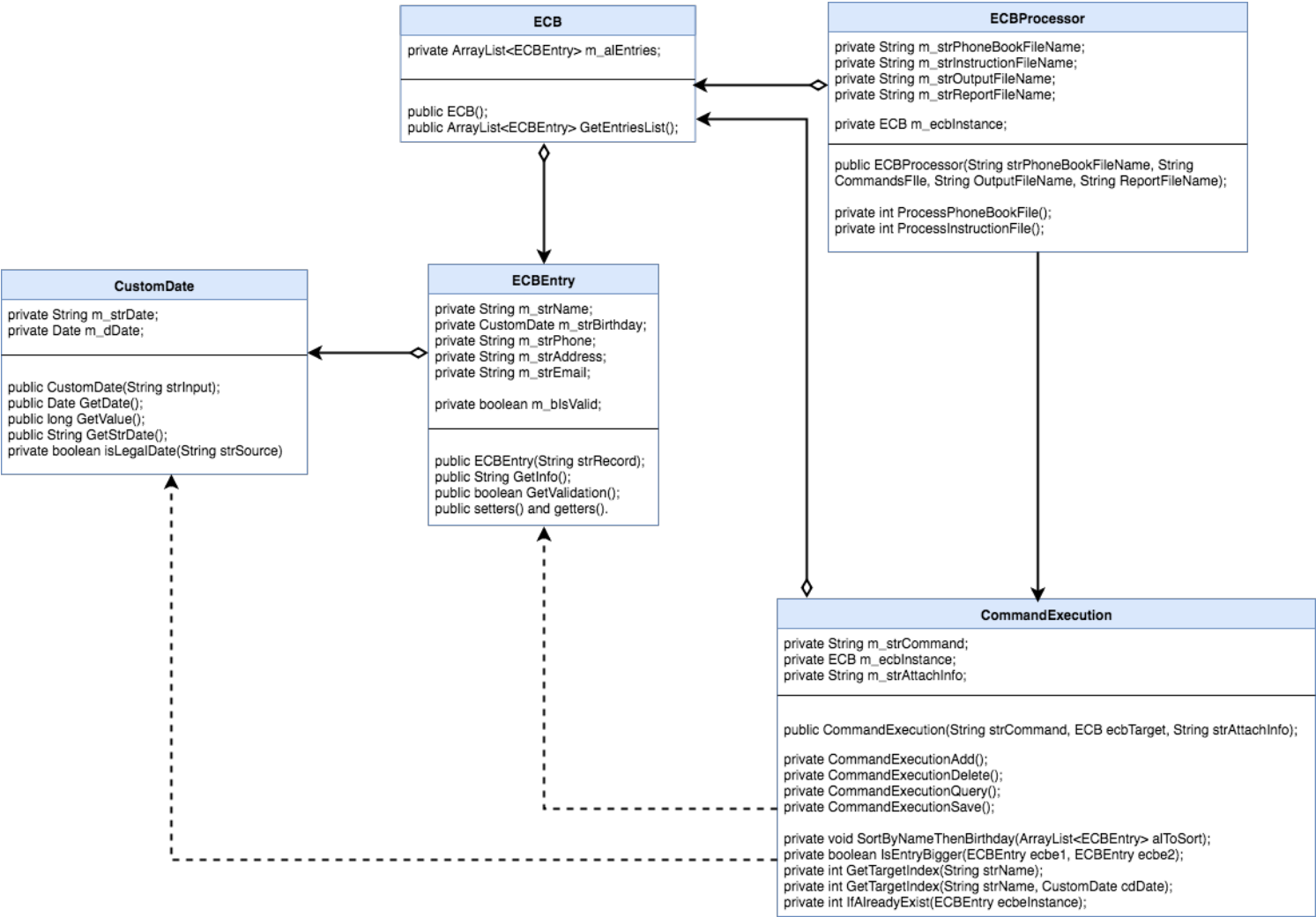


COMP9103 Software Development in Java Assignment

Design

UML



Overall Description

Class ECBEntry contains the information of a contact, where the birthday is formatted as an object of class CustomDate.

Class ECB maintains an array list of ECBEntry.

Class ECBProcessor controls the program's process: once an object of class ECBProcessor is constructed, the program will read the initial contact file and process the instructions in instructions file. Class ECBProcessor knows class CommandExecution, and one object of CommandExecution would be constructed after the reading of each single line in instruction file.

Class CommandExecution is responsible for practically executing the add, delete, query and save commands. It relays on class CustomDate and class ECBEntry for successfully proceeding all the commands.

Details

the Validation of an Email Address

We used regular expression to check if an email address is valid:

```
if (m_strEmail.matches("[a-zA-Z0-9_+]+@[a-zA-Z0-9-]+\\. [a-zA-Z0-9-]+.$") ==  
false)  
{  
    m_bIsValid = false;  
    break;  
}
```

Similar techniques were applied to the validation of name, birthday and phone number.

Sorting in Query Command

We used the bubble algorithm to sort all the matched contacts in query command. To determine whether a contact should be listed before another contact, we used the following method:

```
private boolean IsEntryBigger(ECBEntry ecbe1, ECBEntry ecbe2)  
{  
    if (ecbe1.GetName().compareToIgnoreCase(ecbe2.GetName()) > 0)  
    {  
        return true;  
    }  
}
```

```
    if (ecbe1.GetName().compareToIgnoreCase(ecbe2.GetName()) == 0)
    {
        if (ecbe1.GetBirthday().GetValue() > ecbe2.GetBirthday().GetValue())
        {
            return true;
        }
    }

    return false;
}
```

We first compared the contacts' names in alphabet order, then compared the birthday in time order if the names were identical.