PROJECT REPORT
ON
Developing Web Application to play Tic Tac Toe

Submitted in partial fulfillment of the requirement for the III semester

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DECLARATION

I, **Avantika Singh,** student of Semester III, Department of Computer Science and Engineering, Graphic Era Deemed to be University, Dehradun, declare that the technical project work entitled "**Web Application Development to play TIC TAC TOE**" has been carried out by me and submitted in partial fulfillment of the course requirements for the award of degree in B. Tech of **Graphic Era Deemed to be University** in the academic year **2021-2022**. The matter embodied in this synopsis has not been submitted to any other university or institution for the award of any other degree or diploma.

Date of Submission: 24/02/2022

CERTIFICATE

This is to certify that the project report entitled "Web Application to play TIC TAC TOE" is a bona fide project work carried out by **Avantika Singh,** in partial fulfillment of award of degree of B. Tech of Graphic Era Deemed to be University, Dehradun during the academic year 2021-2022. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated. The project has been approved as it satisfies the academic requirement associated with the degree mentioned.

Dr. Devesh Pratap Singh,
HOD (Computer Science)

ACKNOWLEDGEMENT

I would like to express our sincere gratitude to **Dr. Devesh Pratap Singh,** Head of Dept. of Computer Science, for providing a congenial environment to work in and carry out this project.
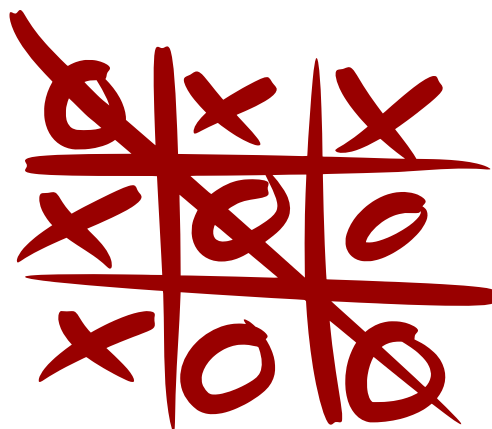
I consider it my cardinal duty to express the deepest sense of gratitude to **Mr. Deepak Uniyal**, Asst. Professor, Department of Computer Science, for the invaluable guidance extended at every stage and in every possible way and for providing better understanding each component of topic in an interesting way.

Secondly, I am very much thankful to all the faculty members of the Department of Computer Science and Technology, friends and our parents for their constant encouragement, support and help throughout the period of project conduction.

Avantika Singh
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INTRODUCTION

Tic-tac-toe is one of the simplest and most played games among the children. It is played on a three-by-three grid by two players, who alternately place the marks X and O in one of the nine spaces in the grid. There is no universal rule that who plays first but, in my application, the convention that X-player plays first is used. Hence, the game starts with X followed by O. Tic Tac Toe's structure consists of nine points, three vertical lines, and two diagonal lines, with each line consisting of at least three points. Here, we have developed it using HTML, CSS and JavaScript.

SOFTWARE USED

➢ For coding purpose, Sublime Text is used and code has been written in HTML, CSS and JavaScript in separate files.

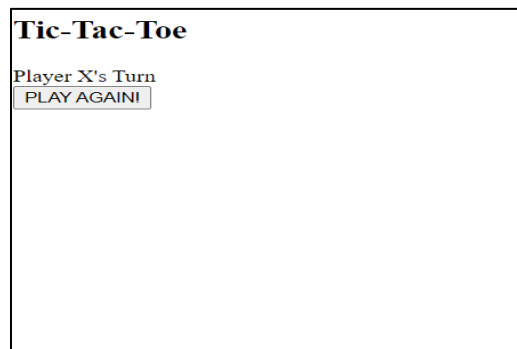# SNIPPET OF MY APPLICATION

METHODOLOGY

I, hereby mention, how the learning process started and the steps involved in developing the application:

> **First of all, three separate files have been created:**
>   - **My_TicTacToe.html**
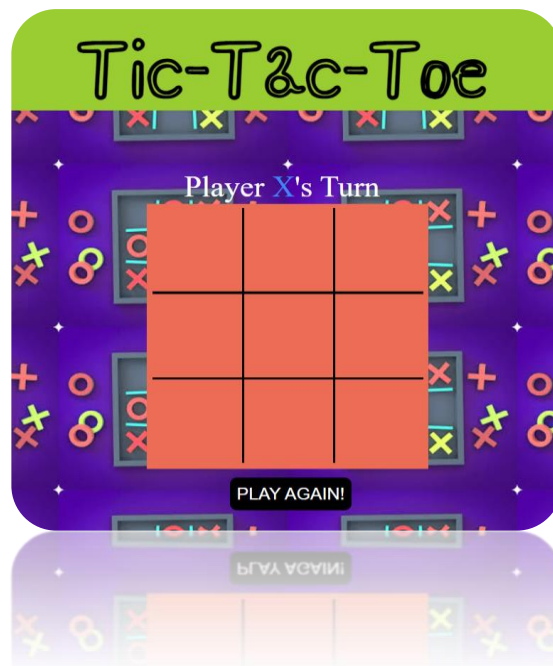>   - **My_TicTacToe.css**
>   - **My_TicTacToe.js**

> ## HTML:

Firstly, we have specified the type of character set used i.e., 'UTF-8' which comprises of almost all the characters known. Then we have set the appropriate width as per the area of the webpage visible to the user. The webpage has been divided into certain sections. The first section displays the heading 'Tic Tac Toe', followed by the given player's turn. The subsequent section contains the 3X3 grid i.e., the main play-area. At the end, we have added a button to reset the game. The webpage looks like:

➢ CSS:

It basically defines the stylesheet used to make this webpage look attractive. The font-family 'Shizuru' is imported to use this amazing font for the heading. Various other styles have been used which gives the plain, boring webpage (displayed above), an appealing look. Various CSS properties like margin, padding, align-content, justify-content, background-color, display, flex-direction etc. have been used. Also, rgb() color format has been mainly used to select the colors for the webpage. Hence, now the webpage looks like this:

➢JAVASCRIPT:

To make the webpage interactive and the game to function, JavaScript is used. Initially, certain variables are assigned values, the boxes in the grid being considered an array. An array contains all the winning conditions. A function named handleResultValidation () is used to evaluate the result based on the certain conditions. A variable isGameActive is used which checks whether the game is still active or not; changePlayer to change the player from X to O or vice versa; updateBoard to update the particular box with either X or O depending on the player's turn; resetBoard to reset the game. Also, we have added a (click) Event listener at each box-text. Now our game becomes fully-functional and We are ready to go!

CONCLUSION

The main purpose of this project is to develop a user-friendly Web-Application to play Tic Tac Toe which works as a stressbuster for us at many times. It helped me to enhance my skills in Web Development. I got to know how to describe the structure and functionality of the World Wide Web, create dynamic web pages using a combination of HTML, CSS and JavaScript and select an appropriate Web Hosting service and publishing your webpages for the world to see. The completion of the project went quiet well, I learned much new things while I was building up it, and I get up to know various platforms which help us to learn all this stuff

Overall working on this project was great fun as I came up with great piece of knowledge and understanding of the topic.

REFERENCES

- Introduction to Web Development, by University of California, Davis (Coursera)

- http://www.w3schools.com/

- https://www.youtube.com/c/JakewrightNet