



SOFTWARE PROJECT LAB-I

Puzzle Game

Institute of Information Technology, NSTU

BSSE 1st Batch

Submitted To

Falguni Roy

Lecturer of IIT, NSTU

Dipok Chandra Das (Project Mentor)

Lecturer of IIT, NSTU

Submitted By

Md. Mahabub Alam

Roll: ASH1825003M

Email: mahabubalam.se2018@gmail.com

Md. Mynuddin

Roll: ASH1825007M

Email: dr.mdmynuddin@gmail.com

Suvo Islam

Roll: ASH1825032M

Email: suvoislam753@gmail.com

Team name: **Team Kingfisher**

1. Introduction

The project that we take successfully completed. Our 1st project is on desktop-based Picture Puzzle Game Project. We took the project on January 2019 and complete it in May 2019. We are so happy to submit our project in time. We try our best to complete the project.

2. Software Project Description

2.1. Story

In the world about 80% people, who like to play games, like puzzle games. All of ages people want to develop their brain efficiency. Searching important things in a time are very important. To develop searching skill and kids brain efficiency, we want to build this project. If people improve their brain by playing puzzle game, they can support their life completely.

2.2. Requirements

❖ User Requirements

1. Functional Requirements

- ☐ A player able to choose game format. (e.g.: Picture Puzzle, Number Puzzle, Brain-Puzzle)
- ☐ Turning music on or off.
- ☐ Select image from user PC.
- ☐ Time and Moves show to see player stability of playing game.
- ☐ Pause button help to pause the game, retry button helps to start the game from first, home button to go to home menu.

2. External Interface Requirement

- ☐ Design
- ☐ Any OS supported PC or Laptop.
- ☐ Mouse

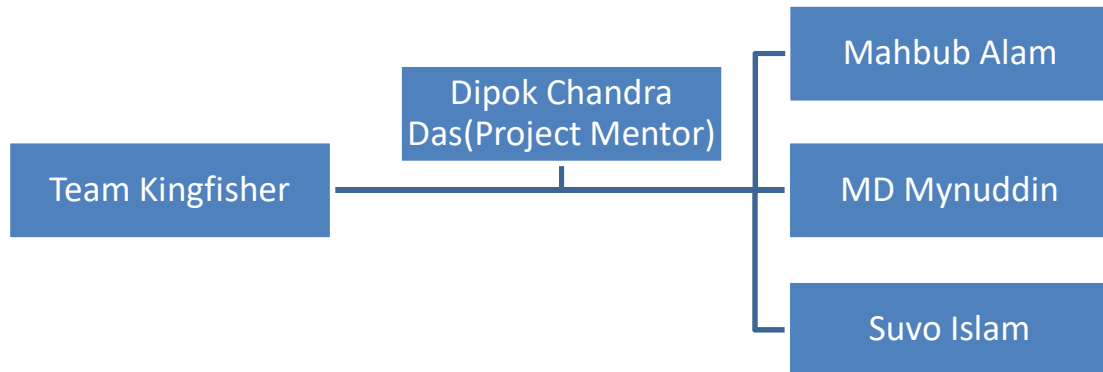
❖ Developer Requirements

- ☐ Any operating system
- ☐ Java Programming Language
- ☐ NetBeans or Eclipse IDE
- ☐ 2D Graphics AWT, Swing, GUI etc.

2.3. Proposed Process Model

Our project model is **Evolutionary Model**. Evolutionary model is a combination of Iterative and Incremental model of software development life cycle. Evolutionary model suggests breaking down of work into smaller chunks, prioritizing them and then delivering those chunks to the customer one by one. In evolutionary model, a user gets a chance to experiment partially developed system.

2.4. Project Team



2.5. Timeline

☐ Proposed Timeline

Task	Deadline
Project Proposal	Within 3 rd week of January.
Requirement Analysis, Specification	Within 21 st January.
Designing, Study	Within 28 th January.
Coding	Within 26 th February.
Final Testing	Within 3 rd March.

☐ Actual Timeline

Task	Deadline
Project Proposal	Within 3 rd week of January.
Requirement Analysis, Specification	Within 21 st January.
Designing, Study	Within 15 th March.
Coding	Within 30 th April.
Final Testing	Within 9 th May

2.8. Requirement Traceability Matrix

It is a subdiscipline of requirement management within software development and systems engineering. Requirement traceability is defined as “the ability to describe and follow the life of a requirement in both a forward and backward direction. In the requirements engineering field, traceability is about understanding how high-level requirements objectives, goals, aims, aspirations, expectations, needs, - are transformed into low-level requirements. The advantage of traceability matrices is suitable for management task.

- R1- Choose a puzzle game type.
- R2- Choose game music.
- R3- Choose a picture from file.
- R4- Cropping the picture into sub images
- R5- Choose difficulty level
- R6- Move the sub image into the empty zone.
- R7- After completing a game, show a message.
- R8- Shuffle the sub-images.

Requirement Test Case	R1	R2	R3	R4	R5	R6	R7	R8
T1	✓							
T2	✓	✓						
T3	✓	✓	✓					
T4	✓	✓		✓				
T5	✓	✓		✓	✓			
T6	✓	✓		✓		✓		
T7	✓	✓		✓	✓	✓	✓	
T8	✓	✓	✓	✓	✓	✓	✓	✓

*R- Requirements *T- Testing Number

2.6. Tools

☐ Languages

Java. It is easy to use and platform independent programming language.

☐ IDE's

NetBeans and eclipse IDE.

2.7. Future Directions

- ☐ Removing some bugs.
- ☐ Adding more music and sound.
- ☐ Adding Jigsaw puzzle
- ☐ Giving an attractive look

3. Software Project Metrics

☐ Code Level

LOC – Line of codes

NCLOC- Non-comment Line of Codes

CLOC – Comment Line of Codes

Density- CLOC/NCLOC

LOC	NCLOC	CLOC	Density	Average LOC per Class
5263	3131	2132	0.405	210

☐ Design Level

Sub packages	Class	Abstract class	Public Attributes	Methods	Methods per class
4	22	0	67	55	2

4. Collaboration

Name	LOC Addition	LOC Deletion
Mahbub Alam	948	258
Mynuddin	1568	0
Suvo Islam	2747	0

Contributions to master, excluding merge commits



5. Deliverables

- ☐ Project Presentation File
- ☐ Project Document File
- ☐ Source Code
- ☐ User Manual

7. Summary

It is very interesting to play your own developed game. It is more interesting to watch anyone else playing your own game. It is also an educational game. Where children can newly introduce with picture's object. They can also introduce with the world.

8. Reference

- You Tube
- Javatpoint.com
- Tutorialspoint.com
- BegineersBook.com
- Stack Overflow
- Quora
- www.codota.com/code/java