

SCHOOL OF DIGITAL MEDIA AND INFOCOMM TECHNOLOGY

DIPLOMA IN INFORMATION TECHNOLOGY

ST1011 APPLICATION DEVELOPMENT

ASSIGNMENT 1 (2017/2018 S2)

-Updated Ver. -

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Objectives:

1. Build a platform that has intuitive and user-friendly navigation, allowing customers to browse through all tours and/ or find their desired tours easily, and providing detailed information about said tours
2. Offer affordable tours that are capped at US\$3000 per Pax, with a duration of at least 5 days and are within the continent of Asia
3. On account creation, users will be given the choice of a **premium account or free trial account**. Free accounts will be deleted after 30 days. Premium accounts will give users the right to use themes, and will also give them a subsidy on their cart's grand total.
4. Allow users to **change their account settings** in the settings page, such as **editing their UI theme** for this session, their **personal and payment information**, as well as their membership (from free to premium).
5. Let users **filter and find tours** based on their chosen criteria, such as location (continent and country) and price of tours
6. Enable users to **select their tour options on cart selection**, such as **hotel room choices and flight choices**, while offering them an **optional tour addon** of travel insurance.
7. Make users **select the date** that their tour begins according to that tour's available dates. Their selected tour date range **will not be allowed to conflict** with the existing date ranges of other cart tours.
8. Allow users to **save bookmarks** for tours, which can be viewed even after they log out and sign in again
9. Allow users to **leave reviews** on the tour details page of their **purchased tours** through the review tab, as well as **view other user's reviews** on the tour details page.
10. Allow users to **contact the company** through the contact us page, which will **email** their message and email to the administrator's email.

Available Tours:

Northeast Asia:

China	<ul style="list-style-type: none">• 8D7N WONDERS OF BEIJING AND XI'AN
Japan	<ul style="list-style-type: none">• 6D5N BLISSFUL OKINAWA• 7D5N HOKKAIDO ULTIMATE
South Korea	<ul style="list-style-type: none">• 7D5N INDULGENCE IN JEJU AND SEOUL• 8D6N KOREA ULTIMATE
Taiwan	<ul style="list-style-type: none">• 7D6N WEST TAIWAN SERIES• 7D6N CAPTIVATING SOUTH TAIWAN

South Asia:

India	<ul style="list-style-type: none">• 8D GOLDEN TRIANGLE
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Southeast Asia:

Cambodia	<ul style="list-style-type: none">• 6D4N FLAVOURS OF CAMBODIA• 5D4N CAMBODIA EXPERIENCE
Thailand	<ul style="list-style-type: none">• 7D CHIANGMAI AND CHIANGRAI FT. BANGKOK
Vietnam	<ul style="list-style-type: none">• 6D5N NORTHERN VIETNAM AND SAPA

Candidate Classes:

Tour Class:

The Tour class defines tour objects for booking application.

Properties:

- TourID
- TourName

- TourDesc
- TourPrice
- TourDuration
- TourStartDate
- TourEndDate
- TourImageSource

Tour Collection Class:

The TourCollection class stores data on all offered tours.

Methods:

- **getTours:** declares tour ArrayList and stores all offered tours values into arraylist
- **getTour:** gets specific tour based on arraylist index

Collection Class:

The Collection class stores general-use methods for extraction from text files.

Methods:

- **getFilePath:** gets file path using text file name
- **getTextFileList:** get all info in a list using text file name
- **getTextFileLine:** get a line in a list using text file name and line number
- **getTextFileElement:** get a line element in a list using text file name, line number and element number

Cart Class:

The Cart Class will store subtotals and total cost for the cart items.

Users can delete cart items, edit tour choices (flight, room and no. of persons), or checkout the cart and proceed to transaction.

Properties:

- **PeopleQty** (No. of Persons the tour is booked for)
- **Subtotal** (Tour price with room and/or flight prices added on)

- **TotalCost** (Total price based on subtotals added all together)

Methods:

- **addCartItem**: adds selected tour with selected room and flight choices into the cart page
- **updateCartItem**: updates selected tour with selected room and flight choices into the cart page
- **deleteCartItem**: deletes specific tour from the cart page
- **deleteAllCartItems**: deletes all cart items from the cart page

AddOnCart Class:

The AddOnCart Class which is a child of Cart will store addon and override subtotal calculation

Properties:

- **Addon**

Methods:

- **calculateSubTotal** : Calculates subtotal cost of specific single cart items by adding calculated tour price + calculated room price + calculated flight price + addon price

Transaction Class:

The Transaction class displays all and stores a receipt of all transaction details in an Array list after cart checkout.

Properties:

- **BookingID**
- **BookingDateTime**
- **TotalCost**

Methods:

generateReceipt: writes booking details into a text file for storage, receipt is then generated in receipt window by extracting the specific booking details

Room Class:

The Room class specifies the type of room that the customer can select, the number of people the type of room can hold, and the price of the selected room.

Properties:

- SingleRmPrice
- DoubleRmPrice
- NoOfSingles
- NoOfDoubles
- RoomSelection

Methods:

- calculateTotalRmPrice: calculates total room price based on no. of single and double rooms

Flight Class:

The Flight class specifies the choices that the customer selects for number of tickets.

Properties:

- FlightPrice
- NumTickets
- FlightSelection

Methods:

- calculateTotalFlightPrice: calculates total flight price based on no. of tickets

Customer Class:

The Customer Class defines customer objects for user account facilitation

Properties:

- FirstName
- LastName
- Email
- Phone

- DOB
- Country
- TownOrCity
- Nationality
- Address
- PostalCd
- Username
- Password
- CardType
- CardNo
- CardExpirationDate
- CardHolderName
- CCV
- Membership

Methods:

- **calculateFinalPrice:** gets the final price before customer checks out from cart page. Will be overridden by PremiumCustomer if user is or becomes a premium member.
- **populateCustomerDetails:** virtual method to get specific information of current customer and store into properties for data retrieval when an instance is created
- **addNewCustomer:** virtual method to add new user account to the text file, to be overridden
- **editCustomer:** virtual method to edit customer info, to be overridden
- **getCustomerDetail:** gets element from a line in customerInfo text file

FreeCustomer Class:

The FreeCustomer Class, child class of Customer class, defines free customers for users who did not sign up for the membership.

Properties:

- ExpiryDate

Methods:

- **deleteExpiredCustomers** : checks if free account has expired their trial on application startup, and then automatically deletes them if expired
- **populateCustomerDetails** : override method gets specific information of a free customer and store into respective variables when an instance is created
- **addNewCustomer** : override method adds new free user account to the text file
- **editCustomer** : override method edits free customer info when user edits in settings page

PremiumCustomer Class:

The PremiumCustomer Class, child class of Customer class, defines premium customers for users who signed up for the membership.

Properties:

- Subsidy

Methods:

- **calculateFinalPrice** : override method that calculates final price with a subsidy of 10% for premium customer, before customer checks out from cart page.
- **populateCustomerDetails** : override method gets specific information of a premium customer and stores them into respective variables when an instance is created
- **addNewCustomer** : override method adds new premium user account to the text file
- **editCustomer** : override method edits premium customer info when user edits in settings page

Bookmark Class:

The Bookmarks class will store the bookmarks of any tours that the user adds to bookmarks, so that the user can view them in the bookmarks page later. The user can delete these bookmarks on button click. These user-specific bookmarks will be stored after each session for the user's next session.

Methods:

- **populateUserBookmarks** : Restores user's bookmarks from his previous session when he logs in
- **addBookmark** : Adds bookmark to text file to be read and displayed in bookmarks page when add bookmark button is clicked
- **deleteBookmark** : Deletes the line in bookmarks text file of the specific bookmark when delete button is clicked
- **storeUserBookmarks** : Overwrites users bookmarks from previous session(in customer info file) with the bookmarks from his current session, to be restored when he next logs in
- **deleteAllBookmarks** : Clears the session's bookmarks in text file when user logs out

Review Class:

The Review class will store the customer's review for a specific tour as well as their name, and the date of review to be displayed (on the tour details page) for other customers to see.

Properties:

- **ReviewMessage**
- **ReviewName**
- **ReviewDateTime**
- **TourIndex**

Methods:

- **storeReview** : stores review message submitted review page
- **getReviewsList** : retrieves stored reviews from text file for display on the relevant tour details page

Feedback Class:

The Feedback class sends the customer's name, email and their title and message (with their inquiries or feedback) to the administrator email, to be viewed by the relevant staff.

Methods:

- **sendEmail**

AccountValidation Class:

Stores methods for validation of account details input, to be used in login page, create account pages, as well as settings page (where they will edit their details).

Methods:

- For account creation and settings pages:
- **getCountryNames:** populates countries in combobox for account creation and settings pages
- **validateFirstNameInput**
- **validateLastNameInput**
- **validateEmailInput**
- **validatePhoneNoInput**
- **validateDOBInput**
- **validateCountryInput**
- **validateTownOrCityInput**
- **validateNationalityInput**
- **validateAddressInput**
- **validatePostalCdInput**
- **validateUsernameInput**
- **validatePasswordInput**
- **validateCardTypeInput**
- **validateCardNoInput**
- **validateExpirationDateInput**
- **validateCardHolderNameInput**
- **validateCCVI**

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MAP OF WIREFRAME PAGE INTERACTIONS

Legend:

/: Indicates two-way interactions,
all pages are interconnected

↗: Indicates one-way interactions

