

**Final Year Design Project Proposal**

**Match Puzzle Game**

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**Project ID: 22-KS-BSIT-12**

**By**

Rabia Bano                    089322 2022-KS-371

Savera Nawaz                089294 2022-KS-380

**(Morning)**

**Project Advisor: Sehrish Khan**

**Govt. Graduate College Civil Lines, Sheikhupura  
University of Punjab, Lahore, Pakistan  
(2025)**

## ***Match Puzzle Game***

### **1. Abstract of proposal:**

*The proposed game will be an innovative Match-3 puzzle game design to provide players with the opportunity to collect coins by a better reward system and associated mini-game, which will make game more exciting. It will be a single user game. Player will play initial levels to earn coins and with progress, player will unlock a pet companion with a special ability, allowing player to get more reward. The pet will support the player's journey and will add depth to proposed game. Player will be given a chance to earn more coins by some additional associated mini game. Our methodology will include a game logic in Unity, developing the board rotation algorithm, implementing pet companion and mini game system and designing theme-based assets. An expected outcome will a mixture of some creativity, player's engagement, and rewarding match-3 game that will offer player a refreshing, enjoyable and a modern puzzle game. The proposed game will be designed to be offline, free to play and accessible to users of all ages. The project will aim to merge creativity, entertainment and simplicity into one Match-3 puzzle game.*

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## 2. INTRODUCTION

### Background:

Match-3 [5] puzzle games such as Candy Crush [1] are popular because of simple yet addictive mechanics [5]. These all games provide players to match items to score points and progress through levels. However, these most existing games depend on repetitive mechanics and limited theme variety, which reduces the player's long term involvement. To fill this gap, our game will introduce a new story based match-3 puzzle game with features like rotating board, attractive themes and a pet companion system for interaction and player satisfaction.

### Problem Statement:

Match-3 [5] games become boring with time because of predictable play patterns. Games become dull due to fixed board designs and limited theme variety. Players often lose their interest after knowing basic mechanics. Therefore, there is need to develop more interactive match-3 [5] game that will propose attractive themes, rotating board logic, better reward system and a pet companion that will grow with the player's progress.

### Stakeholders & Interests

1. **Player:** Player will expect a fun, challenging and visually rich gameplay experience.
2. **Developer:** Developer will aim to implement innovative mechanics and will improve the user experience.
3. **Designers:** Designer will focus on aesthetics, themes and smooth animation.
4. **Supervisor:** Supervisor will ensure the project meet educational and professional standards.

### Objectives:

The objectives of our game will:

1. To create attractive different themes for visual beauty.
2. To design a game with an innovative board rotation mechanic.
3. To implement mini game system to earn more reward.
4. To make it easy to use for every player.
5. To make it offline and free so that anyone can have access to it.

### Scope:

This proposed game will cover the complete design and development of 2D single player unity project with before mentioned changings. It will cover different story themes, a pet with special power and rotation mechanics. Our game will implement in unity, with animations effects and reward based progress system. In our game, online play and multiplayer system will not be included.

### 3. LITERATURE REVIEW

#### Related Work:

Match-3 [5] games are considered most popular puzzle games in gaming industry, attractive to users of all ages. They are successful because of simple yet addictive gameplay, colorful visuals and rewarding progress systems. Over the years, many match-3 [5] games have set industry standards, each game is introducing unique mechanic to get more player engagement.

Games like Candy Crush [1], Candy Crush Soda Saga [2], Travel Voyage [3], Jewel Voyage [4] that have examined before developing our proposed game. The key features of these games are given below:

**Candy Crush (King, 2012) [1]** is one of earliest and successful match-3 [5] game. It is known by its level base progress, boosters and social features. It includes tile swapping, color matching and goals to make a balance between challenge and fun.

**Candy Crush Soda Saga (King, 2014) [2]** is expand version of original game. It includes new tile types, soda levels and floating candies. It has improved visual variety and level variety. But it still has same mechanic like Candy Crush with little variations.

**Travel Jewel (Mentha Games, 2022) [3]** has added a twist by introducing travel based theme levels. This change has increased visuals. But the game become boring after some time. There is also a less gameplay innovations. Some tough levels in this game are so irritating for players [9].

**Jewel Voyage (EnPV1 Co. Ltd, 2020) [4]** has its focus on hunting of treasure. It explored themes with a different style of travelling. It added new style shapes of gems and power-ups. It is offline for players. Players have to follow a journey to get treasures. It is a free app but it contains in-game currency and items. It also contains paid products such as for removing ads [10].

## Gap Analysis:

Game related references	Version	Released on	Features							
			Type (Single or Multiplayer )	Power-ups	Story Mode	Special Booster	Offline Mode	Pet Companion	Mini Game	Board Rotation
Candy Crush [1]	1.313.1.1	Nov 15, 2012	Single player	✓	✗	✓	✓	✗	✗	✗
Candy Crush Soda Saga [2]	1.303.1	Nov 11, 2014	Single player	✓	✗	✓	✓	✗	✗	✗
Travel Jewel [3]	1.0.19	Oct 17, 2022	Single player	✓	✓	✓	✓	✗	✗	✗
Jewel Voyage [4]	2.0.16	May 20, 2020	Single player	✓	✓	✓	✓	✗	✗	✗
Proposed Game (Match Puzzle)	-	-	Single Player	✓	✓	✓	✓	✓	✓	✓

Table 1 Project Proposal Summary

## 3. FYDP OVERVIEW

### FYDP Title: Match Puzzle Game

Sr. No	Roll Numbers	Name	Signatures
1.	089294	Savera Nawaz	
2.	089322	Rabia Bano	

Table 2 Project Proposal Summary

## **FYDP Goals**

Our goal will be to design and develop a game that will provide players with attractive themes, board rotation, a pet companion and a better reward system by playing associate mini game.

## **FYDP Objectives**

Game will propose some difference than other same games like pet based ability to support players, rotation of board and associate mini game to increase player's score.

## **FYDP Success Criteria**

The proposed game will be considered successful if the game will run smoothly in Unity, board mechanics work correctly, a pet companion system enhance player's reward and interface is user-friendly.

## **Assumptions:**

The assumptions of proposed game are that the player will have access to Android to play game, Unity tools and required assets will be available, team members will collaborate each other and project will be completed in given timeline.

## **Risks & Obstacles**

The risks and obstacles of proposed game can be: limited time for development and testing, technical issues in Unity, code errors, difficulty in balance and fun, managing assets and animations efficiently.

**Organization Address:** Govt. Graduate College Civil Lines, Sheikhupura, Pakistan

**Target End Users:** Mobile gamers, teenagers, adults and game lovers.

**Suggested Project Supervisor:** Sehrish Khan

**Approved By:**

**Date:** October 15, 2025

## 4. TOOLS, LIBRARIES AND TECHNOLOGIES WITH REASONING

*Table 3 Tools Technologies and Libraries*

Tools, Libraries, And Technologies	Tools	Version	Rationale
	1) Unity Engine [6]	2022.3 LTS	Use for developing 2D game, for board rotation, animations, and game logic.
	2) Visual Studio Code [7]	1.104.0	Used as lightweight code editor for writing and debugging C# scripts.
	3) Canva [8]	1.106.0	Used for designing 2D assets, game icons, and theme-based visuals.
		4) Figma [11]	124.6.5 Used for collaborative interface design to create digital products like website and mobile apps etc.
Tools, Libraries, And Technologies	Libraries	Version	Rationale
	4) UnityEngine.UI	Built-in (in unity)	Used for handling user-interface components such as scoreboard, button and menu.
	5) Cinemachine	Built-in (in unity)	Used for smooth camera control and transitions during play.
	Technology	Version	Rationale
		6) C# Programming language 7) 2D game physics	Built-in (in unity) Use for programming game logic, pet system and mechanics. Use for handling collisions, gravity and other physical interactions within the board.
	8) Sprite Animation system 9) Unity particle system	Built-in (in unity) Built-in (in unity)	Use to animate items, gems, pets and effects smoothly. Use to add visual effects such as sparkles, explosion, and power-up.

## 5. WORK DIVISION

Clear work division among group members to be shown

Table 4 Project Team Members Work Division

Sr. No	Roll Number	Name	Role Assignment & Work Division
1.	089294	Savera Nawaz	Documentation, Designing, Testing, Coding
2.	089322	Rabia Bano	Documentation, Designing, Testing, Coding

## 6. REFERENCES

- [1] <https://play.google.com/store/apps/details?id=com.king.candycrushsaga>
- [2] <https://play.google.com/store/apps/details?id=com.king.candycrushsodasaga>
- [3] <https://play.google.com/store/apps/details?id=com.mintgames.manormatchblast>
- [4] <https://play.google.com/store/apps/details?id=com.enpv1.jewel.google>
- [5] <https://www.matchingmystery.net/tips/why-match-3-gameplay-is-still-one-of-the-most-addictive-game-mechanics-ever>
- [6] <https://unity.com/download/confirmation>
- [7] <https://code.visualstudio.com/download>
- [8] <https://www.canva.com/download/windows/>
- [9] <https://allslotspkr.net/travel-jewel-game/>
- [10] [https://apps.apple.com/us/app/jewel-voyage/id1520147291?utm\\_source=chatgpt.com](https://apps.apple.com/us/app/jewel-voyage/id1520147291?utm_source=chatgpt.com)
- [11] <https://www.filehorse.com/download-figma/download/>