

Social Network Classes/Driver Data

- Person
 - Id
 - Name
 - Network
 - Friends
- Driver (UI)
 - Social network
- Social Network
 - People in network

What are the data types for each class's data?

Mar 28, 2011

Sprenkle - CSCI1111

1

SN Classes/Driver Functionality

- Person
 - Getters (accessors)
 - String rep
 - Setters
- Social Network
 - Getters
 - String rep
 - Add people to network
 - Add connections
 - Writing to a file
- Driver
 - Getting user input to
 - Read people, connections files
 - Store social network to file
 - Add a person
 - Add connections
 - Summary: call appropriate methods on classes to do above

How should we test these?

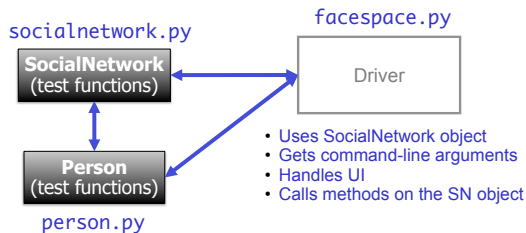
Mar 28, 2011

Sprenkle - CSCI1111

2

Lab 10 Design

- 3 files: person.py, socialnetwork.py, facespace.py



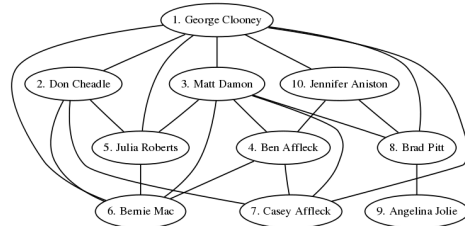
Mar 29, 2011

Sprenkle - CSCI1111

3

Goal Output

- You will create two graphs that look something like this and put them on a new web page for Lab 10



Mar 29, 2011

Sprenkle - CSCI1111

4

Problem: People Files

- Given a people file that has the format

```

<num_users>
<user_id>
<name>
<network>
...
<user_id_n>
<name_n>
<network_n>
    
```

- Write algorithm to create Person objects to represent each person, add to SocialNetwork object

Mar 29, 2011

Sprenkle - CSCI1111

5

Problem: Connection Files

- Given a connection file that has the format

```

<user_id> <user_id>
<user_id> <user_id>
...
<user_id> <user_id>
    
```

- Each line represents a friend/connection
 - Symmetric relationship
 - Each is a friend of the other
- Update SocialNetwork object

Mar 29, 2011

Sprenkle - CSCI1111

6

UI Specification

- Checks if user entered command-line argument
 - Default files otherwise
- Read people, connections from files
- Repeatedly gets selected options from the user, until user quits
- Repeatedly prompts for new selection if invalid option
- Executes the appropriate code for the selection
- Stops when user quits
- Stores the social network into the file

Mar 29, 2011

Sprenkle - CSCI1111

Write pseudocode

7

UI Pseudocode

```
Use default files if only one command-line argument
Read people, connections from files
while True:
    display menu options
    prompt for selection
    while invalid option
        print error message
        prompt for selection
    break if selected quit
    otherwise, do selected option
Store social network to designated file
```

Mar 29, 2011

Sprenkle - CSCI1111

8

Implementation Plan

1. Implement Person class
 - Test (write test functions, e.g., testPerson())
2. Implement SocialNetwork class
 - Example runs in lab write up
 - Note: Methods for classes will **not** prompt for input; Use **input parameters**
 - Test
3. Implement driver program

Mar 29, 2011

Sprenkle - CSCI1111

9

Plan for Implementing a Class

- Write the constructor and string representation/print methods first
- Write function to test them
 - See card.py for example test functions
- While more methods to implement ...
 - Write method
 - Test
 - REMINDER: methods should not be using input function but getting the input as parameters to the method

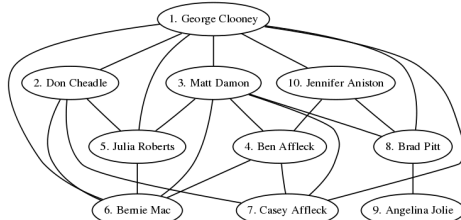
Mar 29, 2011

Sprenkle - CSCI1111

10

Writing Data To Dot File

- I provide a method that prints your social network to a file in a particular format (dot)
- Can display network graphically using **dot** program, e.g.,



Mar 29, 2011

Sprenkle - CSCI1111

11

Using dot

- Syntax:
 - dot -Tfiletype -o outputname dotfile
- Examples:
 - dot -Tpng -o graphs/network.png graphs/network.dot
 - dot -Tpdf -o graphs/network.pdf graphs/network.dot

Mar 29, 2011

Sprenkle - CSCI1111

12

Export SocialNetwork to Files

- I provide method to write connections to a file
 - Because only want connection once
- You handle writing to people file
 - Must be in **same format** that you read in
 - Just "undoing" the read
- Good test: if you read in a people file, export it → should look the same
 - If you read in that exported file, should see same social network

Mar 29, 2011

Sprenkle - CSCI1111

13

Test Data

- SocialNetwork requires: People file, Connections file
- Social Networks:
 - Simple
 - Hollywood
 - Randomly generated files
 - From W&L first and last names, randomly combined, connected
- Could combine different ones

Mar 29, 2011

Sprenkle - CSCI1111

14

Notes

- Advice:
 - Read through entire lab to see where you are going
- A Person's *network* is different from the SocialNetwork
 - Person's network is just a str
 - Will do more with that later...
- Can have people in different networks in the same SocialNetwork

Mar 29, 2011

Sprenkle - CSCI1111

15