GOVERNMENT WOMEN'S POLYTECHNIC, JAMSHEDPUR, JHARKHAND

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

TO WHOM IT MAY CONCERN

This is to certify that the Project Report entitled, "TIC TAC TOE GAME" is submitted to the Department of Computer Science and Engineering at Government Women's Polytechnic, Jamshedpur, and is a record of bonafide project work carried out by the group of students, namely, **Aakanksha Kumari, Ananaya Kumari, Anusika Rani, Priyanka Kumari, Shreya Suman and Suruchi Kumari** , under the supervision and guidance and is worthy of consideration for the award of the Degree of Diploma in Computer Science & Engineering.

X	X	X
Miss Madhuri Kumari Supervisor	External Examiner	HOD, GWP

ACKNOWLEDGEMENT

The Diploma course requires a research approach also to go ahead in professional life with innovative spirit and in fulfilment of the Diploma course; one requires to submit a dissertation in the 6th Semester. It has been great honour and privilege to undergo Diploma project work entitled “TIC TAC TOE GAME” at Government Women’s Polytechnic, Jamshedpur, Department of Computer Science Engineering under the supervision of the project supervisor, Prof. Miss Madhuri Kumari. Firstly, we thank her from the core of our heart for giving us such an interesting topic and assisting us at all points. We acknowledge that we are very grateful to the Head, Department of GWP, Prof. Mrs Rekha for his valuable guidance and support throughout the project which facilitated the completion of our project. We take this opportunity to express our profound gratitude and deep regards to all our professors and faculty members for their exemplary monitoring and constant encouragement throughout the work and other academic pursuits. We express our special thanks and heartfelt gratitude to our principal, who exhibited interest to get our project completed well. Lastly, we thank Almighty, our parents and all the member of our group for their regular encouragement, without which this Project Work would not be possible.

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INTRODUCTION TO PROJECT

Tic tac toe is a very common game which we play offline too.

It is mainly a paper pencil game.

Games played on three in a row boards can be traced back to ancient Egypt, where such game board have been found on roofing tiles dating from around 1300 BC.

An early variation of tic-tac-toe was played in the Roman Empire, around the first century BC. It was called Terni lapilli (three pebbles at a time) and instead of having any number of pieces, each player only had three, thus they have to move around the empty spaces to keep playing.

They named it as tic-tac-toe because they believed that Tic-Tat-Toe, came from the sound of the pencil hitting the board.

This comes under that game which we play since childhood and still we are addicted to this game.

This game is played between two players as everyone knows.

This game can be played for maximum 1 minute. It means that winner can be declared within a minute of time.

To win this game, a player must place three of their mark in horizontal, vertical or diagonal row.

Also, this game requires Strategy, Tactics and Observation skills.

We have made this game to play on phone too. As we cannot get a copy pen everywhere. So here it is that we can play while travelling and also while walking.

Basically, this game is based on logic and the power of thinking. So, one can easily win this game if he/she is logically strong and can judge the next turn of the opponent.

In this game we have programmed the players as Player X and Player o.

Players can write their corresponding scores in the space provided to them.

The winning message will be declared in the bar given just after the TIC TAC TOE box.

And after the completion of a game, player can reset the game and play again.

And in case players are willing to play later can exit from the game using the exit option.

The rules of the games are same as the offline one. One player can choose his box only once and it is unchangeable after player's turn. Also We want to mention here that we have made this whole project using Java programming language.

OBJECTIVES

- The objective of the project work would be to overcome the problems faced in manual system.

- Now a days every person has a smart phone so it is very easy for any person to play this game anytime and anywhere.

- This software has been developed exclusively for simplifying a paper pencil game, as one cannot carry a pen and a copy everywhere.

- It is designed for the enjoyment and relaxation of a busy person.

- We have also made this paper pencil game eco-friendly.

FACT FINDING

Fact finding is the process of collection of data and information based on techniques which contain sampling of existing documents, research, observation, questionnaires, interviews, prototyping and joint requirements planning.

Collecting required facts are very important to apply tools in System Development Life Cycle because tools cannot be used efficiently and effectively without proper extracting from facts.

Fact-finding techniques are used in the early stage of System Development Life Cycle including system analysis phase, design and post implementation review.

(a) INTERVIEW

- This method is used to collect the information from groups or individuals.
- Analyst selects the people who are related with the system for the interview.
- In this method the analyst sits face to face with the people and records their responses.
- The interviewer must plan in advance the type of questions he/she is going to ask and should be ready to answer any type of question.
- He should also choose a suitable place and time which will be comfortable for the respondent.

(b) RESEARCH

- Research is the process of examining the problems which had previously solved by other sources that can be either human or documents.
- In addition, the analyst can also find the information from database, reference books, case studies and Internet.
- Researchers can know how different persons previously solved the same problem.
- They always know the detail information about the current development system.

(c) OBSERVATION

- In this technique system analysis participates in the organisation, studies the flow of documents, applies the existing system, and interacts with the users.
- Observation can be a useful technique when the system analyst has user point of view.

(d) QUESTIONNAIRES

- Questionnaires are also one of useful fact-finding technique to collect information from large number of users.
- Users fill up the questions which are given by the system analyst and then give the answers back to the system analyst.

(e) PROTOTYPING

- Prototyping is sampling a small working model and it is more related to pre-design of the information system.
- The implementation of the prototyping can be developed in earlier stage of system development life cycle when analysing the facts.

FEASIBILITY STUDY

A feasibility analysis usually involves a thorough assessment of the operational (need), financial and technical aspects of a proposal.

Feasibility study is the test of the system proposal made to identify whether the user needs may be satisfied using the current software and hardware technologies, whether the system will be cost effective from a business point of view and whether it can be developed with the given budgetary constraints.

A feasibility study should be relatively cheap and done at the earliest possible time. Depending on the study, the decision is made whether to go ahead with a more detailed analysis. When a new project is proposed, it normally goes through feasibility assessment.

Feasibility study is carried out to determine whether the proposed system is possible to develop with available resources and what should be the cost consideration.

Facts which we are going to cover in the feasibility analysis are:

- Economic feasibility
- Technical feasibility
- Operational feasibility

a. TECHNICAL FEASIBILITY

Technical feasibility includes whether the technology is available in the market for development and its availability.

The assessment of technical feasibility must be based on an outline design of system requirements in terms of input, output, files, programs and procedures.

This can be qualified in terms of volumes of data, trends, frequency of updating, cycles of activity etc, in order to give an introduction of technical system.

Considering our project, it is technical feasible. Online Recruiting and Online Recruitment Systems, with its emphasis on a more strategic decision-making process is fast gaining ground as a popular outsourced function.

b. ECONOMICAL FEASIBILITY

This feasibility study present tangible and intangible benefits from the project by comparing the development and operational cost.

The technique of cost benefit analysis is often used as a basis for assessing economic feasibility.

This system needs some more initial investment than the existing system, but it can be justifiable that it will improve quality of service.

Thus, feasibility study should centre along the following points:

- Improvement resulting over the existing method in terms of accuracy, timeliness.
- Cost comparison.

- Estimate on the life expectancy of the hardware.

c. OPERATIONAL FEASIBILITY

It determines how acceptable the software is within the organization.

The evaluations must then determine the general attitude and skills. Such restriction of the job will be acceptable.

To the users are enough to run the proposed budget, hence the system is supposed to the feasible regarding all except of feasibility.

In operational feasibility, we attempt to ensure that every user can access the system easily.

We develop a menu that users can easily access and we provide shortcut keys.

We show a proper error message when any mistakes are made in the program.

We provide help and a guideline menu to help the user.

Changes in the ways individuals are organized into groups may then be necessary and the groups may now compete for economic resources with the needs of stabilized ones by converting a number in a file in software.

SYSTEM ANALYSIS AND DESIGN

E-R DIAGRAM

E-R diagram stands for Entity Relationship diagram. The E-R model is the natural view of the real world, which consists of entities and relationships. The entity relationship model uses three features to describe data. These are: -

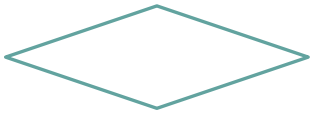
1. Entity: -An entity is an object in the real world that is distinguishable from all other objects. For example, student in a school is an entity.

2. Attributes: -An entity is represented by a set of attributes. Attributes are descripting properties possessed by an entity. Each entity has a value for each of its attributes. For example, roll, gender etc are the attributes of student entity.

3. Relationship: -A relationship connects entities and represents meaningful dependencies between them. Relationship can also be characterized by a no. of attributes. For example, the act of teaching defines a relationship between the student entity and teacher entity.

SYMBOLS USED IN E-R DIAGRAM: -

- Entity is shown by a rectangle.

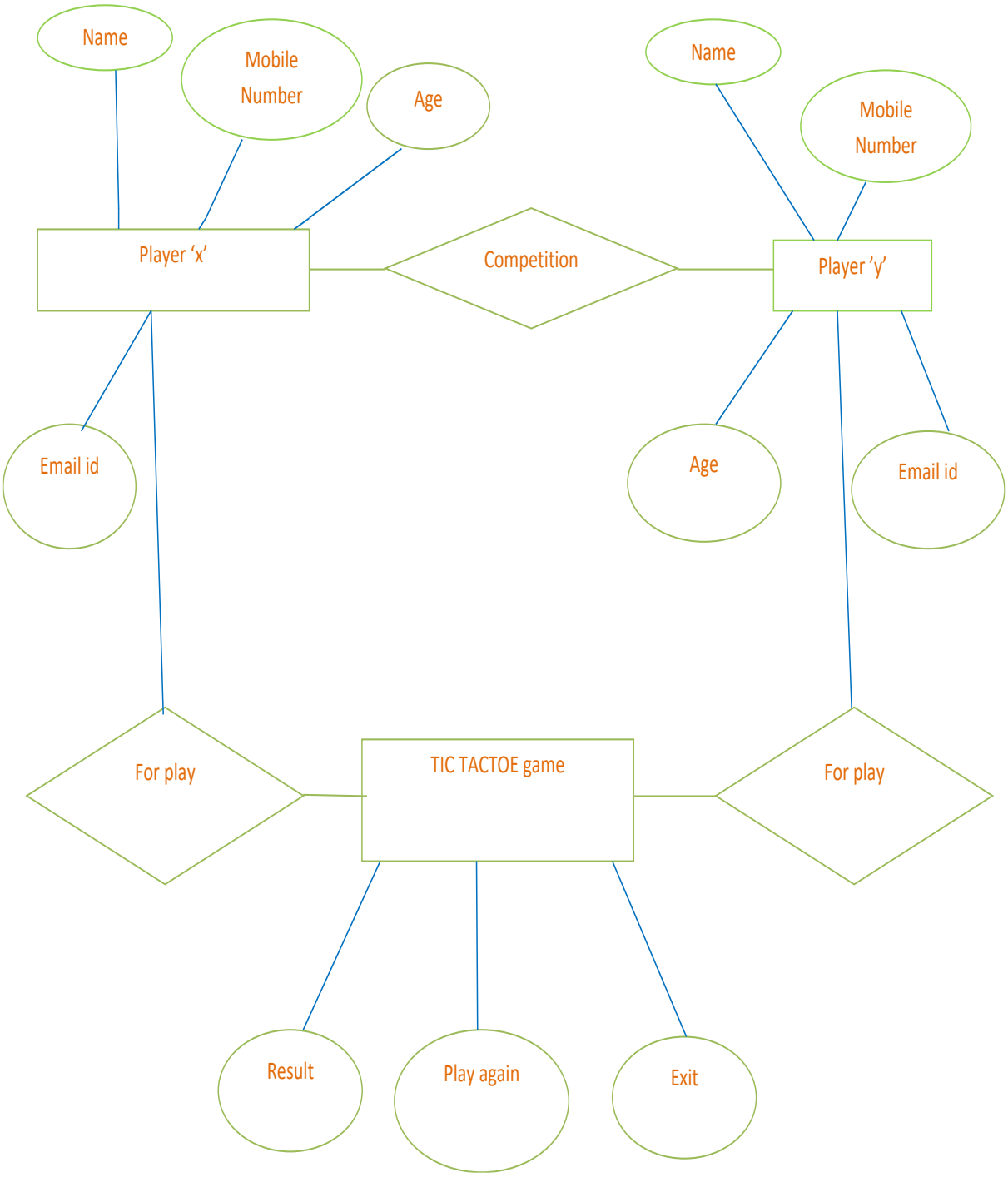


- Relationship is shown by diamond shape.

- Attributes are shown by ellipse or oval.

- Links are shown by a line.

E-R DIAGRAM OF "TIC TAC TOE" GAME

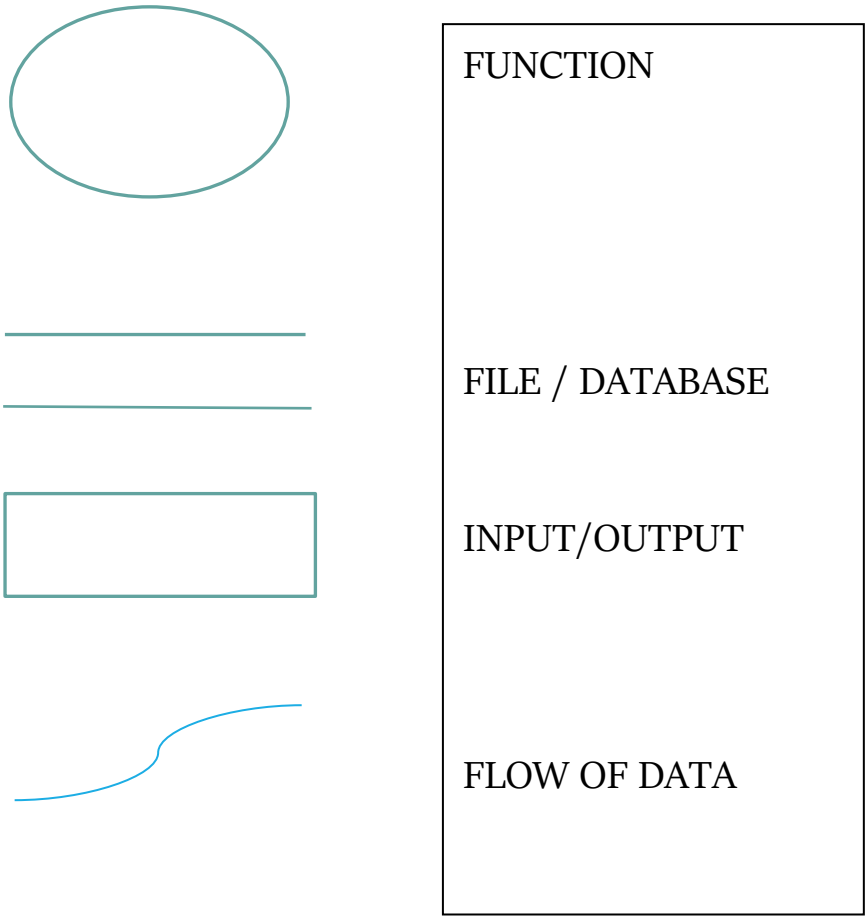


DATA FLOW DIAGRAM

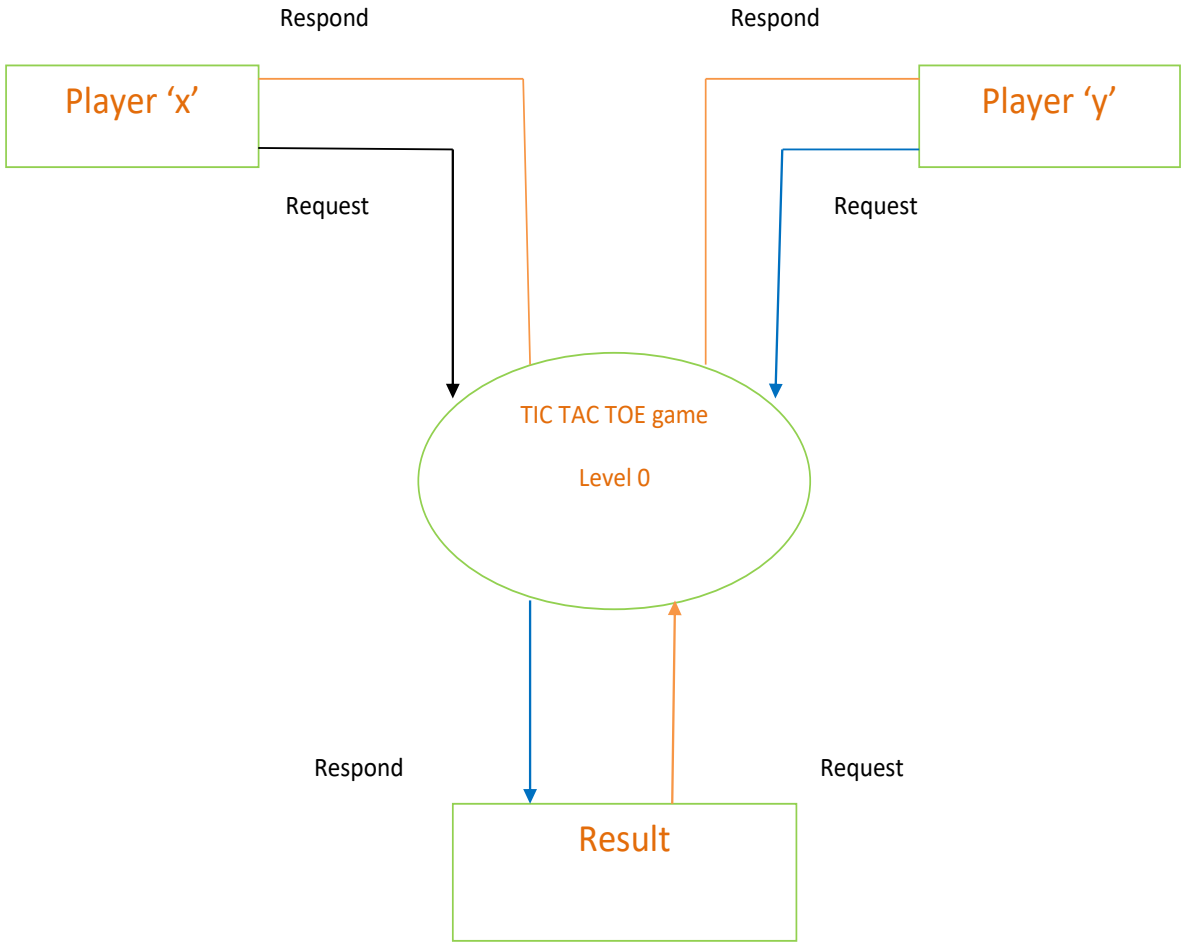
A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modelling its process aspects.

A DFD shows what kinds of information will be input to and output from the system, where the data will come from and go to, and where the data will be stored.

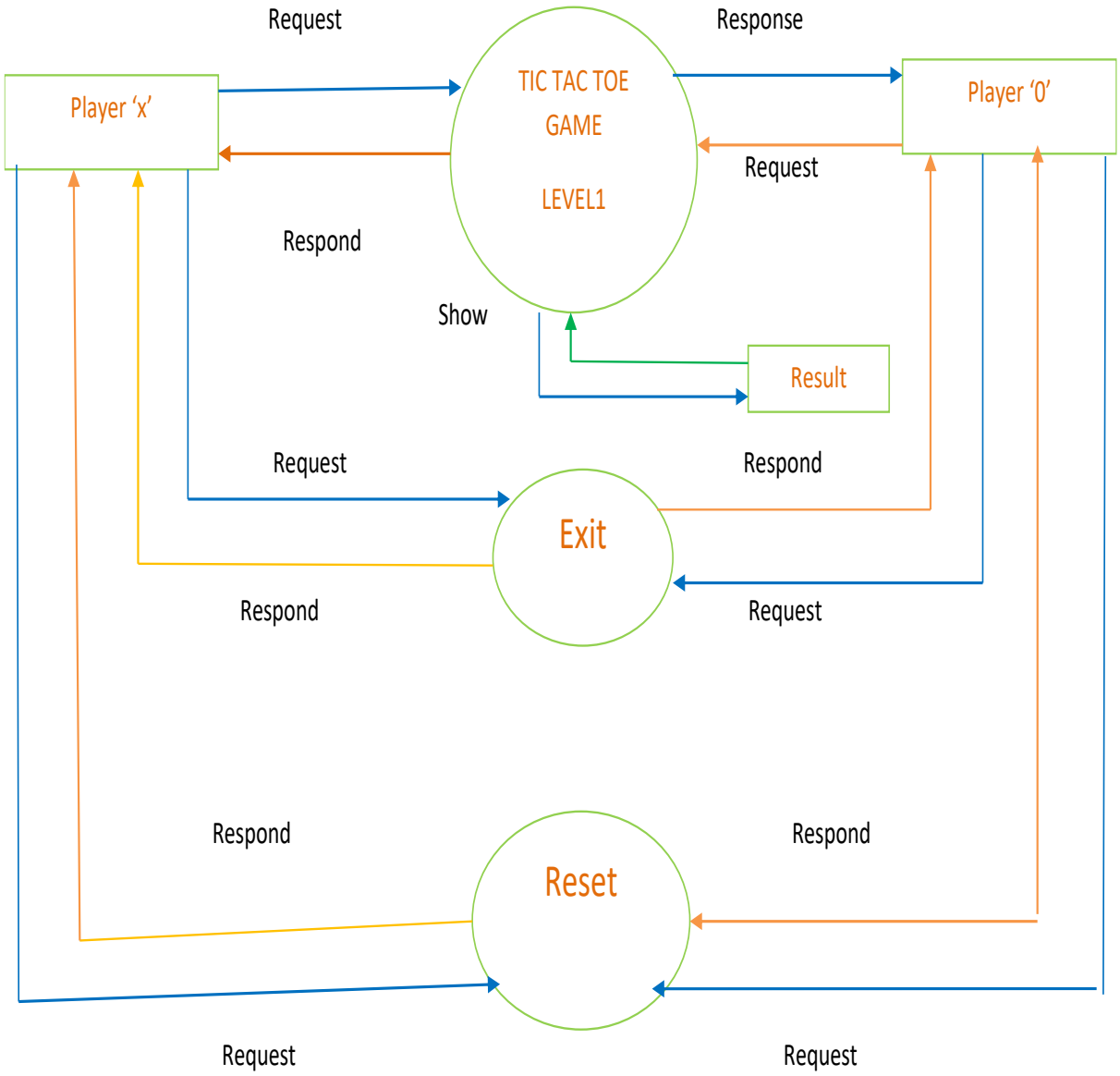
It does not show information about the timing of processes, or information about whether processes will operate in sequence or in parallel.



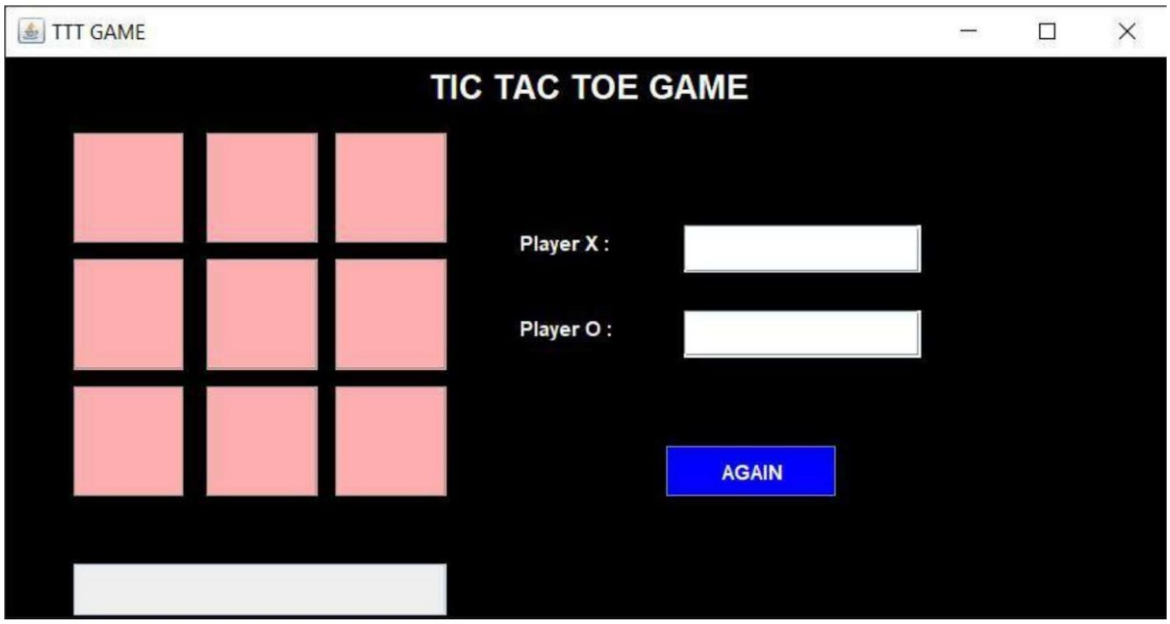
DFD LEVEL O


Respond
Respond
Player 'x'
Player 'y'
Request
Request
TIC TAC TOE game
Level 0
Respond
Request
Result

DFD LEVEL 1


Request
Response
Player 'x'
TIC TAC TOE GAME
LEVEL1
Player '0'
Request
Respond
Show
Result
Request
Respond
Exit
Respond
Request
Respond
Respond
Reset
Request
Request

INITIAL PAGE

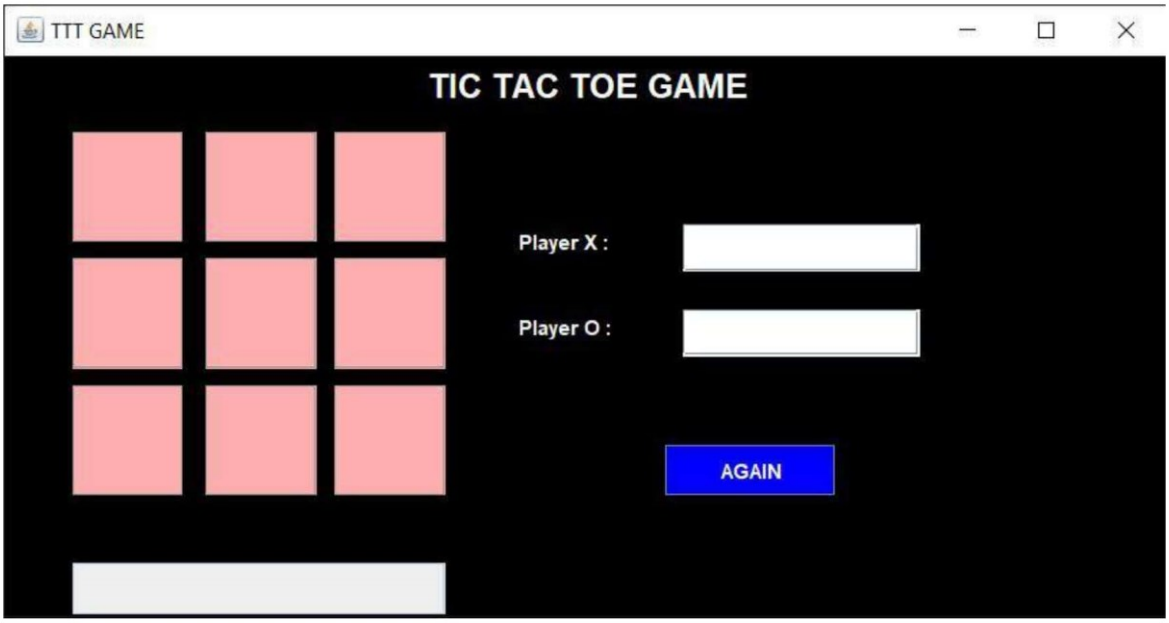


DATA INSERTION

DECLARATION

A TIE

RESTART



GAME DESCRIPTION

PRE-DEFINED CLASSES

setLayout () method

• The setLayout () method allows you to set the layout of the container, often a JPanel, to say FlowLayout, BorderLayout, GridLayout, null layout, or whatever layout desired.

• The layout manager helps lay out the components held by this container.

SetBounds () method

• The setBounds () method needs four arguments.

• The first two arguments are x and y coordinates of the top-left corner of the component, the third argument is the width of the component and the fourth argument is the height of the component.

SetBackground ()

• In general, to set the JFrame or JFrame's components background colour, we can call the setBackground method.

SetVisible ()

• if you set it true, it means you want that thing to be visible in your screen. And if you set it to false, you can't see anything in your screen.

SetEditable ()

• if you set it true, it means you give a permission to your user to edit that thing (textbox, text field etc.) When it is on your screen. And if you set it False it means, you don't want to give permission to the user to edit that thing.

setSize ()

• The setSize () method of Java Vector class is used to set the size of a vector. If the new size is greater than the current size, null items are added to the end of the vector. Otherwise, all components at index newSize and greater are discarded.

SetForeground ()

• In general, to set the text colour of JFrame or JFrame's components, we can call the SetForeground method.

getText ()

• In general, to get the text dynamically while program is executing, we use getText method in JFrame's components.

setEnabled ()

• The code setEnabled(false), disables this TextField. It is not selectable and the user cannot copy data from it and the user cannot change the TextField's contents directly.

Setlocationmethod ()

• To set the location of JFrame in actual screen we use set location () method.

Add ()

• To add the components in JFrame we use add () method.

actionPerformed ()

• The actionPerformed () method is invoked automatically whenever you click on the registered component.

setDefaultCloseOperation ()

• It is used to specify one of several options for the close button.

• Use one of the following constants to specify your choice.

• JFrame.EXIT_ON_CLOSE — Exit the application.

• JFrame.HIDE_ON_CLOSE — Hide the frame, but keep the application running.

• JFrame.DISPOSE_ON_CLOSE — Dispose of the frame object, but keep the application running.

• JFrame.DO_NOTHING_ON_CLOSE — Ignore the click.

PREDEFINED CLASSES

JavaJTextField

• The java object of a JTextField class is a text component that allows the editing of a single line text.

• It inherits JTextComponent class.

Java JButton

• The Jbutton class is used to create a label button that has platform independent implementation.

• The application result in some action when the button is pushed.

• It inherits AbstractButton class. Click to edit Master title style 1414.

JavaJLAbel

• The object of JLabel class is a component for placing text in a container.

• It is used to display single line of read only text.

• The text can be changed by an application but a user cannot edit it directly.

INTERFACE USED

ActionListener Interface

• The Java ActionListener is notified whenever you click on the button or menu item. It is notified against ActionEvent.

• The ActionListener interface is found in java.awt. event package.

• It has only one method.

PACAKAGES USED

Javax.swing. *

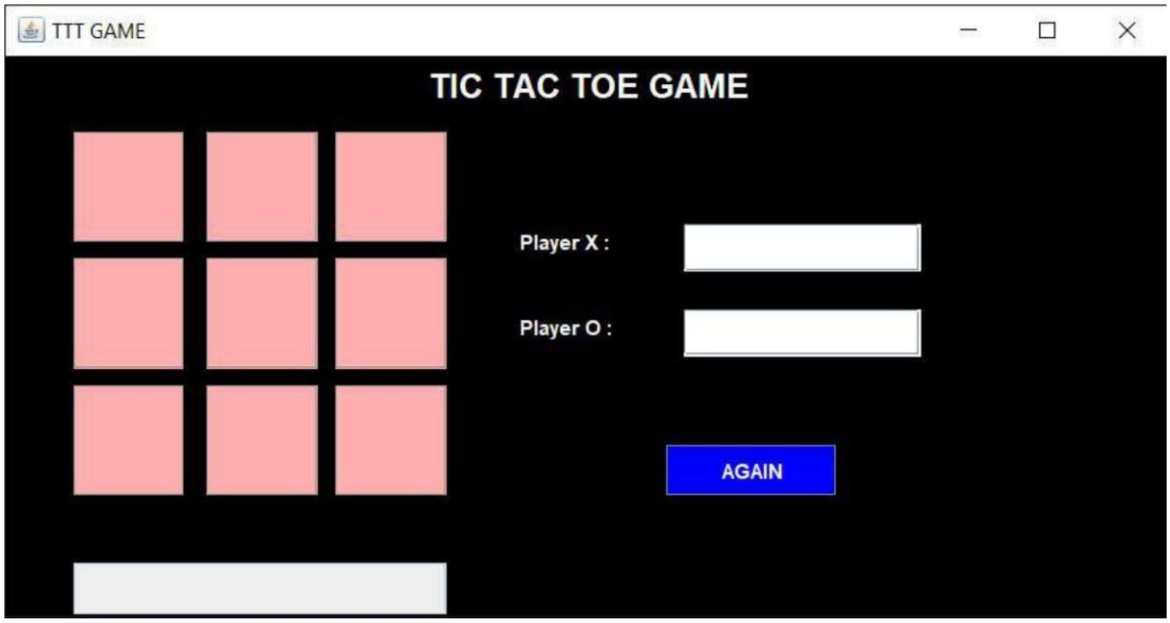
• Provides a set of "lightweight" (all-Java language) components that, to the maximum degree possible, work the same on all platforms.

Java.awt. *

• The java.awt package provides classes for AWT api such as TextField, Label, TextArea, RadioButton, CheckBox, Choice, List etc

REPORT DESRIPTION

- A simple two player game that if played optimally by both players will always result in a tie.
- Traditionally played by being drawn on paper, and it can be played on a computer or on a variety of media.
- In ancient it was called “Terni lapilli”, which means “three pebbles at a time”.
- Played on a grid of 3 by 3 squares and it is mainly enjoyed by children.



ADVANTAGES OF THIS PROJECT

- It teaches good sportsmanship.
- It helps in Applying their logic and develop strategy at an early age.
- It prepares one for more complex games because they have to think of multiple things at one time.
- Tic-tac-toe helps develop coordination, fine motor skills and visual skills.
- It helps us learn how to follow rules and take turns.
- It can help improve our concentration.

LIMITATIONS OF THE PROJECT

- This game cannot be played by more than two players

1. 1st player
2. 2nd player

- It is not a high-level game.
- It doesn't contain levels.
- The player who succeeds in placing three of their marks in a diagonal, horizontal or vertical row wins the game.
- It is a solved game with a forced draw assuming best play from both players.

FUTURE SCOPE OF THE PROJECT

Our project will be able to implement in future after making some changes and modifications as we made our project at a low level.

So, the modifications we suggest and can be implemented in this project in future are-

- One change can be done by adding fingerprints of the persons of which the address is entered.
- We can add snaps of the person of which the address is entered.
- Also, we can add or subtract the details of the individual.

BIBLIOGRAPHY

This information present in this report has been collected from the different sites, that is –

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www.youtube.com

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