Milestone 7 – Android Contacts Application

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Problem / Question

Create an Android application to hold contact information. Differentiate between Personal and Business - hold pertinent data for each type and call other applications for communication.

Hypothesis

- Create java classes to handle data storage, model, logic, and visual representations for contacts. Utilize advanced techniques in Java to store/retrieve data using JSON; Utilize and communicate with Camera/Gallery, Web Browser, Maps, Texting (SMS), and Email.
- Design processes incrementally – confirming results in stages

Project Overview

1. Develop application logic and flesh it out in a story board
2. Design Abstract Data Types (ADT) to model data and logic
3. Create UML documents and define dependencies / relationships
4. Create Flowcharts (3), initial logic; updated version with classes
5. Write Java code – confirm that it follows flowchart logic
6. Create videos to demonstrate effective progress in each step
7. Modify code to final stage to produce visually appealing product
8. Modify story board to more accurately represent final product
9. Produce a poster that highlights the process

Classes / Research

Model Classes

AddressBook
BaseContact
BusinessContact
ContactList
Location
PersonalContact
Photo

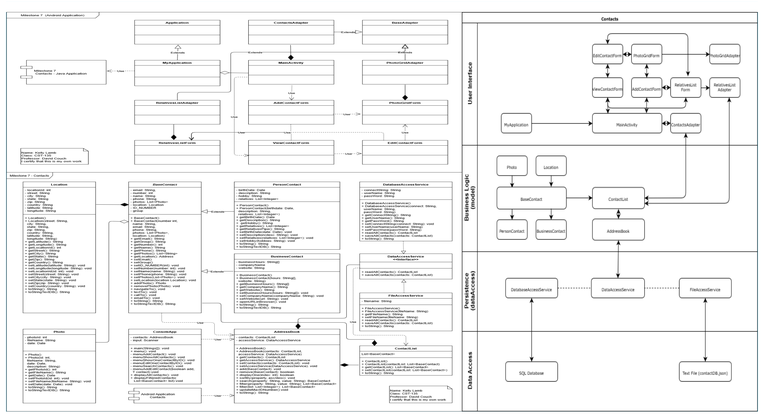
Data Access Classes

DataAccessService
DBAccessService
FileAccessService

Visual Classes

AddContactForm
ContactsAdapter
EditContactForm
MainActivity
MyAppGlideModule
MyApplication
PhotoGridAdapter
PhotoGridForm
RelativesListAdapter
RelativesListForm
ViewContactForm

Flow Chart / UML



Procedure - Milestones

Step 1

Design initial logic flowchart and story board

Step 2

Design Data Model - ADT, UML, Wireframe, N-Layer

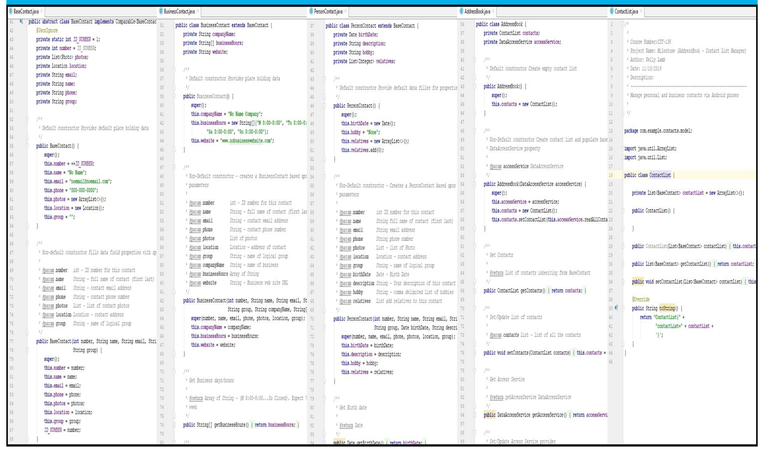
Step 3

Incremental Design, Write, Test, Research Android

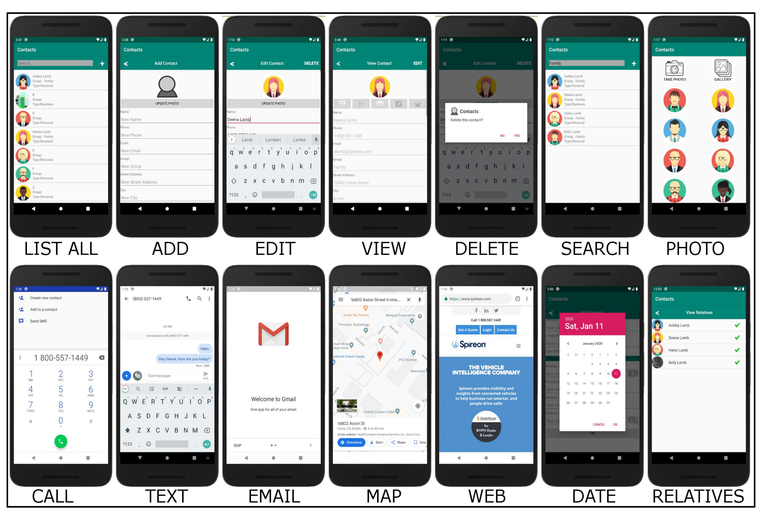
Step 4

Create Visual classes and merge with data model

Base Code Snippets



Results - Screenshots



- Application initializes, loads contact data, displays alphabetical list
- Screenshots: 14 – Represents all implemented functionality
- Number of classes: 21 (excluding anonymous classes)
- Number of layouts: 12 (most reused throughout each form
- Number of lines: Java code: 3,648; Layout XML: 1,013

Conclusion

- Contacts Application – Surprisingly fun to code but provides some tough logic requirements, decisions, and learning Android libraries.
- Flowchart, ADT, UML, Story board, Wireframe, and N-Layer Diagrams are great tools to help in the design process
- Android offers a robust graphics programming platform but requires significant research and understanding – many tutorials online.
- Very satisfying outcome watching everything work together.

Works Cited

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