Exam 1 – during Two weeks

## Introduction

Please use ZK Data Binding 2 (MVVM) to implement a Java Messageboard (a forum like) web application.

* The back end technology is to use Hibernate (or Spring, a plus feature) and HyperSql to implement.

And then the article editor is to use ZK Ckeditor.

* Here lists some of the DB Table relationship for you to refer
* \*\* User (1) -> Article(\*)
* \*\* Tag (1) -> TagDetail(\*)
* \*\* Article(1) -> TagDetail(\*)
* \*\* Article (tree view, so it must be a hierarchy relation)

## Implementation details

* Provide a login page for users to sign in and out. (ID and Password are required)
  + The landing page should include three areas
    - Most latest 10 articles
    - Most latest 10 replied articles
    - Most latest 10 articles related to the current user
  + The landing page should have an area for all articles
    - It can be displayed as Tree, List, and Expanded views (expanded view is a plus feature)
      * Tree view: Only shows the article title and replied title in tree hierarchy, and displays the content by user click on the title.
      * List view: Only shows the article title, and displays the content by user click on the title (the display includes all of its replied articles), please display them order by the replied date or create date.
  + Please use **Java Executor Framework + ZK Event Queue** to implement a schedule mechanism (about 10 sec.) to process the article when a user publishes it. And it can also support a user to cancel it during the 10 sec. Furthermore, all the users should know that new articles have been created (article view pages would be updated).
* Each article can have multi tags, and then each tag can belong to many articles
* Implement some permission that only the articles created by the current user can be modified, except the article in which contains a replied comment cannot be modified.
  + Note: if the main article is deleted, all of its relied comments will be deleted too (not real deleted inside the database)
* The whole site can support two different languages like Chinese and English, please use ZK i3-label\*.properites to implement it
* Please use a logger mechanism (Log4j or SL4j) to log the data information that is used for developer to debug it without the source code. (Please think more how to log the data information in your implementation)
* Please write some scripts to package your code into a war file by using Ant, Maven, or Gradle
  + If use Ant, please contains Clean, Compile, and Package targets
* Plus (not require)
  + Using ZK Bookmark or Push state mechanism for the whole site
  + Using more proper layout or component for the entire web site.
  + Customize the layout by using your own CSS file not the ZK built-in one
  + Using some ingenious design for the Java code or architecture

**Please review every two days.**

第一階段考題: 實作2週:   
    請用ZK Databinding2 (MvVM)實做，後端用Hibernate實做，資料庫用HyperSQL，Editor用CKeditor。  
DB裡規劃4個Table: User, Tag, TagDetail, Article

\*\* User (1) -> Article(\*)

\*\* Tag (1) -> TagDetail(\*)

\*\* Article(1) -> TagDetail(\*)

\*\* Article需要有tree view, 所以有階層關係。

0. 提供Login 頁，供使用者登入，登出。(ID, Password)  
    1. 討論板首頁請用zul編寫。  
        +. 首頁分三區: 目前最新十筆(主)文章、目前最新十筆回文、檢視個人的前十筆文章。  
        +. 所有文章列表可分三個顯示方式(tree, list, expanded)

\*\* tree: 只列title, 點選後才展開(default開主文內容)。 需照回文的階 層呈現。

\*\* list: 只列title, 點選後列出該文章的討論串。 請依回文時間排 序 (最新在最底下)

+. 每篇文章可以有多個Tags, 每個Tag也可以屬於多個文章

+. 每篇文章的回文是指明為此回文的子關係。

+. 自己發的文章會用『已發出』『處理中』兩個狀態告知使用者目前狀況。(文章確定發出後1分鐘變『已發出』) - **請用Java Executor Framework + ZK Event Queue 來實作**  
        +. 使用者可以在此取消還在『處理中』的文章。(提供確認跳出視窗，確定取消的文章會回編輯區)

        +. 當任何文章新增之後，所有使用者的文章檢視頁面將會更新(出現最新的文章)  
          
    2. 使用者可以修編自己已發文的回文，但不能改變主文的內容。  
        +. 文章可刪除(主文刪除，所有子文就會被刪) - 請用狀態來呈現而不是真的刪資料庫。  
    3. 整個網站提供二個語系，預設英文，依Browser語系可以改用中文。(可用ZK *i3*-label\*.*properties* )

5. Log機制改用log4j來實作  
    6. 整個Project可以用Ant or Maven去Build一個war檔。  
        + Ant Target 需包含:  
            - Clean  
            - Compile  
            - Package  
  
    7. 自由發揮(加分項)。  
        +. 加Bookmark or Push state 機制。  
        +. 用特別的ZK Component呈現畫面。  
        +. 客製化的應用程式外觀(套自己的CSS)。  
        +. 更精巧的系統架構設計。  
        +. 特別的額外功能

-- expanded view: 文章內容全都展開，照發文時間順序顯示(最新在最底下)

\*每2天做一次進度追蹤。

\*完成後，會進行Code Review (RD Team)。