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| Student name: | Batyrkhan Olzhabay |
| Teacher name: | Aidana Kalakova |
| Project name: | Minesweeper |
| Project type: | Individual |
| Number of words | Must be between 1000 and 1500 in total |

**INTRODUCTION**

It is known that nowadays game development is increasingly popular and it is better to keep up with others, learn something, create something, try everything. On the other hand most of the society think that some basic knowledge is not enough to create some project. So, I concern that basics of any programming language is enough to create something and to prove that I will create game using all knowledge I received on course.

**MAIN PART**

What is GameDev? GameDev is not only industry it is something more deeper, like an art. Some artist may spent some days doing his art, so the programmer does. GameDev needs many efforts, like powerful laptop or PC, creativity and logic. Most of the people are not playing games for fun, because mostly games have their story. They are trying to find the best version of themselves in the games they play. As a programmer leaves some of his feeling in game, players can feel it through the game. There is many things that humankind can’t do in this physical world, however our dreams can become true with virtual world. These minuses that are in our physical world makes game developers do their work.

“Reality is broken. Game designers can fix it.”

*JANE MCGONIGAL*

In my work I’d like to create one of the old, popular game named Minesweeper. The game is easy: there is a plane with many boxes and when you tap the box there might be mine or empty space, also if there is mine near the empty space it will show number of nearby mines. This game needs logic and attention.

Moving to the practical part, I created some functions that are responsible for different parts. First function is responsible for main menu, I used recursion to repeat, if player chose unavailable option. Further, I created function that explains the game shortly. Then as a final I created function which is accountable for game itself.

By the next week I created some functions that are used in gaming process. The first one should create field using 2 dimensional array and put \* sign for every element of array. Second one is able to plant randomly 10 mines. Further is boolean function that will check if player selected coordinates with mine or not, also it shows number of mines near. Furthermore I created function that will show field and accept coordinates that player enters.

**DAILY PROGRESS**

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| 09.11.2020 | Today’s lecture explained basics of C++ programming language, teacher showed some interesting tips that are mostly used by programmers. Also she showed most common mistakes that student make. Then on guest lecture we were having person who is currently working in Google. He was talking about himself mostly about mistakes that he has made on this way. He was talking about mistakes to make us more experienced and know what to do when we will face same problems. |
| 10.11.2020 | On the second day of our Educational Practice we were repeating conditions, comparing **if/else** and **switch** statements. |
| 11.11.2020 | Today was lesson related to loops, explaining differences of various types of loops. Guest lecture was interesting as always. Guest was talking about portfolio and how to apply it, how to speak on interview. Also, I have started doing my project, for today I created "Main Menu" for my game and searched internet for correct rules of Saper game to know how code should work. |
| 12.11.2020 | Today on C++ lecture teacher covered arrays and explained some task from Contester. After C++ there was guest who is working in Google. Lecturer was talking about some programming competitions including ICPC. For my project work I have done more extensions in menu, now there is option were player can see information about the game. |
| 13.11.2020 | C++ lecture was about multi-dimensional arrays, teacher was explaining topic by solving various problems. Then on guest lecture, lecturer was explaining mobile development and shared some useful programs. |
| 16.11.2020 | For today we passed functions and teacher explained some more tricks which are really helpful. Guest lecture was totally interesting, because I am really interested in IT business. As every lecturer, he started from talking about his experience. |
| 17.11.2020 | Tropic on C++ lecture was about pointers, one of the difficult and useful part of C++. Lecturer explained some main points and started to solve problems. Guest lecture included information about interface designers. |
| 18.11.2020 | Today we passed double pointers and their usage. Then on the guest lecture, lecturer was making and explaining a little game by Unity using C#. For my project I created various functions to create field, set mines and check choice of player. |
| 19.11.2020 | Todays C++ lecture was about structures and their usage, lecturer was solving several tasks and showed some interesting moments. After a break there was EP where was hold topic about github. A little bit after, on the guest lecture, which was about her career and experience. About my project, I am having some mistakes related to the count of mines near, I am trying to fix it. |
| 20.11.2020 | On the last day of educational practice, topic about the strings was covered on C++ lecture. Today’s guest was Professor P. Jamwal, he was talking about artificial intelligence. The lecture was interesting, I learned a lot. By evening I was making corrections of my project and played it. |

**CONCLUSION**

Concluding everything that has been done while educational practice, it will be not enough to say that I have learned something. The main purpose of educational practice is to show how you can use knowledge that you have received for course and that is what I made. By using simple algorithms that we have learned I created game that is working correctly. As I am able to create game it is better to learn something new and that is my new aim.

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