PICTURE PUZZLE

MINOR PROJECT REPORT

Submitted by

M.S.CASTRO

17MSS007

Under the Guidance of

Mrs. J.Jerlin Adaikala Sundari MCA.,M.Phil.,NET

Assistant Professor

Department of Software Systems

In partial fulfillment of the requirements for the award of the degree of

MASTER OF SCIENCE IN SOFTWARE SYSTEMS

(Five-years integrated course)

of Bharathiar University

DEPARTMENT OF SOFTWARE SYSTEMS

PSG COLLEGE OF ARTS & SCIENCE

An Autonomous college - Affiliated to Bharathiar University

Accredited with 'A' grade by NAAC (3rd Cycle)

College with Potential for Excellence

(Status Awarded by the UGC)

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CERTIFICATE

This is to certify that this project work entitled **"PICTURE PUZZLE"** is a bonafide record of work done by **M.S.Castro (17MSS007)** in partial fulfillment of the requirements for the award of Degree of **Master of Science in Software Systems** (Five years Integrated Course) of Bharathiar University.

_____ _____

Faculty Guide Head of the Department

Submitted for Viva-Voce Examination held on _____

_____ _____

Internal Examiner External Examiner

DECLARATION

I, **M.S.Castro (17MSS007)**, hereby declare that this project work entitled **"PICTURE PUZZLE"** is submitted to PSG College of Arts & Science, Coimbatore in partial fulfillment of the requirements for the award of the degree of Master of Science in Software Systems, is a record of original work done by me under the supervision and guidance of **J.Jerlin Adaikala Sundari MCA.,M.Phil.,NET** Assistant Professor, Department of Software Systems, PSG College of Arts & Science, Coimbatore.

This report has not been submitted by me for the award of any other Degree/ Diploma/ Associate ship/ Fellowship or any other similar degree to any other university.

Place: Coimbatore **M.S.CASTRO**

Date: **(17MSS007)**

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SYNOPSIS

The project entitled "**PICTURE PUZZLE**" is developed using NetBeans for interacting with the Player and MS Access used to store player names for future reference. Digitalized Game is a Software design to switch pictures accurately from one with another in this Game.

In this Project it has the Ten different pictures ,out of those pictures Three are classified as Difficulty of Low Level, Four Pictures of Difficulty Medium Level and Last Three are classified as Difficulty of Hard Level. This Project has fixed Ten Pictures which can't be changed by the Player.

Thus, this project designed to move the picture to the location where the player clicks. This game gives the Instruction to how to play the Game in Information Button. The Next and Previous Button used to Increase or Decrease the Difficulty of the Puzzle. Exit Button to exit from the Project.

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1.INTRODUCTION

1.1 OVERVIEW OF THE PROJECT

In Picture Puzzle it gets the Players name at First,once the name is given it opens the Game. The Names of the Player played the game are viewed only by the Admin. The Pictures can be moved only in the certain direction at one click it moves either Upwards, Downward, Left or Right. For entering into the next level it asks the player whether they are sure to enter into the next level or to previous level. Preview section displays the full image of the Picture that is been puzzled.

MODULES

The main modules in this project are:

1.Entry Module

2.Game Module

ENTRY MODULE

The Entry Module is the startup for the game it gets the First Name and Last Name of the Player.

GAME MODULE

The Game Module is the actual game itself that the player is going to play which contains all the different type of pictures, it first starts with the Low Difficulty Level

2.SYSTEM ANALYSIS

2.1 EXISTING SYSTEM

The existing system uses advanced highlevel games has been developed in Unity and Blender those games affect the players in a psychological manner. It occupies more size and uses high graphics settings.

The Flash games are mostly concentrated only for entertaining purpose and nothing good comes from playing such games. But most of the players gets addicted to such games and they don't even worry about the time being wasted in that virtual world.

2.2 PROPOSED SYSTEM

The proposed system used very small size and it has very simple interface easy to operate. By playing the puzzle game will greatly increases the brain stimulation which is been officially proved by the Scientist.

By increasing the Game's Difficulty makes the player to play the game more interesting. Controls for playing this game is so simple just a mouse click is needed to switch the images. Depending on the difficulty only a little amount of time is spend while playing this game and even that time is used for good.

3.SYSTEM CONFIGURATION

3.1 HARDWARE SPECIFICATIONS

PROCESSOR : Intel i7 Processor 7th Gen

RAM : 4 GB or Higher

HDD : 300 GB of available hard disk space

VIDEO CARD : Nvidia GeForce GTX 940MX or Higher

KEY BOARD : Standard Windows Keyboard

3.2 SOFTWARE SPECIFICATIONS

FRONT END : Java 8.0

BACK END : Microsoft Access 2016

OPERATING SYSTEM : Windows 10

IDE : NetBeans 8.2

3.3 SOFTWARE FEATURES

WINDOWS 10

Windows 10 is a series of personal computer operating systems produced by Microsoft as part of its Windows NT family of operating systems. It is the successor to Windows 8.1, and was released to manufacturing on July 15, 2015, and broadly released for retail sale on July 29, 2015. Windows 10 receives new builds on an ongoing basis, which are available at no additional cost to users, in addition to additional test builds of Windows 10 which are available to Windows Insiders. Devices in enterprise environments can receive these updates at a slower pace, or use long-term support milestones that only receive critical updates, such as security patches, over their ten-year lifespan of extended support.

GRAPHICAL USER INTERFACE

The **graphical user interface** is a form of user interface that allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation, instead of text-based user interfaces, typed command labels or text navigation. GUIs were introduced in reaction to the perceived steep learning curve of command-line interfaces (CLIs), which require commands to be typed on a computer keyboard.

FEATURES OF WINDOWS 10

- **Timeline**: A new feature to get a chronological view of the activities the user was previously doing and to switch back to those activities. Edge, File Explorer, Maps, and other built-in applications include support for Timeline. Any application written for Windows can interact with Timeline to give the system visibility into individual documents the user worked on inside that application.
- **Windows Hello**: Initial set up of Hello can be performed from the lock screen.
- **Bluetooth**: A new "Quick Pairing" capability that reduces the number of steps required to pair a nearby Bluetooth device. A toast notification is shown when a compatible device is near the computer and ready to be paired.

- **Task Bar**: The Acrylic visual style of the Fluent Design System is applied to the taskbar.
- **OneDrive** status icons are shown in File Explorer to show the synchronization status of files and folders.
- **Game Bar**: layout has changed to include a clock, and to provide new options to turn the microphone and camera on/off.
- **Nearby Sharing**: a new feature found in the Shared Experiences area of Settings that provides the ability to share files and web links to other Windows 10 machines over Wi-Fi or Bluetooth.
- **My People**: Acrylic visual style; three-contact limit is removed; new animations; drag-and-drop of contacts; app suggestions.
- **Text prediction**: A new optional feature to enable autocomplete and autocorrection in any Windows application. The on-screen keyboard also has support for multilingual text prediction, which shows suggestions based on the top 3 installed Latin languages.

NETBEANS 8.2

NetBeans is an integrated development environment (IDE) for Java. NetBeans allows applications to be developed from a set of modular software components called *modules*.

NetBeans runs on Windows, macOS, Linux and Solaris. In addition to Java development, it has extensions for other languages like PHP, C, C++, HTML5,[4] and JavaScript. Applications based on NetBeans, including the NetBeans IDE, can be extended by third party developers.

NETBEANS PLATFORM

The NetBeans Platform is a framework for simplifying the development of Java Swing desktop applications. The NetBeans IDE bundle for Java SE contains what is needed to start developing NetBeans plugins and NetBeans Platform based applications; no additional SDK is required.

Applications can install modules dynamically. Any application can include the Update Center module to allow users of the application to download digitally signed upgrades and new features

directly into the running application. Reinstalling an upgrade or a new release does not force users to download the entire application again.

The platform offers reusable services common to desktop applications, allowing developers to focus on the logic specific to their application. Among the features of the platform are:

- User interface management (e.g. menus and toolbars)
- User settings management
- Storage management (carries out efficient storage)
- Window management
- Wizard framework (supports step-by-step dialogs)
- NetBeans Visual Library
- Integrated development tools

NETBEANS IDE

- **NetBeans IDE** is an open-source integrated development environment. NetBeans IDE supports development of all Java application types (Java SE (including JavaFX), Java ME, web, EJB and mobile applications) out of the box. Among other features are an Ant-based project system, Maven support, refactorings, version control (supporting CVS, Subversion, Git, Mercurial and Clearcase).
- **Modularity:** All the functions of the IDE are provided by modules. Each module provides a well-defined function, such as support for the Java language, editing, or support for the CVS versioning system, and SVN. NetBeans contains all the modules needed for Java development in a single download, allowing the user to start working immediately. Modules also allow NetBeans to be extended. New features, such as support for other programming languages, can be added by installing additional modules. For instance, Sun Studio, Sun Java Studio Enterprise, and Sun Java Studio Creator from Sun Microsystems are all based on the NetBeans IDE.
- **License:** The IDE is licensed under the Apache License 2.0. Previously, from July 2006 through 2007, NetBeans IDE was licensed under Sun's Common Development and Distribution License (CDDL), a license based on the Mozilla Public License (MPL). In

October 2007, Sun announced that NetBeans would henceforth be offered under a dual license of the CDDL and the GPL version 2 licenses, with the GPL linking exception for GNU Classpath. Oracle has donated NetBeans Platform and IDE to the Apache Foundation where it underwent incubation and graduated as a top level project in April 2019.

ADVANTAGES

1. **Works Out of the Box**

   Simply download and install the NetBeans IDE and you are good to go. Installation is a breeze with its small download size. All IDE tools and features are fully integrated no need to hunt for plug-ins and they work together when you launch the IDE.

2. **Free and Open Source**

   When you use the NetBeans IDE, you join a vibrant, open-source community of thousands of users ready to help and contribute. There are discussions on the NetBeans mailing lists, blogs on PlanetNetBeans, and helpful FAQs.

3. **Connected Developer**

   The NetBeans IDE is the tool of choice for teams working in a collaborative environment. You can create and manage java.net-hosted projects, for example; file issue tracking reports using both Jira and Bugzilla, and collaborate with like-minded developers—all directly from within the familiar interface of the IDE.

4. **Powerful GUI Builder**

   The GUI Builder (formerly known as Project Matisse) supports a sophisticated yet simplified Swing Application Framework and Beans Binding. Now you can build GUIs in a natural way.

5. **Support for Java Standards and Platforms**

The IDE provides end-to-end solutions for all Java development platforms including the latest Java standards.

- **Java Mobility Support**

Complete environment to create, test, and run applications for mobile devices. With preprocessor blocks, you can readily handle fragmentation issues. Support for Java Mobility development is the best among all Java development tools.

- **Java Enterprise Edition (EE) 6 support**

The first free, open-source IDE to support Java EE 6 specifications.

- **Java Standard Edition (SE) Support**

You can develop applications using the latest Java SE standards.

6. **Profiling and Debugging Tools**

With NetBeans IDE profiler, you get realtime insight into memory usage and potential performance bottlenecks. Furthermore, you can instrument specific parts of code to avoid performance degradation during profiling. The HeapWalker tool helps you evaluate Java heap contents and find memory leaks.

7. **Dynamic Language Support**

The NetBeans IDE provides integrated support for scripting languages such as PHP, Groovy, and JavaScript.

- **PHP**

With the NetBeans IDE for PHP, you get the best of both worlds: the productivity of an IDE (code completion, real-time error checking, debugging and more) with the speed and simplicity of your favorite text editor in a less than 30mb download.

- **JavaScript**

The NetBeans IDE has the JavaScript tools you need: an intelligent JavaScript editor, CSS/HTML code completion, the ability to debug JavaScript in Firefox and IE, and

bundled popular JavaScript libraries. Your favorite JavaScript framework will get you 80% of the way, NetBeans IDE will help you with that last 20%.

- **Groovy**

  In the NetBeans IDE, you can now create Grails applications, integrate Groovy scripts with your JavaSE project.

8. **Extensible Platform**

   Start with its extensible platform and add your own NetBeans IDE features and extensions or build an IDE-like application, keeping only features you want. Extending the platform and its Swing-based foundation saves development time and can optimize performance.

INRODUCTION TO MICROSOFT ACCESS DATABASE 2016

Microsoft Access is a database management system (DBMS) from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software-development tools. It is a member of the Microsoft Office suite of applications, included in the Professional and higher editions or sold separately.

Microsoft Access stores data in its own format based on the Access Jet Database Engine. It can also import or link directly to data stored in other applications and databases.

Software developers, data architects and power users can use Microsoft Access to develop application software. Like other Microsoft Office applications, Access is supported by Visual Basic for Applications (VBA), an object-based programming language that can reference a variety of objects including the legacy DAO (Data Access Objects), ActiveX Data Objects, and many other ActiveX components. Visual objects used in forms and reports expose their methods and properties in the VBA programming environment, and VBA code modules may declare and call Windows operating system operations.

NEW FEATURES IN MICROSOFT ACCESS

Users can create tables, queries, forms and reports, and connect them together with macros. Advanced users can use VBA to write rich solutions with advanced data

manipulation and user control. Access also has report creation features that can work with any data source that Access can access.

The original concept of Access was for end users to be able to access data from any source. Other features include: the import and export of data to many formats including Excel, Outlook, ASCII, dBase, Paradox, FoxPro, SQL Server and Oracle. It also has the ability to link to data in its existing location and use it for viewing, querying, editing, and reporting. This allows the existing data to change while ensuring that Access uses the latest data. It can perform heterogeneous joins between data sets stored across different platforms. Access is often used by people downloading data from enterprise level databases for manipulation, analysis, and reporting locally.

There is also the Jet Database format (MDB or ACCDB in Access 2007) which can contain the application and data in one file. This makes it very convenient to distribute the entire application to another user, who can run it in disconnected environments.

One of the benefits of Access from a programmer's perspective is its relative compatibility with SQL (structured query language) queries can be viewed graphically or edited as SQL statements, and SQL statements can be used directly in Macros and VBA Modules to manipulate Access tables. Users can mix and use both VBA and "Macros" for programming forms and logic and offers object-oriented possibilities. VBA can also be included in queries.

Microsoft Access offers parameterized queries. These queries and Access tables can be referenced from other programs like VB6 and .NET through DAO or ADO. From Microsoft Access, VBA can reference parameterized stored procedures via ADO.

The desktop editions of Microsoft SQL Server can be used with Access as an alternative to the Jet Database Engine. This support started with MSDE (Microsoft SQL Server Desktop Engine), a scaled down version of Microsoft SQL Server 2000, and continues with the SQL Server Express versions of SQL Server 2005 and 2008.

Microsoft Access is a file server-based database. Unlike client–server relational database management systems (RDBMS), Microsoft Access does not implement database triggers, stored procedures, or transaction logging. Access 2010 includes table-level triggers and stored procedures built into the ACE data engine. Thus a Client-server database system is not a

requirement for using stored procedures or table triggers with Access 2010. Tables, queries, forms, reports and macros can now be developed specifically for web based applications in Access 2010. Integration with Microsoft SharePoint 2010 is also highly improved.

The 2013 edition of Microsoft Access introduced a mostly flat design and the ability to install apps from the Office Store, but it did not introduce new features. The theme was partially updated again for 2016, but no dark theme was created for Access.

MAIN ELEMENTS OF ACCESS

The Microsoft® Access Database is made up of 7 major components:

- Tables;
- Relationships;
- Queries;
- Forms;
- Reports;
- Macros;
- Modules.

The following gives a quick overview of each component.

Tables

The tables are the backbone and the storage container of the data entered into the database. If the tables are not set up correctly, with the correct relationships, then the database may be slow, give you the wrong results or not react the way you expect. So, take a bit of time when setting up your tables.Queries, forms, etc. are usually based on a table.

The tables that contain data look a bit like a table in Microsoft® Word or a Microsoft® Excel Spreadsheet, when opened. They have columns and rows as does a table in Microsoft® Word and an Excel worksheet. Each of the columns will have a field name at the top and each of the rows will represent a record.

Relationships

Relationships are the bonds you build between the tables. They join tables that have associated elements. To do this there is a field in each table, which is linked to each other, and have the same values.

Queries

Are the means of manipulating the data to display in a form or a report. Queries can sort, calculate, group, filter, join tables, update data, delete data, etc. Their power is immense. The Microsoft® Access database query language is SQL (Structured Query Language). The need to know SQL is not required in the early stages of learning Access. Microsoft® Access writes the SQL for you, after you tell it what you want, in the Design view of the queries window.

Forms

Forms are the primary interface through which the users of the database enter data. The person who enters the data will interact with forms regularly. The programmer can set the forms to show only the data required. By using queries, properties, macros and VBA (Visual Basic for Applications), the ability to add, edit and delete data can also be set. Forms can be set up and developed to reflect the use they will be required for.

Reports

Reports are the results of the manipulation of the data you have entered into the database. Unlike forms, they cannot be edited. Reports are intended to be used to output data to another device or application, i.e. printer, fax, Microsoft® Word or Microsoft® Excel.

Macros

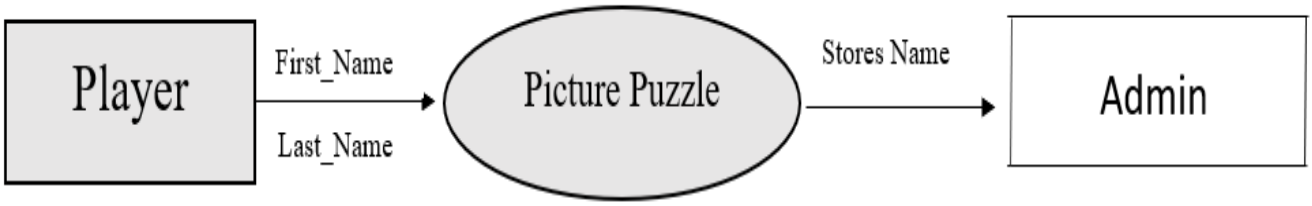
Macros are an automatic way for Access to carry out a series of actions for the database. Access gives you a selection of actions that are carried out in the order you enter. Macros can open forms; run queries, change values of a field, run other Macros, etc. the list is almost endless.

Modules

Modules are the basis of the programming language that supports Microsoft® Access, The module window is where you can write and store Visual Basic for Applications (VBA). Advanced users of Microsoft® Access tend to use VBA instead of Macros. If you would like to learn VBA, I have a simple step by step lessons.

4. SYSTEM DESIGN

4.1 DATA FLOW DIAGRAM



4.2 TABLE DESIGN

Entry Table:

Table Name:db1

Field Name	Data Type	Size	Description
First_Name	Short Text	15	Gets the First Name of the Player
Last_Name	Short Text	15	Gets the Last Name of the Player

4.3 INPUT DESIGN

Input design is the process of converting user-originated inputs to a computer understandable format. Input design is one of the most expensive phases of the operation of computerized system and is often the major problem of a system. A large number of problems with a system can usually be tracked backs to fault input design and method. Every moment of input design should be analyzed and designed with utmost care.

The system takes input from the users, processes it and produces an output. Input design is link that ties the information system into the world of its users. The system should be user-friendly to gain appropriate information to the user. The decisions made during the input design are

- To provide cost effective method of input.
- To achieve the highest possible level of accuracy.
- To ensure that the input is understand by the user.

System analysis decide the following input design details like, what data to input, what medium to use, how the data should be arranged or coded, data items and transactions needing validations to detect errors and at last the dialogue to guide user in providing input.

Input data of a system may not be necessarily is raw data captured in the system from scratch. These can also be the output of another system or subsystem.

4.4 OUTPUT DESIGN

Output design generally refers to the results and information that are generated by the system for many end-users; output is the main reason for developing the system and the basis on which they evaluate the usefulness of the application.

The output is designed in such a way that it is attractive, convenient and informative. As the outputs are the most important sources of information to the users, better design should improve the system's relationships with user and also will help in decision-making. Form design elaborates the way output is presented and the layout available for capturing information. All records from various Tables with same Database name are retrieved and consolidated, then displayed in a print Format.

4.5 DATABASE DESIGN

The database design involves creation of tables. Tables are represented in physical database as stored files. Database design has an own independent existence.A table consist of rows and columns. Each column corresponds to piece of information called field. A set field constitutes a record.

Database design is required to manage the large amount of information. The management of data involves both the definition of structure of the storage of information and provision of mechanism for the manipulation of information.

The record contains all the information, specific to particular item. This is one, which transforms the information models created during analysis Numeric to data structure that will be required to implement the software. The primary activity during this is to select logical representations of data object identified during the requirement definition and specification phase.

5. SYSTEM TESTING & IMPLEMENTATION

SYSTEM TESTING

Software Testing is the process of executing software in a controlled manner, in order to answer the question - Does the software behave as specified? Software testing is often used in association with the terms verification and validation. Validation is the checking or testing of items, includes software, for conformance and consistency with an associated specification. Software testing is just one kind of verification, which also uses techniques such as reviews, analysis, inspections, and walkthroughs.

Software testing should not be confused with debugging. Debugging is the process of analyzing and localizing bugs when software does not behave as expected. Although the identification of some bugs will be obvious from playing with the software, a methodical approach to software testing is a much more thorough means for identifying bugs. Debugging is therefore an activity which supports testing, but cannot replace testing.

Other activities which are often associated with software testing are static analysis and dynamic analysis. Static analysis investigates the source code of software, looking for problems and gathering metrics without actually executing the code. Dynamic analysis looks at the behaviour of software while it is executing, to provide information such as execution traces, timing profiles, and test coverage information. Testing is a set of activity that can be planned in advanced and conducted systematically. Testing begins at the module level and work towards the integration of entire computers based system. Nothing is complete without testing, as it vital success of the system testing.

The test steps include

- Unit testing
- Validation testing
- Acceptance Testing
- Black Box Testing

Unit testing:

Unit testing focuses verification efforts on the smallest of the software design of the module. This is also knows as module testing. The modules of the “banking services” are tested separately. This test was carried out during programming stage.

Validation testing:

At the culmination of integration testing, software is completely assembled as a package, interfacing errors have been uncovered and corrected and final series of software test begins. Validation testing can be defined in many ways, but a simple definition is the validation succeeds when the software functions in a manner that can be reasonable expected by the customer.

After the validation test has been conducted, one of the three possible conditions exists.

1. The function of performance characteristics to specification and is accepted.

2. A deviation from specification is uncovered and a deficiency list is created.

3. Proposed system under consideration has been tested by using validation testing and found to be working satisfactorily.

Acceptance testing:

Acceptance testing, a testing technique performed to determine whether or not the software system has met the requirement specifications. The main purpose of this test is to evaluate the system's compliance with the business requirements and verify if it is has met the required criteria for delivery to end users.

Black Box Testing

Black-box testing is a method of software testing that examines the functionality of an application based on the specifications .It is also known as Specifications based testing. Independent Testing Team usually performs this type of testing during the software testing life cycle. This method of test can be applied to each and every level of software testing such as unit, integration, system and acceptance testing.

Login: Entering invalid credentials and checking for error messages

Login: Entering valid credentials and checking the login.

View: Trying to upload a random non-excel file and checking for error messages

SYSTEM IMPLEMENTATION

The purpose of System Implementation can be summarized as follows:

It making the new system available to a prepared set of users (the deployment), and positioning on-going support and maintenance of the system within the performing organization (the transition). At a finer level of detail, deploying the system consists of executing all steps necessary to educate the consumers on the use of the new system, placing the newly developed system into production ,confirming that all data required at the start of operations is available and accurate, and validating that business functions that interact with the system are functioning properly. Transitioning the system support responsibilities involves changing from a system development to a system support and maintenance modes of operation, with ownership of the new system from the Project Team to the Performing Organization.

System implementation is the important stage of project when the theoretical design is tuned into practical system. The main stages in the implementation are as follows:

- Planning
- Training
- System testing and
- Changeover Planning

Planning is the first task in the system implementation. Planning means deciding on the method and the time scale to be adopted . At the time of implementation of any system people from different departments and system analysis involve. They are confirmed to practical problem of controlling various activities of people outside their own data processing departments. The committee considers ideas, problems and complaints user department, it must also consider;

- The implication of system environment
- Self-selection and allocation form implementation tasks
- Consultation with unions and resources available
- Standby facilities and channels of communication

The purpose of Prepare for System Implementation to take all possible steps to ensure that the upcoming system deployment and transition occurs smoothly, efficiently, and flawlessly. In the implementation of any new system, it is necessary to ensure that the Consumer community is best positioned to utilize the system once deployment efforts have been validated. Therefore, all necessary training activities must be scheduled and coordinated. As this training is often the first 17 exposure to the system for many individuals, it should be conducted as professionally and competently as possible. A positive training experience is a great first step towards Customer acutance of the system.

During System Implementation it is essential that everyone involved be absolutely synchronized with the deployment plan and with each other. Often the performance of deployment efforts impacts many of the Performing Organization's normal business operations. Examples of these impacts include:

Technical Services may be required to assume significant implementation responsibilities while at the same time having to continue current levels of service on other critical business systems.

Because of these and other impacts, the communication of planned deployment activities to al part involved in the project is critical.

The final process within the System Development Lifecycle is to transition ownership of the system support responsibilities to the Performing Organization. In order for there to be an efficient and effective transition, the Project Manager should make sure that all involved parties are aware of the transition plan, the timing of the various transition activities, and their role in its execution.

6. SCOPE FOR FUTURE DEVELOPMENT

- The development of the "**Picture Puzzle"** has a good scope in the future as it can be expanded to the needed requirement.
- There can be few more pictures can be added to puzzle and the difficulty can be extended to even harder levels. Those enhancement can be done easily.
- The Proposed system is in initial stage. By involving few more options the proposed system can be developed.
- These enhancement can change the game into a very effective one which can be very reliable and sophisticated.
- The game can also generalized so that the design can be used for the similar organisation to develop there game more efficient manner.
- The game reduces time consumption and to perform their task in significant and much fast and economical.
- The further development of this project can be to host this project to the Internet.

7. CONCLUSION

This project has been meticulously designed in such a way that this **Picture Puzzle** helps the user to spend there precious free time in a useful manner. Efforts have been taken to make the system more users friendly and as simple as possible. Behavior of this system has been found to be stable in all working conditions. It has resulted in quick retrieval and reference of required information which is vital to Organisation

The entire system is documented and can be easily understood by the end users. The forms are very friendly and also easy to handle even by the beginners with little guidance. The programming techniques used to build the game can be expanded to even further for development.

8. BIBLIOGRAPHY

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Website Reference:

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3. https://www.javatpoint.com/java-swing
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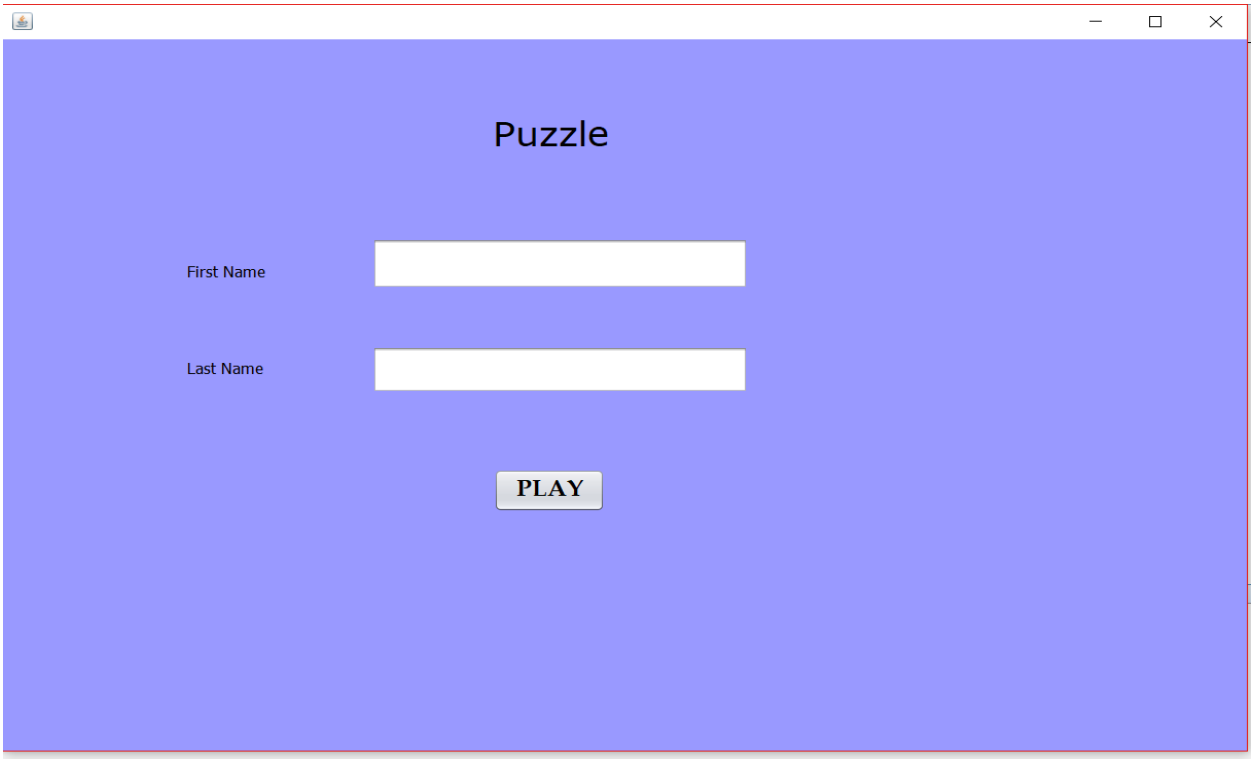
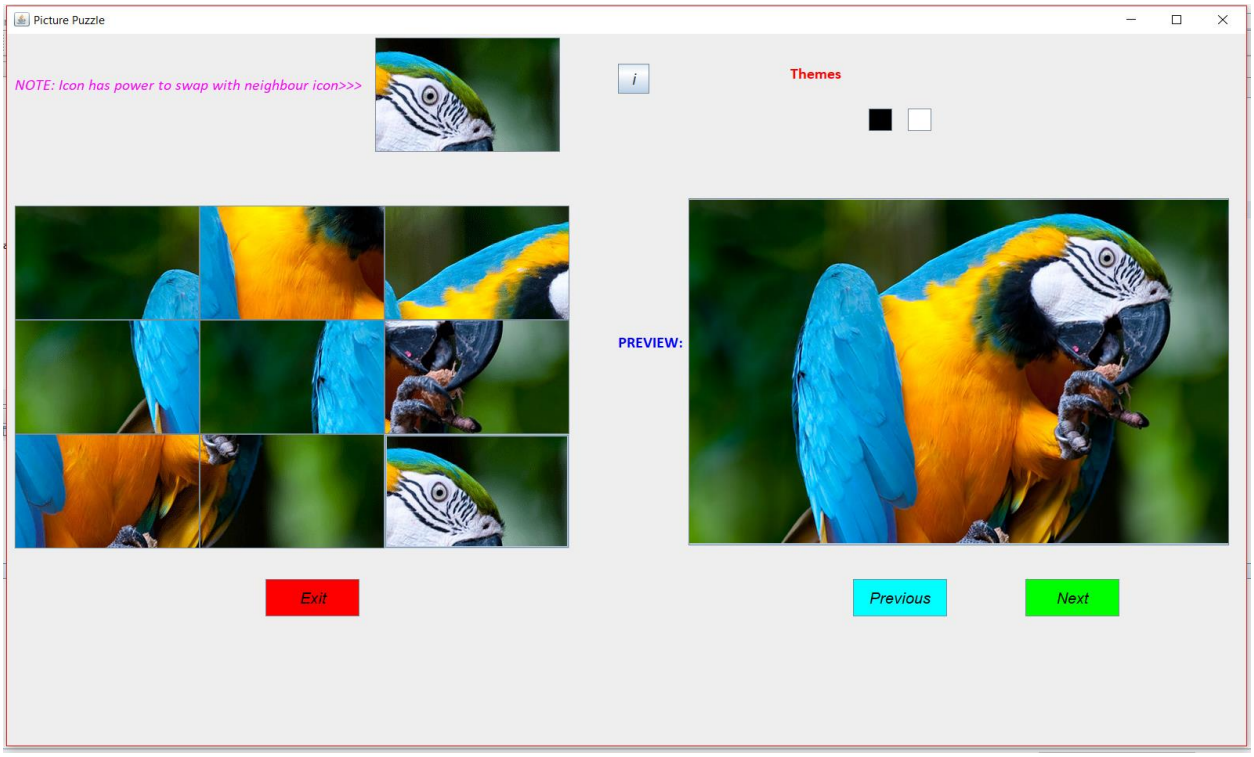
9. APPENDIX

1.SCREENSHOT

Entry:



Game:


Picture Puzzle
NOTE: Icon has power to swap with neighbour icon>>>
i
Themes
PREVIEW:
Exit
Previous
Next

B.SAMPLE CODE

```
import java.awt.event.*;

import java.awt.*;

import javax.swing.*;

import java.awt.Font;

 import java.sql.*;

class picpuzzle2 extends JFrame implements ActionListener

{

JButton b1,b2,b3,b4,b5,b6,b7,b8,b9,sample,starB,bl,wi,he,pre;

//JButton playStopButton, retryButton, newGameButton;

JButton bu=new JButton();

JButton bn=new JButton();

Icon star;

Icon ic0=new ImageIcon("C:\\Users\\Castro Zac\\Desktop\\pro\\images\\3.jpg");

picpuzzle2()

{

super("Picture Puzzle");

super.setBounds(200,20,1600,1000);


 bu=new JButton("Exit");

bu.setBounds(330,730,120,50);
```

```
bu.setFont(new Font("Sans_Sarif",Font.ITALIC,20));
bu.setBackground(Color.red);
bu.setForeground(Color.black);

bl=new JButton();
bl.setBounds(1100,100,30,30);
bl.setBackground(Color.black);
wi=new JButton();
wi.setBounds(1150,100,30,30);
wi.setBackground(Color.white);

bn=new JButton("Next");
bn.setBounds(1300,730,120,50);
bn.setFont(new Font("Sans_Sarif",Font.ITALIC,20));
bn.setBackground(Color.GREEN);
bn.setForeground(Color.black);

pre=new JButton("Previous");
pre.setBounds(1080,730,120,50);
pre.setFont(new Font("Sans_Sarif",Font.ITALIC,20));
pre.setBackground(Color.cyan);
```

```
pre.setForeground(Color.black);


he=new JButton("i");
he.setBounds(780,40,40,40);
he.setFont(new Font("Sans_Sarif",Font.ITALIC,20));
// JFrame f1=new JFrame();


b1=new JButton(ic1);
b1.setBounds(10,230,236,153);


sample=new JButton(samicon1);
sample.setBounds(870,220,690,465);
JLabel l1=new JLabel("PREVIEW:");
l1.setBounds(780,380,100,70);
l1.setFont(new Font("Calibri",Font.BOLD,20));
l1.setForeground(Color.BLUE);


JLabel l2=new JLabel("NOTE: Icon has power to swap with neighbour icon>>>");
l2.setBounds(10,55,500,30);
l2.setFont(new Font("Calibri",Font.ITALIC,20));
l2.setForeground(Color.magenta);
```

```
JLabel l3=new JLabel("Themes");
l3.setBounds(1000,40,100,30);
l3.setFont(new Font("Calibri",Font.BOLD,20));
l3.setForeground(Color.red);
public void actionPerformed(ActionEvent e)

{

   if(e.getSource()==bl)
   {
     super.getContentPane().setBackground(Color.black);
   }
   if(e.getSource()==he)
   {

       JLabel l11=new JLabel("How to Play  the Game ");
        l11.setBounds(10,20,300,35);
       l11.setFont(new Font("Serif",Font.BOLD,30));

      JLabel l12=new JLabel("1.If the movable images wants to move up click the above image");
```

```
    l12.setBounds(10,120,550,30);
    l12.setFont(new Font("Serif",Font.BOLD,20));

     JLabel l13=new JLabel("2.Same for moving to Left,Right,Down");
    l13.setBounds(10,220,500,30);
    l13.setFont(new Font("Serif",Font.BOLD,20));

   JLabel l14=new JLabel("3.The moveable can only able to move on Step a head");
    l14.setBounds(10,400,500,30);
    l14.setFont(new Font("Serif",Font.BOLD,20));

 JFrame f2=new JFrame("Instructions");
 f2.setVisible(true);
 //f2.setSize(400, 430);
f2.setBounds(750,200,750,750);
 f2.add(l11);
 f2.add(l12);
 f2.add(l13);
f2.add(l14);
 }
if(e.getSource()==bu)
```

```
    {
        ImageIcon i7=new ImageIcon("C:\\Users\\Castro Zac\\Desktop\\pro\\Icon\\image.jpg");
        int result = JOptionPane.showConfirmDialog(null,
   "Are you sure you wish to exit application?",null,
JOptionPane.YES_NO_OPTION,JOptionPane.PLAIN_MESSAGE,i7);
if(result == JOptionPane.YES_OPTION) {
    System.exit(0);
}
    }
public static void main(String args[]) throws ClassNotFoundException, SQLException
{
new picpuzzle2();
}
```