

## Project Overview for Summer 2024

### Project Goal:

The aim of this project is to apply the different concepts learned to create an Android application. The project involves developing an Android app that allows users to manage quotes effectively and intuitively. Users will be able to create products by providing detailed information through a comprehensive form, display them in a ListView, add them to a cart, and calculate the total with taxes. Some products may be taxable or non-taxable.

### Application Description:

The "Quote Management" application is a mobile solution designed to facilitate the creation and management of quotes for users in Quebec, Canada. It allows users to create products through an intuitive form, display these products in a user-friendly ListView, and add products to a cart to calculate the total with taxes. The application integrates various UI components such as RadioButtons, Spinners, DatePickers, and offers advanced features like sorting products, modifying and deleting products, and managing user preferences.

### Main Features:

#### 1. Product Creation Form:

- **Product Name (EditText):** Text field to enter the product name.
- **Description (EditText):** Text field to enter the product description.
- **Price (EditText):** Numeric field to enter the product price in CAD.
- **Category (Spinner):** Dropdown menu to select the product category (e.g., Electronics, Food, Clothing, etc.).
- **Addition Date (DatePicker):** Date picker to choose the product addition date.
- **Condition (RadioButton: New/Used):** Radio buttons to indicate whether the product is new or used. A 15% tax is applied if the product is new; no tax is applied if the product is used.
- **Note:** The form should validate required fields and ensure data consistency.

#### 2. Product Display:

- **Product List (ListView):** Displays all created products with their name, photo, price, tax indication, and a button to add the product to the cart.

#### 3. Cart:

- **Add to Cart:** Option to add products to the cart.
- **Cart Display:** Displays products added to the cart with the name, quantity, and total price (including or excluding taxes).

- **Tax Calculation:** Automatically calculates applicable taxes for each product in the cart and displays the total with and without taxes.
- **Remove from Cart:** Option to remove products from the cart.
- 4. **Product Sorting:**
  - Sort products by name, price (ascending and descending order).
- 5. **Product Modification:**
  - Modify the information of an existing product.
- 6. **Product Deletion:**
  - Delete a product from the list with confirmation via an AlertDialog.
- 7. **User Preferences Management:**
  - Save sorting preferences and other settings via SharedPreferences.

#### **Report Requirements:**

- **Description and Usage of Functions:**
  - Provide a general description of the program from the end-user perspective.
  - Explain what the user needs to know to use the program: input and output formats, list of possible commands with a brief description, tasks performed by the program, etc.
  - Describe each function's task in a way that is understandable to another programmer who will use your functions.
- **Data Structures Used and Justification:**
  - Describe the data structures used in your program.
  - Justify your selection and explain the advantages of your approach if a simple data structure was sufficient.
- **Discussion:**
  - Share general comments on the project, including what worked well.
  - Discuss possible improvements for your program, functions, data structure representations, and algorithms.
- **Quality and Clarity of Language:**
  - Ensure your text is well-written and proofread to avoid errors. Pay attention to sentence structure, not just lexical errors.
  - Your explanations should be clear and well-presented.
- **Accuracy of Explanations:**

- Ensure that your explanations are precise and correct.
- A report should never be included as a comment in the program code; it is a separate entity.
- The report does not need to be very long but should contain essential information.

#### **Project Guidelines:**

- **Target Device:** Pixel 7 and Pixel C, in both portrait and landscape orientations.
- **Languages:** The application should support both French and English.
- **API:** Target API level 34, with a minimum version of API 31 and a maximum version of API 34.

#### **Submission Requirements:**

- **Deadline:** Submit electronically on Léa by August 11, 2024.
- **Files to Submit:** A report, a short video capture, and a ZIP archive of the project.
- **Teams:** Maximum of 3 members per team, with one member submitting the required documents via Léa.

#### **Grading Criteria:**

- Report: 4 points
- User Interfaces: 4 points
- Addition of Two Languages: 2 points
- Validation for Two Views: 2 points
- Product Creation and Modification Features: 5 points
- Cart Management Features: 5 points
- Sorting Mechanism and Form Validation: 4 points
- Product Deletion Features: 3 points
- Preferences Management and Storage: 5 points
- Adherence to Submission Procedure: 3 points
- Overall Appreciation: 3 points