

# PROJECT DESCRIPTION:

## AB Credit (HK) Staff Development Platform

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### Introduction:

#### *Introduction to the Introduction*

*This project is based on a real-world project from a few years ago. The project involved developing an application to help an investment bank in Hong Kong manage its internal staff development courses. The project has been simplified to suit the needs of COMP3297, however its basic goals have been retained. Also, as students, you already have good knowledge of the domain.*

Your customer is the Human Resources (HR) Department of AB Credit (Hong Kong), the local arm of a global investment bank. The bank actively supports staff development and continuing staff education by offering in-house courses on a range of subjects. Courses are prepared and presented by expert members of staff. The programme is managed by the HR Dept.

Currently, courses follow a traditional pattern and are presented by an instructor as a series of classes. Classes are held during extended lunch breaks as “brown bag sessions”. A course typically has one class per week over a total of 8 weeks. To prevent the programme being excessively distracting, the bank does not allow concurrent enrolment in courses – staff can register for at most one course at a time.

The programme has been well-received by staff and the bank considers it reasonably successful in terms of improvement in staff skills and knowledge. However, participants often complain they must skip classes to attend to their primary duties and thus find it difficult to benefit from courses as much as they would like. Client meetings, project meetings, project crises, breaking news, volatility in markets, etc., can all make it impossible to attend class. Feedback from participants frequently includes requests for a more flexible form of content delivery. Participants also comment that each course uses its own approach to deliver course materials and they would prefer more consistency across courses. Instructors report that managing courses, maintaining course web sites and arranging distribution of materials to participants is time consuming, particularly since attendance can be patchy. They feel their time could be better spent developing and improving course content. They would prefer AB Credit to adopt a standard platform for delivery of course materials.

The HR Dept. has decided to create a Staff Development Platform (SDP) to address the needs of the programme’s instructors and participants. The SDP will also allow HR to track the courses a member of staff has completed to help locate suitable candidates for project teams looking for a particular mix of skills. All courses will be delivered through the platform and will no longer require traditional classes. Instructors will develop courses and upload course materials to the platform. Staff can register for courses and work through materials at their own pace. The SDP will be a Web application; registered participants will be able to access course materials through a standard browser. The bank has around 2000 eligible staff in Hong Kong. The HR Dept. predicts 15% of that number will be enrolled in SDP courses at any time. Courses are likely to average around 20 concurrent participants, with courses on “hot” topics attracting over 60 participants.

AB Credit has its own IT department. However, all IT staff are currently committed to other in-house development projects and the bank is seeking to contract an outside team to develop the SDP.

## Your role:

You are a new graduate of HKU. Together with a group of colleagues you have formed a software development company and have been offered the contract to develop the Staff Development Platform. This is your first contract since forming your company.

The bank has assigned two members of staff to be your principal contacts:

- Ms. Christy Cheng: Senior Associate (HR), will represent the interests of the HR Dept. and the bank. She has taken several staff development courses under the current system and will also represent the interests of that class of user.
- Mr. Fredrick Lam: Lead Architect (IT), can advise on technical aspects of the project from the bank's point of view. He has created and conducted several staff development courses in the Technology subject category and can represent the interests of course developers.

We expect you to deal with these clients in a professional manner throughout the project and this will contribute to your grade. By coincidence, Christy and Fredrick look very much like our TAs, Jolly and Kevin. Consequently, when you communicate with them, either by mail or face-to-face, it is essential that we know whether you are addressing them as TAs or as clients. In all e-mail you send to them in their role as clients, please preface the subject with "[SDP]". All meetings with your *clients*, even during normal consultation hours, must be arranged in advance through e-mail.

Real-world clients are usually very busy and don't respond well to open-ended questions that require long, detailed answers. For example, to ask: "Please summarize your requirements for the SDP" would be unacceptable. Likewise, clients don't like to receive large numbers of questions or many requests for meetings from developers. Aim to act professionally - respect your clients' time and make good use of any scheduled contact you have with them.

## Details obtained from initial interviews:

Your team has conducted interviews with key stakeholders. You have elicited the following preliminary details about the proposed SDP:

### Course Structure

Courses are categorized by the area of the bank's activities they relate to. For example, in the category of Risk Management there could be a course on Market Risk. In the category of Information Technology, there could be courses on Applications Development, Algorithmic Trading, and Django. In the category of Mergers and Acquisitions, there could be a course on Corporate Valuation.

The following categories are known to be required: Mergers and Acquisitions; Markets; Risk Management; Securities; Financial Modelling; Operations; and Information Technology. Every course belongs to exactly one category. Courses will be listed by category - staff most frequently register for courses in their own area of the business and this will make it easier to find courses of interest to them.

Courses are created by instructors. A course is organized as an ordered set of modules. Participants work through the modules in sequence. Each module belongs to exactly one course and is composed of a set of components that carry the module's content. Components are ordered within the module and belong only to that module. Components can be one of the following types: a file for participants to download; text; or an image. The set of supported types may be extended in future.

## **Instructor Needs**

Instructors want to:

- create new courses and place them in the appropriate category;
- view their courses (that is, view a list of courses they have created);
- manage modules for their courses. By default, a new module will be appended to the existing sequence of modules unless the instructor indicates that it is to be inserted at some other position;
- change the ordering of modules within a course.
- manage components of modules (as links to files of the appropriate type). By default, a new component will be appended to the existing sequence unless the instructor indicates that the component is to be inserted at some other position;
- change the ordering of components within a module;
- constrain all participants to complete the modules of courses in order;
- have sole permission to modify courses they have created;
- open a course for enrolment when it is fully developed and ready for use.

## **Participant Needs**

Participants want to:

- register as a participant in the staff development programme with their AB Credit username and set a password for subsequent authentication;
- view available courses by category;
- view details of a course, such as its instructor and general description;
- enrol in a course;
- select a visible module of a course in which they are enrolled and view its components. Text and image components will be viewed directly within the SDP in the participant's browser. Files, on the other hand, must be downloaded;
- have a record kept of their progress through the modules of a course;
- have a course marked as completed when the participant successfully finishes the final module;
- drop a course at any time and leave no record that they ever participated in it;
- have a record kept of courses they have completed and the date of completion;
- access any course they have previously completed to refresh their knowledge;
- re-take a course to keep skills current. Have the date of completion updated accordingly.

## **Administrator Needs**

Administrators want to:

- control access to the SDP through user authentication based on the user's AB Credit username;
- manage categories, including adding new categories;
- restrict permission to create and modify courses to the subset of users designated as instructors;
- designate a user as instructor.

## **HR needs**

The HR Dept. wants to:

- view a list of courses completed by a specific user, together with date of completion of the course. User will be identified by AB Credit username;
- restrict users to take only one course at a time.

## Technical and other constraints

- the SDP will be implemented in Python on Django;
- for the first release it will be sufficient to implement on the Django development server;
- the SDP will be built using SQLite as its DBMS;
- in a later release, the SDP will be integrated with AB Credit's staff authentication and HR systems. For early releases it will be developed as a stand-alone application. Thus staff must register as users of the SDP separately. So that HR staff can access details for a particular user, staff will register with their AB Credit username. For historical reasons, usernames are 8-character ids containing only letters, digits, dashes and underscores.

## Assumptions

You may make the following assumptions:

- there will be no major change to a course after it is released by its creator. Minor changes within modules are permitted, for example to modify components. There will be no change above that level. For example, modules will not be re-ordered within a course, and new modules will not be added to a course.
- in later releases of the SDP, the last component in every module will be an online quiz. Participants must obtain a passing mark in the quiz to move on to the next module. In the first release, this feature will not be implemented. Accessing a module will be sufficient to open the subsequent module for access. After accessing the final module, the course will be marked as completed for that participant.