

PROJECT DIARY

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Wednesday, 1st October 2014 – 1:00 p.m.

After the CS101 lecture today, Tejas and I decided to make a Chess game as part of our CS101 project. We also chose to make an AI, using which the computer would be able to play against the user. Designing a chess AI is a daunting task, so Tejas and I discussed the problems that we could face and possible back-up plans. We also decided to make a Graphical User Interface (GUI) for the game. Both of us will do some research during the short vacation before we meet again next week.

Wednesday, 8th October 2014 – 2:00 p.m.

I met Tejas in his room since we had to start work on our program. We realized that a two-player version (user vs user) is much easier to design, and chose to create a two-player version before expanding it to include an AI. Graphics can be included at a later stage – designing the backend was our foremost priority. We decided to use Object-Oriented Programming concepts for the program, since features like inheritance, polymorphism and virtual functions would be extremely useful. I created the data structures, using several OOPS concepts which I had earlier learned. Tejas decided to work on the gameplay.

Friday, 10th October 2014 – 10:30 p.m.

Once Tejas and I finished our programs for our CS lab, we discussed the current state of the project. I will shortly finish my data structures and send him the code. He said he would debug the code. We will meet next week to discuss the next step once this basic implementation starts working.

Tuesday, 14th October 2014 – 8:00 p.m.

We met tonight in the mess of Hostel 15. Regarding the Stage I submissions, I will have to make the SRS and Project Report as part of the Stage I submissions. Debugging of the current program is complete, and the program seems to be working properly. I have used OpenSDL before, so we will be using that instead of simplecpp for graphics. Since we have only a month to go before our End Semester exams, we have divided the labour. Tejas will begin work on the AI, while I will work on the GUI. However, the documentation currently carries highest priority.

Friday, 17th October 2014 – 9:30 p.m.

Stage I submissions took centrestage in today's CS lab. After the weekly CS quiz, we discussed what all we need to write in the documents. The SRS in particular was something that I was hearing of for the first time, so I researched the specs that needed to be included in that. I got a fair idea of what was expected, so hopefully I will be able to make the documents tomorrow and submit them on Sunday.

Monday, 27th October 2014 – 5:00 p.m.

I did some research on OpenSDL and started the graphics implementation, although the interface is currently in a very primitive stage. With OpenSDL, we can write the code once and compile it on multiple platforms., and it doesn't require runtime libraries like Java. Tejas said he has done some coding of the AI.

Friday, 31st October 2014 – 10:30 p.m.

Tejas and I will not be working on the project for a little while now because of the End Sems. We will resume work on the project after our ME102 exam. Hopefully we will get ample time to complete the project.

Tuesday, 18th November 2014 – 7:00 p.m.

We re-started work on the chess game today. I'll finish the graphics interface soon, and start helping Tejas with the AI. This will be easy since we will be coding together in my room.

Wednesday, 19th November 2014

I finished the GUI for the game today. It's working well, and the two-player chess implementation is complete. Only work on the AI is remaining. After a brainstorming sessions, we came up with a MiniMax algorithm where we created our own unorthodox dynamic linked list data structure.

Thursday, 20th November 2014

The chess AI is now functional, but not yet very smart. It has a tendency to play smart moves from time to time, but not consistently so. It fails to see threats when it should. We also need to implement an algorithm to comprehensively evaluate the board based on the values of the pieces, the positions of the pieces and the situation of the game.

Friday, 21st November 2014

After removing a small glitch in our Alpha Beta pruning algorithm, the chess AI is working almost perfectly. We have coded it to favour pawn promotion, consider the situation of the game, prevent potential checkmate threats and seize on attack opportunities. I added the option for the user to decide whether to play as white or black. The program is now complete.