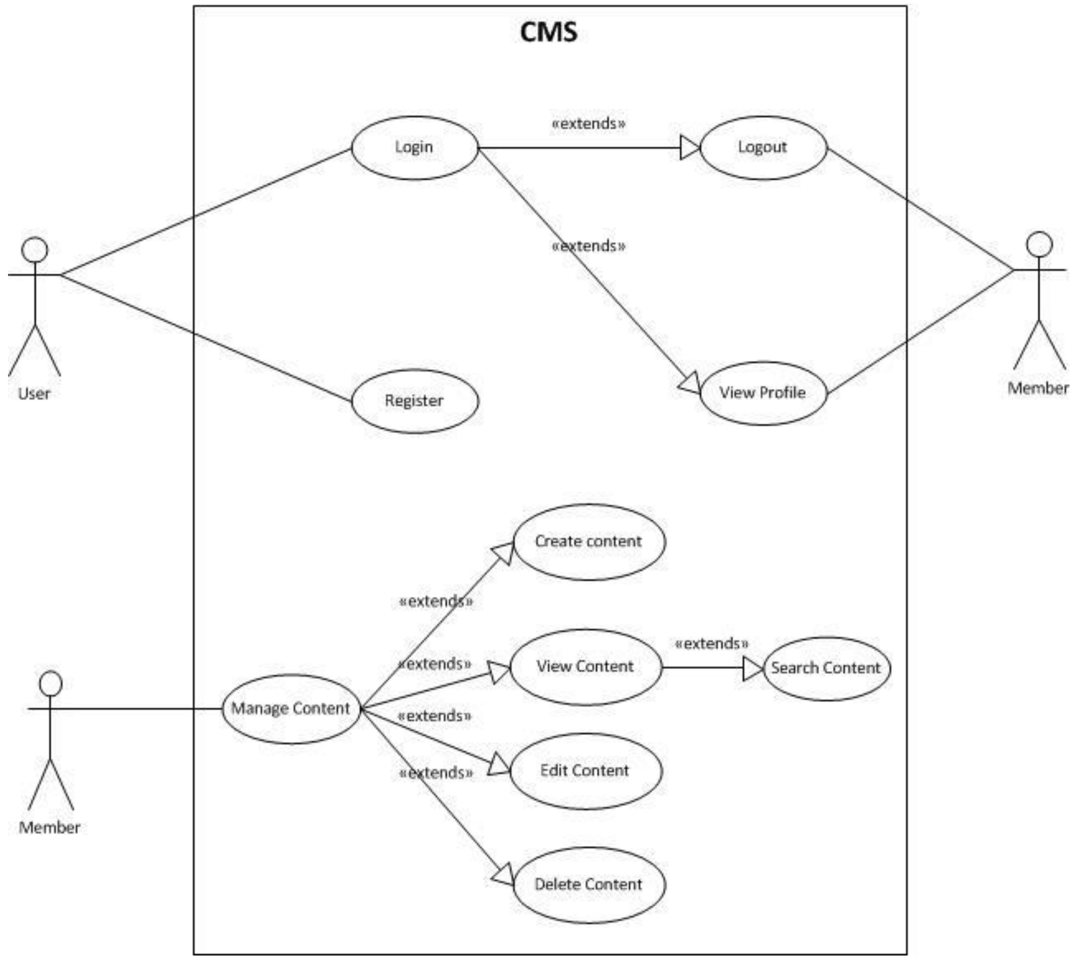
Objectives

After finishing the following exercises, trainees will:

- ✓ Understand Spring Core (IoC, DI)
- ✓ Practice with JDBC Templates to connect database in spring
- ✓ Practice with the Spring MVC framework architecture
- ✓ Know how to write a Web application with Spring MVC Framework and Hibernate ORM

Business needs

- Create a Web application based on HTML, CSS, JavaScript, Ajax, Servlet, JSP, Spring MVC framework and Hibernate ORM to Manage Content System (CMS).
- Connect all the lessons into a complete whole so that students can gain an overall view of advanced Java.
- Provide adequate provisions for a special web system. In this assignment, we will learn about a content management system. The use case diagram is described as below:



A content management is a computer application that supports the creation and modification of digital content using a simple interface to abstract away low-level details unless required, usually supporting multiple users working in a collaborative environment.

CMS features vary widely. Most CMSes include Web-based publishing, format management, history editing and version control, indexing, search, and retrieval. By their nature, content management systems support the separation of content and presentation.

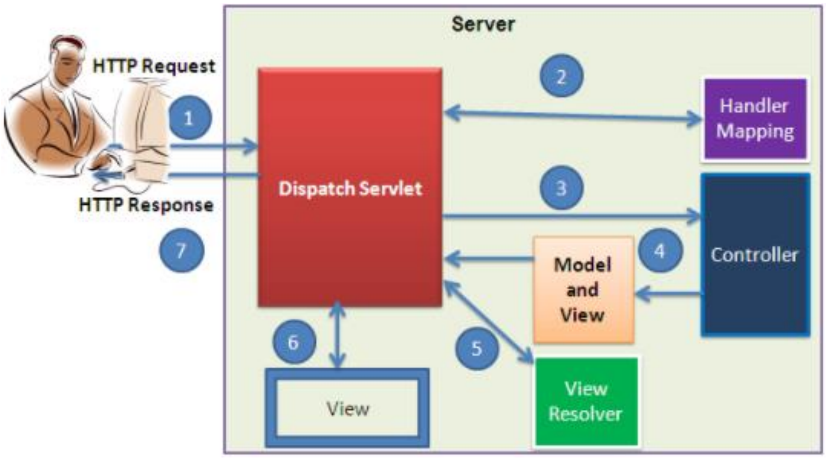
Working Environments

- ✓ JDK 1.8 +
- ✓ Maven 3+
- ✓ Eclipse IDE or STS,
- ✓ MySQL DB Server/MySQL,
- ✓ Apache TomCat 9 or later,
- ✓ Internet connection,

Delivery: Source code, deployment and testing, reviewing evidences packaged in a compress archive.

Product Architecture

Web applications are by nature distributed applications, meaning that they are programs that run on more than one computer and communicate through a network or server. Specifically, web applications are accessed with a web browser and are popular because of the ease of using the browser as a user client.



The product is implemented using MVC Pattern base on Spring Web MVC.

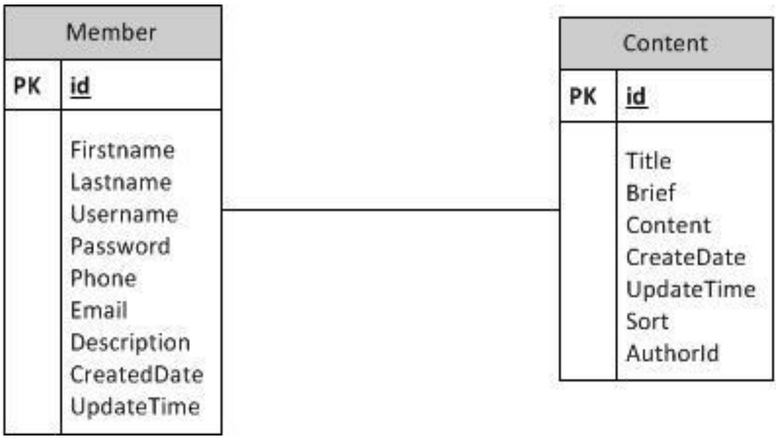
Technologies

The product implements one or more technology:

- ✓ HTML & CSS
- ✓ JavaScript & Ajax
- ✓ MVC & JSP Model
- ✓ Spring Framework: IoC, Bean, SpEL, JdbcTemplate, Interceptor, Validation, Spring Sercutity
- ✓ Hibernare ORM

Database Relationship

Based on the analysis of the requirements, we decide to use the following database tables to store the persistent data for our CMS application:



Member	
PK	id
	Firstname Lastname Username Password Phone Email Description CreatedDate UpdateTime

Content	
PK	id
	Title Brief Content CreateDate UpdateTime Sort AuthorId

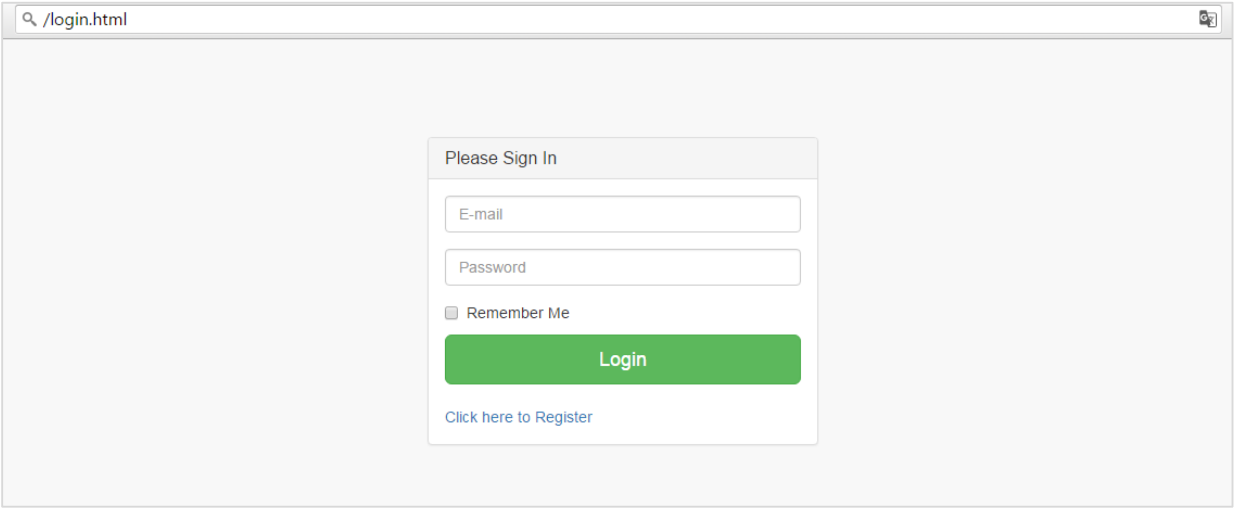
- ✓ ***Member*** stores the user information, including username and password.
- ✓ ***Content*** stores the post content information. Each comment is associated with a post and mainly consists of the following columns:
  - ○ authorID: required, the author id;
  - ○ Title: required, the title of the content;
  - ○ Brief: required, it is the description of content;
  - ○ Content: required, the comment content in plain text format.
  - ○ Sort: option, it use to other the post in the list.
  - ○ CreateDate, UpdateTime are date time create and update this post

Assignment Descriptions

1. Create the pages as below:

Start with this basic HTML template in attachment, and modify the pages as below:

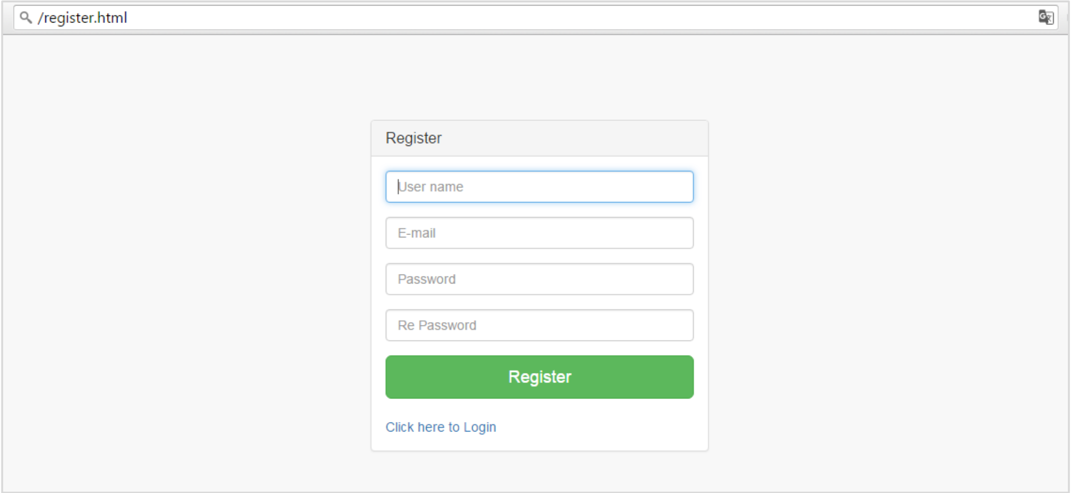
- ✓ Login page



List item definition:

No	Items	Type	Size
1	Email	Email	50
2	Password	Password	50
3	Remember Me	Checkbox	1
4	Login	Button	NA
5	Click here to Register	Link	NA

- ✓ Register page



/register.html

Register

User name

E-mail

Password

Re Password

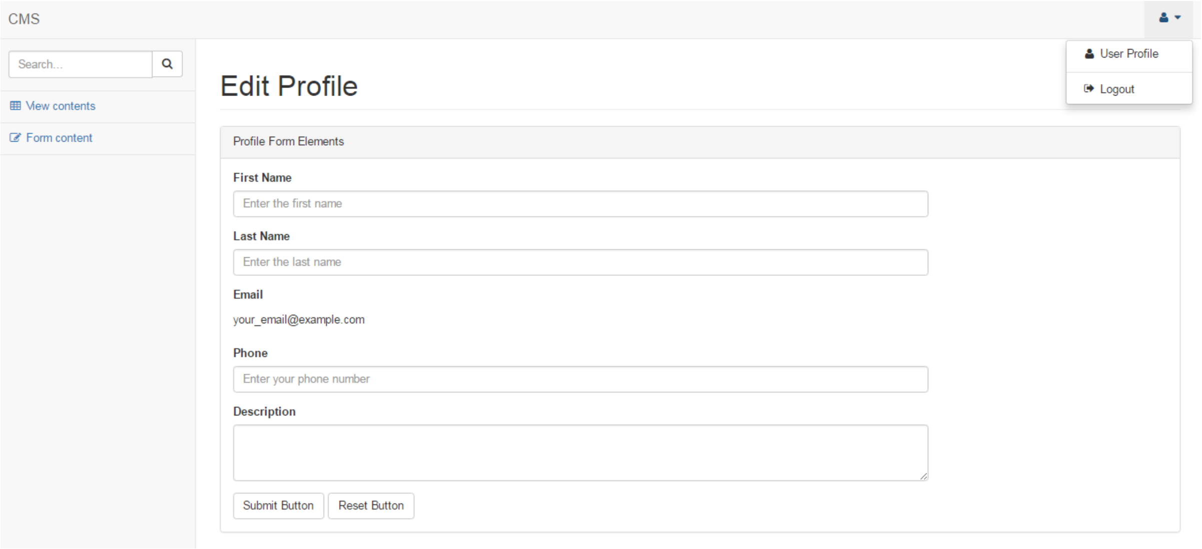
Register

Click here to Login

List item definition:

No	Items	Type	Size
1	User name	Text	50
2	Email	Email	50
3	Password	Password	50
4	Re Password	Password	NA
5	Register	Button	NA
6	Click here to Login	Link	NA

- ✓ Edit Profile



CMS

Search...

View contents

Form content

User Profile

Logout

Edit Profile

Profile Form Elements

First Name

Enter the first name

Last Name

Enter the last name

Email

your_email@example.com

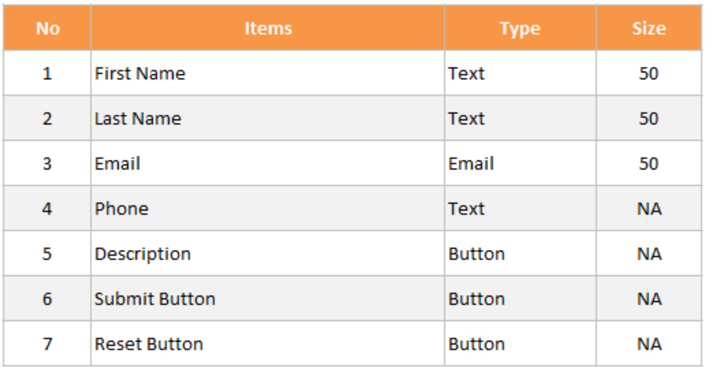
Phone

Enter your phone number

Description

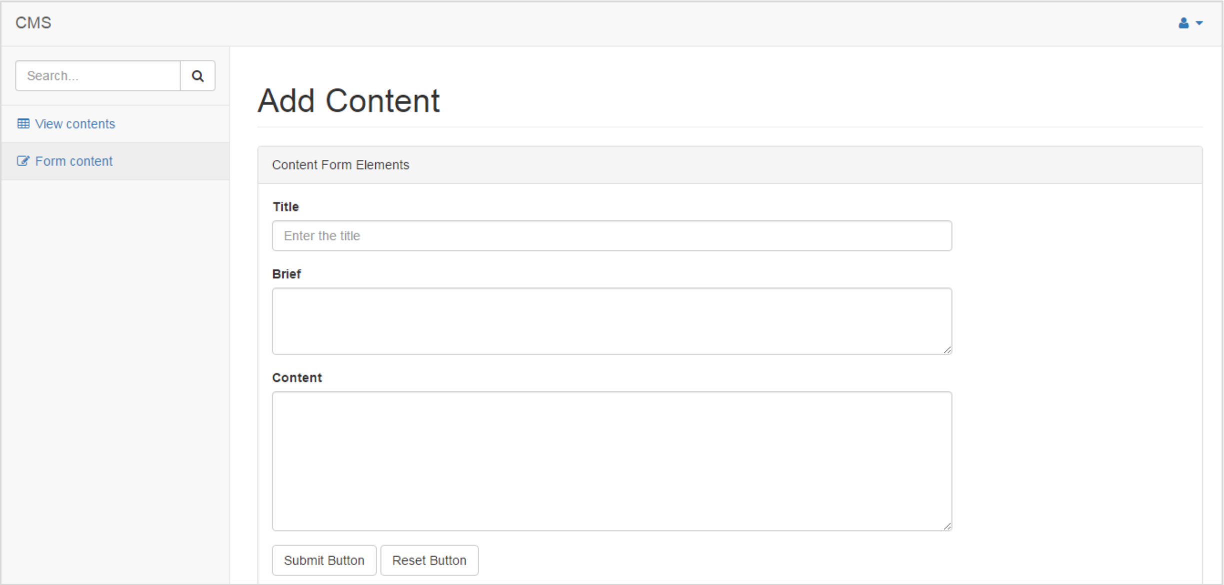
Submit Button Reset Button

List item definition:

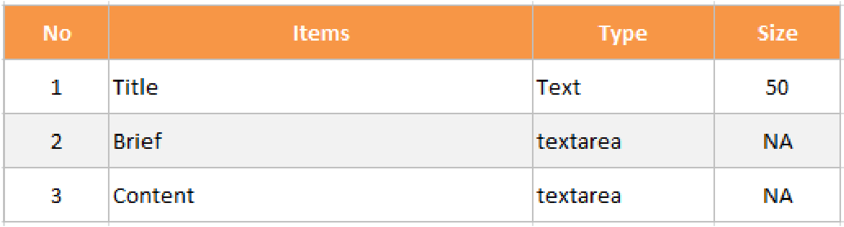


No	Items	Type	Size
1	First Name	Text	50
2	Last Name	Text	50
3	Email	Email	50
4	Phone	Text	NA
5	Description	Button	NA
6	Submit Button	Button	NA
7	Reset Button	Button	NA

✓ Form content

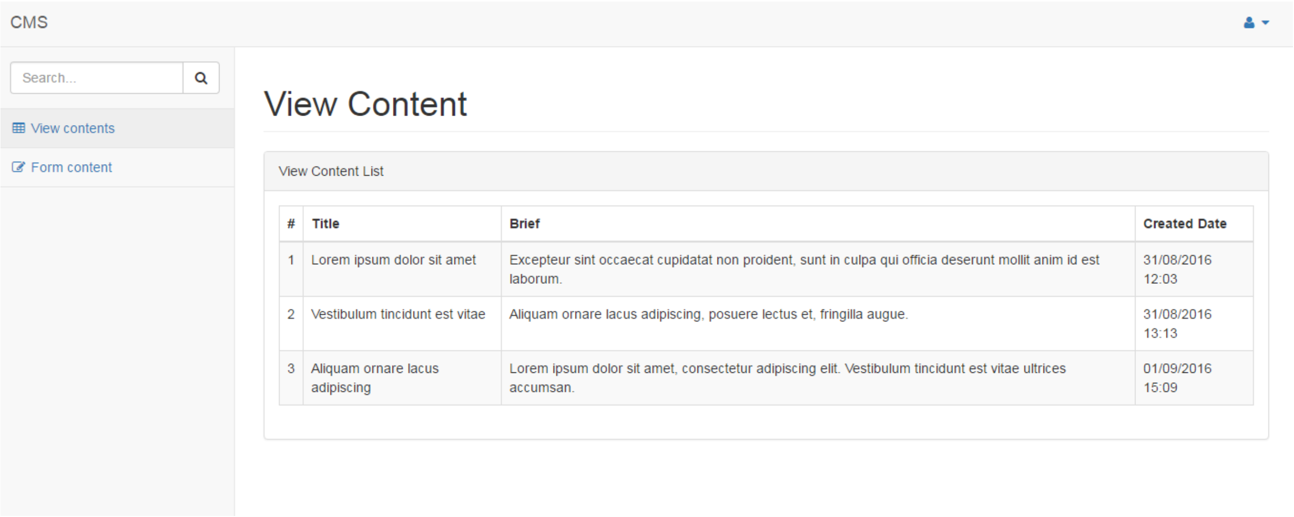


List item definition:



No	Items	Type	Size
1	Title	Text	50
2	Brief	textarea	NA
3	Content	textarea	NA

✓ View contents



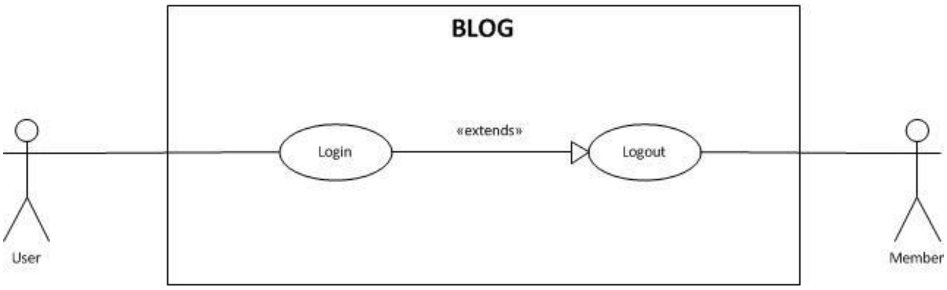
#	Title	Brief	Created Date
1	Lorem ipsum dolor sit amet	Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.	31/08/2016 12:03
2	Vestibulum tincidunt est vitae	Aliquam ornare lacus adipiscing, posuere lectus et, fringilla augue.	31/08/2016 13:13
3	Aliquam ornare lacus adipiscing	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum tincidunt est vitae ultrices accumsan.	01/09/2016 15:09

Requirement:

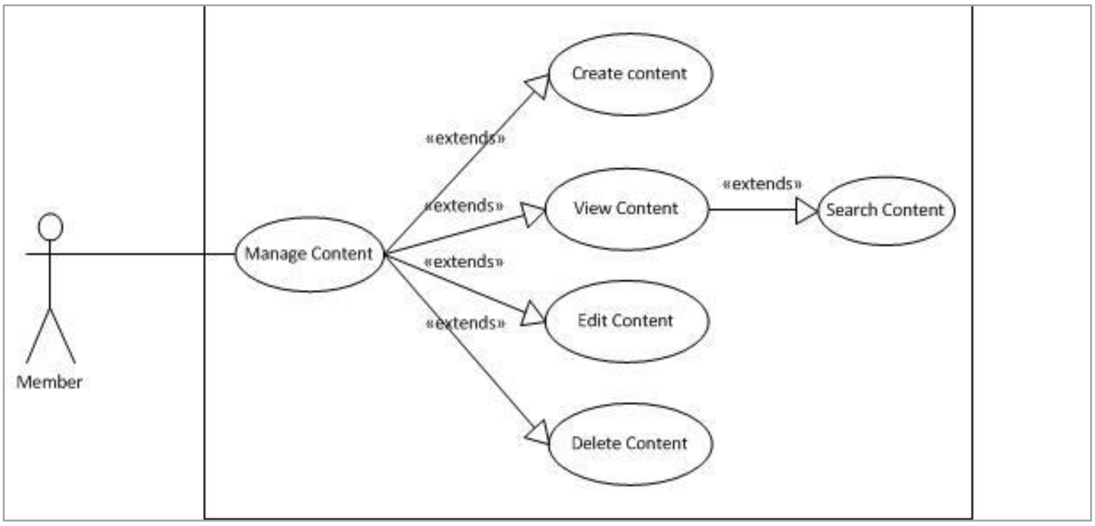
- All buttons have background in green color.
- Placeholder text in inputs has a light gray color. You need to define the placeholder for input items same as above screen.
- Add a new file fStyle.css to customize your screen, it will be based on convention of CSS style.

2. Functional Requirement:

- As you may have found that the skeleton application already provides user authentication by checking if the username and password are both ***demo*** or ***admin***. In this section, we will modify the corresponding code so that the authentication is done against the User database table.



- Use Spring Framework framework connect to Database to finish all feature in bellow Use case:



Requirement

- Implement a program that manages Content and it will follow the above use case.
  - The columns “CreateDate” and “UpdateTime” are automatically increases the value by current date and time.
  - ID column is a primary key column
- Deploy your program on the Tomcat server.
- View Content and Search content page will be use ajax to load data from controller.
- User need use java code to validate data before insert, update user information to the database. So that, we were validated data on the client by Javascript and you will validate by Java on the server.

---THE END---