

### 1. Classes:

- SmhgzdNotecards meets this requirement in the following places:
  - AboutViewController.java
  - AllNoteCardSets.java
  - LoadSetViewController.java
  - NewSetViewController.java
  - NoteCard.java
  - NoteCardSet.java
  - SetViewController.java
  - SmhgzdNotecards.java
  - WelcomeViewController.java

### 2. Subclasses:

- SmhgzdNotecards meets this requirement in the following places:
  - AboutViewController.java = extending the abstract class Switchable
  - LoadSetViewController.java = extending the abstract class Switchable
  - NewSetViewController.java = extending the abstract class Switchable
  - SetViewController.java = extending the abstract class Switchable
  - WelcomeViewController.java = extending the abstract class Switchable
  - AllNoteCardSets.java = extending the abstract class Set

### 3. Abstract Classes:

- SmhgzdNotecards meets this requirement in the following places:
  - Set.java (implemented by AllNoteCardSets.java)
    - The purpose of this abstract class is to ensure that AllNoteCardSets.java implements the methods addNoteCardSetToAllSets() and removeNoteCardSet();
  - Switchable.java (implemented from lecture #37, credit to Prof. Wergeles)
    - The purpose of this abstract class is to make it a lot easier to switch between scenes, with only one copy of each controller.
  - **Note:** I created the abstract class Set.java as a backup in case Switchable.java does not count towards the requirement. Although Switchable.java was not created by me, it was added to in lecture and we went over how it worked.

### 4. Interface:

- SmhgzdNotecards meets this requirement in the following places:
  - Serializer.java (implemented by LoadSetViewController.java and NewSetViewController.java)
    - The purpose of this class is to require these controllers to implement the method serialize(), in order to ensure serialization occurs in these controllers.

### 5. Collection Classes:

- SmhgzdNotecards meets this requirement in the following places:
  - AllNoteCardSets.java = line 17. (ArrayList)
  - NoteCardSet.java = line 17. (ArrayList)
  - Switchable.java = line 25. (HashMap)

### 6. Exception Handling:

- SmhgzdNotecards meets this requirement in the following places:
  - LoadSetViewController.java = lines 59, 121

- NewSetViewController.java = line 123
- Switchable.java = line 37
- WelcomeViewController.java = line 64

## 7. Model

- SmhgzdNotecards meets this requirement in the following places:
  - AllNoteCardSets.java
    - Stores all of the note card sets in an array list of <NoteCardSet>, with getters/setters
  - NoteCardSet.java
    - Stores one individual set of notecards in an array list of <NoteCard>, with getters/setters
  - NoteCard.java
    - Stores the individual note cards (front and back) within each notecard set, with getters/setters

## 8. Multiple Scenes and contents of scene graph changed depending on application state

- SmhgzdNotecards meets this requirement in the following places:
  - In WelcomeView.java (Multiple Scenes)
    - Clicking on the “New Set” button will change the scene from WelcomeView.fxml to NewSetView.fxml (line 32)
    - Clicking on the “Load Set” button will change the scene from WelcomeView.fxml to LoadSetView.fxml (line 46)
    - Clicking on the “About” button will change the scene from WelcomeView.fxml to AboutView.fxml (line 86)
    - Each respective view has a button that will take them back to WelcomeView.fxml
  - In LoadSetViewController.java (Change in scene graph)
    - Upon right click of set and selecting “delete” that set will be removed from the ListView that is seen on that screen (line 85)
  - In SetViewController.java (Change in scene graph)
    - Upon double click of a notecard to reveal the front/back, the content displayed in the “notecard” will change depending on what the user loaded the set with. (line 93)

## 9. About Page

- SmhgzdNotecards meets this requirement in the following places:
  - In WelcomeViewController.java (line 86)
    - There is a large orange button “about” on the welcome screen, this will take you to the about page
    - In the about page you will find information on how to use the application, who developed it, and why.

## 10. Saving and Loading Data (serialization)

- SmhgzdNotecards meets this requirement in the following places:
  - WelcomeViewController.java (line 62)
    - WelcomeViewController.java is responsible for loading (deserializing) saved notecard sets upon entry to the application
    - The method deSerialize() (line 62 and called in line 28) will handle this upon entry to the application

- LoadSetViewController.java (line 119)
  - LoadSetViewController.java is responsible for saving (serializing) saved notecard sets upon deletion of a set, since that is the only time this class would change the model.
  - The method serialize() implemented from the Serializer.java interface in LoadSetViewController.java is on line 119 and called on line 87
- NewSetViewController.java (line 124)
  - NewSetViewController.java is responsible for saving (serializing) new notecard sets that are created in NewSetView.java.

#### 11. Others Code and Ideas

- I used the Switchable.java class from lecture #37, Prof. Wergeles wrote some of this code, while we added to it and went over it in class. After reading Wergeles email, I think that this can and should count towards my abstract class requirement (although I also made another back up abstract class).
- I used an idea from Raghunandan (stackoverflow) on how to display the names of my objects in my ListView in LoadSetViewController.java. I had to override the toString() method in NoteCardSet.java (line 51). I did not come up with this myself and had to look it up to come up with it.

#### 12. Using code to create Visual elements

- In LoadSetViewController.java (line 88, 89) I create ContextMenu and a MenuItem. I did this because had I added it in scene builder to the fxml, it would have displayed the right click message I wanted anywhere on my ListView, even if it was empty. I did not want this. I only wanted to display the right click menu if the click was on a valid list item, thus doing so in code allowed for greater flexibility and accomplished this task.

#### 13. UML Notes

- In SmhgzdUML.jpg I ordered the classes such that any class dependent on the existence of another class was below it. I also included aggregation arrows from classes containing fields of another class as shown in <http://www.cs.bsu.edu/homepages/pvg/misc/uml/>