Project Report

1. The program is a connect four style game. Upon starting the program, the user is asked if he/she wants to play against a computer or another human. If the user chooses to play against a computer, the human player goes first, then the computer. The game continues until either the player wins, the computer wins, or if there is a tie, upon which the program will close. If the user chooses to play against another human, the two players alternate taking turns until one player wins or there is a tie, upon which the program will close. Human players make their moves by entering the number corresponding to the column on the grid. Whenever a player or the computer makes a move, the bitmap display is updated to show the current state of the game board.
2. This was really challenging for me. This project required a holistic approach. And, there were lots of error handling. It was challenging when a small change in the code caused a domino effect and had lots of error in the program.

We discussed in our team to analyze and address the issues. And to understand where the error was. My team was really helpful and motivating. We had few brainstorming sessions in the beginning to draft our project plan.

1. I learned the details about the assembly language programming in MIPS. It was very difficult initially as we had to add multiple lines of instructions for simple operation. But gradually it became easier. I also learned to integrate the Bitmap Display with the program execution. The program logic was very interesting as well. This project was really a learning experience for me.
2. The program mostly employs iterative subroutines to accomplish its function. However, recursion is used in some areas, such as when checking to see if a player or the computer has won.
3. Anshuman: Worked on bitmap support, some of the game’s code, and contributed to the project report.

Rakesh: Worked on the game’s code and implementation of the 2 player system.

Arun: Worked on the game’s code and the user manual.

Faisal: Worked on the computer playing system, contributed to the project report, and created the video.

1. The project was interesting. And I learned a lot about assembly language programming with this project.