LISA M. GENTIL

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Education

University of Illinois at Urbana-Champaign — **Aug 2015 – Dec 2017(expected)**
Bachelor of Science in Computer Engineering — **Champaign-Urbana, IL**

Florida Southern College — **Aug 2013 – May 2015**
Computer Science and Mathematics major for the program pre-engineering. — **Lakeland, FL**

Lycée Stanislas — **Sept 2008 – June 2012**
French Baccalaureate earned with a distinction. — **Nice, FRANCE**

Skills

Technical Skills

- Operating Systems: Linux, Windows, Mac OS X
- Languages: Java, C, C++, x86 Assembly, SystemVerilog, HTML5, CSS3

General Skills

- Languages: French, English, Italian, Spanish

Tech Projects

C Projects

- Operating System NachOS: Implemented a simple operating system. Set up paging, IDT and RTC. Created files system. Handled system calls, interrupts and exceptions. Handled keyboard (upper, lower case letters, numbers, special characters) and created key-combinations for shortcuts. Enabled the possibility to have up to three terminals open at once, with individual shells. Implemented a scheduler with context switch.
- Adventure game with controller: Given the structure for the adventure game, had to use the octree method to select the most relevant data for the color palette. Keyboard input was handled to be able to play without a controller. Using as few locks and semaphores, had to integrate the TUX controller (simplified video game controller made at UIUC) to the game. The controller was used to start and pause the game, keep track of the time spent by the player, displaying it on a set of LEDs. Handled the RESET button: if pressed multiple times, hide the time without stopping the counter and display the counter 1 second after stooping to press repeatedly, making the controller "invicible."
- Game 2048: Implemented an easy yet efficient version of the game 2048 where the player can choose the size of the puzzle.
- Sudoku solver: Given a .txt file as inputs, the program opens the file, checks it is a 9x9 Sudoku, and solves it using different method: columns, rows, 3x3 squares and outputs a new .txt file with the solved Sudoku.
- Maze solver: Using a .txt file input, the program opens the file, gets the size of the maze, finds the coordinates of starting and end points, solves the maze and outputs results in a new .txt file, as well as on the console.
- Photo Editor: Implemented a photo editor able to change a .png image in different ways: flip it vertically, convert it gray scale, blur it, convert to threshold color, sharpen it more, or less and rounding the edges of the picture. The user has the choice to replace the old picture by the picture with the filter or may create a new output .png file to preserve the original picture.
- Binary Tree maker: Given a set of numbers in simple .txt file that the user can import, implemented a program that sorts the numbers and outputs to the console a binary tree. It reads the first number of the list to use it as the size of the array to allocate the necessary memory.

C++ Projects

- Natural, decimal, complex numbers calculator: Created a complete calculator able to handle different operators (+, -, *, /) after having been dereferenced and combinations of complex, real and rational numbers. The input is a .txt file that may contains as many operations as the user needs. The results are stored in a newly created .txt file.
- Data Organizer: Created a program that dynamically allocates memory every time a new student file is created and re-organizes the files in alphabetical order. When selecting a particular student, the user can get access to the student's information.
- Tic Tac Toe: Created a two-player version of the puzzle game TicTacToe with grid displayed on the console and updated at every input.

Java Projects

- Adventure game: Made a simple adventure with virtual map that allows the user to move to different parts of a small college campus to find objects to store in an inventory, each object is used to get a new clue about the next step to get to the soccer field as fast as possible. The score, which is displayed, can go up or down depending on the player's skills to use the clues and objects appropriately.
- Hangman game: Created a library of words, sorted based on their lengths. A random selector picks a word from the library every the player wishes to play. The rules and score are the same as the real version of the game. Every letter not used in the word that the player proposed as listed at each trial.
- Card game War: Implemented a two-player card game in which each player gets a certain number of cards and have to show them one by one to their opponent, the "strongest" card allows the player to take both cards. The aim is to get as many cards as possible.

Assembly Project

- Video Game "missiles": Created a video game in which the graphics are very simplified. Missiles fall off the top of the screen from random locations if they hit one of the cities, the city burns and the player loses.

SystemVerilog Project

- Flappy Bird: Recreated the game Flappy Bird. Most of the modules were written in SystemVerilog. The sprites were made using MS Paint and converted to .txt files using a Python script. The connections between hardware and software were made with Quartus/NIOS II and the low level programming was made in C.

HTML5/CSS3 Project

- Website: Made an online portfolio to share some of my accomplishments throughout my college career.

Experience

ADAMA Association (Volunteering in Africa) — **On-going**

Social Networks Manager

- Manage the association's Facebook page
- Help with the updates of the website

Event Planner

- Help facilitate the annual fundraiser
- Organize children books and school supplies collection

Work with children from 2 months old to 5 years old during summer missions

Stanislas Institution (Tutoring) — **On-going**

Tutor for middle school and high school students for mathematics, physics, chemistry and English as a second language

Extracurricular Activities

Member of the National Honor Society Phi Eta Sigma — **Spring 2014 - Present**
Member of the National Society of Mathematics Kappa Mu Epsilon — **Fall2014-Present**
Founder and President of the Modern Languages Club at Florida Southern — **Fall2014–Spring2015**