

University of British Columbia, Vancouver

Department of Computer Science

# CPSC 304 Project Cover Page

Milestone #: 1

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Group Number: 50

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

## Project Description

### *What is the domain of the application?*

Our application aspires to provide an engaging online environment that **allows users to comprehensively learn new languages** with fellow passionate learners across the world while being assisted by various learning resources. Our focus extends beyond mere language acquisition - we strive to facilitate a comprehensive language learning journey.

Given this high-level goal, we consider the domain of our application to be **language learning**. The domain of our application encompasses various facets of a holistic language learning experience. It encapsulates not only the process of learning new languages but also the aspects of dynamic community education, resource utilization, professional advice, and the integration of practice exercises.

### *What aspects of the domain are modeled by the database?*

The database of our application is modeled to store and retrieve information related to various aspects of a user's language learning experience. These aspects include:

- **Learner Profile:** A learner's information, including personal details, preferred languages, proficiency level and learning goals.
- **Learning Resources:** Records of learning resources accessed.
- **Practice Exercises:** Progress metrics and outcomes with feedback and insights of practice exercises and feedback.
- **Achievements:** Information on achievements earned by the users when reaching milestones.
- **Learner Interaction:** Interactions between learners (language pen pal, study groups).
- **Forum Participation:** Engagement in the forum in the form of posts, comments and other contributions.
- **Expert Advice:** Records of interactions between users and language experts.
- **Bot Moderation:** Records of moderation actions taken by the bots, such as warnings, content removal, or temporary suspensions.

## Database Specifications

### *What functionalities will the database provide?*

Our database will allow one to find out various information regarding the language learning experience of our users. We include a few concrete functionalities below:

- Retrieve/store/update the languages our learners are in the process of learning;
- Retrieve/store/update the practice exercises and resources our learners use;
- Retrieve/store/update the achievements our learners earn;
- Retrieve/store/update the interactions that take place between our learners;
- Retrieve/store/update the forums in which our learners participate;
- Retrieve/store/update the experts from which our learners receive advice.

## Application Platform

*What database will your project use? What is your expected technology stack?*

We will use the department provided **Oracle Database** as our project's database along with **SQL Plus** for database access, **Java+JDBC** as our backend, and **HTML+CSS** as our frontend. We will specifically use the instructions provided by the CPSC 304 course staff on building a project with **Oracle+Java**.

## ER Diagram

**Note:** The subclasses in our ISA hierarchy (i.e., Book, App, Website) each have one additional attribute (i.e., Author, Publisher, URL respectively). Since these subclasses each also inherit the attributes of the parent class (i.e., all the attributes of Resource), we did not consider this to go against the requirement of “each entity set has at least one non-primary key attribute”.

