**Team Lincoln Phrase 1: Coding Documentation**

**Part 1: System Design**

**System Architecture**

**A screenshot of a cell phone

Description automatically generated**

**System Capabilities**

* Read/write student data
* Add/delete students
* Retrieve student data based on a search by name, ID, or email
* Update any or all data fields
* Support case-insensitive during the search

**System Assumptions**

* Student name, USF ID, and email are non-modifiable.
* All USF IDs and emails are unique; however, duplicate names are allowed.

**Data File Format**

* MUST be a Comma Separated Values (CSV) file.
* Program will prompt the user to enter the data file name (must be an exact match).
* Data fields in the file MUST be in the following order as well as MEET the conditions as stated:
  + ***name***: maximum length 40 characters
  + ***UID***: Exact 10 characters and must start with ‘U-’ follow by 8 digits
  + ***email***: maximum length 40 characters
  + ***presentation***: numerical grade value from 0 (F) to 4(A)
  + ***essay***: numerical grade value from 0 (F) to 4(A)
  + ***project***: numerical grade value from 0 (F) to 4(A)

*Note: any data field that does NOT meet the condition will result this student to be skip.*

* First line of the file MUST contains the attribute names in the order as mentioned above. It is served as a readability for the user.
* Each student record is in one line and each data field is separated by a comma
  + If a specific data field does not contain a data, then do not enter anything and end with a comma, whereas last data field “project” should end with a new line character instead of a comma.
* Simple Data File Format that does not skip any student

|  |
| --- |
| name,UID,email,presentation,essay,project  John Joe,U-00000000,johnjoe@usf.edu,4,4,3  Peter William,U-11111111,peterw@usf.edu,,3,2  Lisa Collins,U-12345678,lisacollins@usf.edu,,,  Kelly McCarthy,U-09876543,kellymcarthy@usf.edu,1,2,3 |

**Compiler Command**

g++ FILENAME.cpp