

CS691 - Capstone Project - Spring 2024

Team 04 - Sprint 1

The Great Escape

(2D Puzzle Game)

Team Members:

Linlan Cai,
Zhifu Chen,
Krits Chotechuangchaikul,
Sarthak Mishra,
Aakash Akhilesh Patel,
Hitesh Pulivarthi,
Yash Vora



AGENDA

- The objective of this meeting is to understand how we're tracking towards our deadlines, align on progress, address roadblocks, and sync on the next steps as they pertain to develop.
- Discussion on timely submission. Marking the important dates. Add dates to a shared calendar
- Discussion on presentation topics and iterative updating the presentation.
- Confirm client requirements i.e., Think and study through personas, all the things that would be needed in our project from client's point of view.
- Discuss the risks.
- Interaction, attendance, co-operation, teamwork, attention from each team member is needed to make the project success



TEAM MEMBER ROLES AND RESPONSIBILITIES

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Developer

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Game Developer

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TEAM MEMBER ROLES AND RESPONSIBILITIES



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Sound Designer

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UI and Game Asset Developer

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Narrative Designer

Yash Vora

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Game Developer

TECHNOLOGIES



Game Engine



CPT



Agile project
management



IDE



Programming
Languages and Tools



Team communication
platform



Version Control



IMPROVEMENTS MADE FROM PROFESSOR'S FEEDBACK



Post the deliverable 1 presentation, we received feedback from the professor on changing the personas and making few changes in our sprint schedule which we did accordingly which can be seen in the further slides

Persona 1



Name: Jonas Kahnwald

Age: 26

Occupation: Software Developer

Gaming Background: Enjoys puzzle-solving games and immersing narratives. Spends most of his free time searching for new strategy games.

Playstyle: Enjoys experimenting with different approaches and finding unique solutions. Not afraid to take risks.

Gaming Environment: Has a dedicated gaming setup with a powerful PC. Enjoys playing in a quiet and dimly lit room.

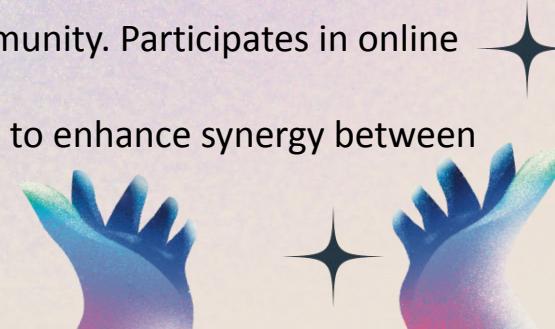
Motivation: Enjoys unraveling unique scenarios and discovering the secrets of in-game world.

Preferred Platform: PC and PS

Social Aspect: Enjoys sharing insights and strategies with close-knit gaming community. Participates in online forums and engages in discussions about game's intricacies.

Feedback Style: Provides detailed feedback on game mechanics, suggesting ways to enhance synergy between narrative and gameplay.

Aspirations in game: Aims to achieve mastery in puzzle-solving and hopes to unlock unique scenarios.



Persona 2



Name: Ted Mosby

Age: 35

Occupation: Lead Game Designer

Background: Holds a degree in Game Design and has been in the industry for over a decade. Previously worked on successful puzzle and narrative-driven games, Has passion to explore out of box thinking.

Inspirations: Draws inspiration from unconventional sources, including literature, psychology and media. Enjoys experimenting with unique narrative structures and gameplay dynamic to keep players engaged.

Adaptability: Understands the importance of dynamic difficulty adjustments to cater to a broad audience. Actively monitors player feedback and adjusts game mechanics to meet their needs.

Challenges: Embraces the challenges of creating a game that continually adapts to players evolving skills. Works tirelessly to ensure that the difficulty curve feels organic and rewards players for their creativity.

Player Engagement: Actively participates in community forums, social media to connect with players.

Creative Process: Begins with a strong narrative foundation and build gameplay mechanics that enhance storytelling experience. Constantly refines designs based on playtesting and feedback.

Future Plans: Envisions expanding the game through downloadable content (DLC) and updates that introduce new challenges, story arcs, and gameplay mechanics.

Persona 3



Name: Martha Nielsen

Age: 23

Occupation: College Student (Environmental Science)

Gaming Background: Casual gamers with preference for exploration and adventure games. Enjoys a mix of single player and co-op experiences. Has played popular titles in various genres.

Playstyle: Takes a relaxed approach to gaming emphasizing exploration and immersion. Enjoys uncovering hidden details and lore within the game world.

Gaming Environment: Tries playing on a console in a cozy living room setup. Values comfort while playing.

Motivation: Seeks engaging story to escape from daily routines. Values games with captivating stories and sense of wonder.

Preferred Platform: Primarily plays on console but occasionally tries playing on gaming laptop.

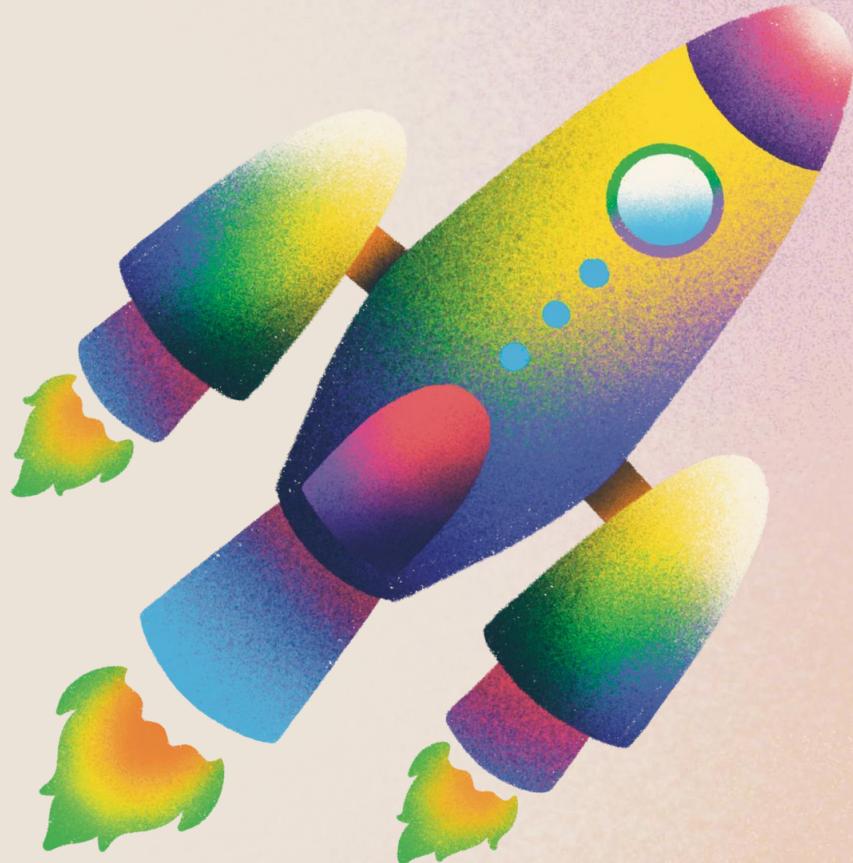
Social Aspect: Enjoys sharing gaming experiences on social media platforms. Participates in online gaming communities to discuss strategies and share discoveries.

Feedback Style: Offers constructive feedback on game mechanics, focusing on user-friendly interfaces.

Aspirations in game: Aims to complete the game's main story while fully exploring every nook and cranny of the game world.

Timeline(Sprint 0)

	A	B	C	D	E	F	G	H	I	J
1	Sprint 0 (Feb 1 - Feb 15)									
2	Name		Status	Priority	Estimation (Days)					
3	Brainstorm Idea		Done	High						3
4	Setup development foundational tools		Done	Medium						2
5	Establish Team Roles		Done	Low						3
6	Setup weekly meetings and feedbacks		Done	Medium						2
7	Work on deliverable 1		Done	High						4
8					Total					15
9										
10	Sprint 1 (Feb 15 - Feb 29)									
11	Name		Status	Priority	Estimation (Days)					
12	Brainstorming Level Design		Done	High						2
13	Drafting MVP		Done	High						6
14	Sound Design		Done	Low						2
15	Researching Different Gameplay Variations on Unity		Done	Medium						5
16				Total						15
17										
18	Sprint 2 (Feb 29 - Mar 21)									
19	Name		Status	Priority	Estimation (Days)					
20	Creating the Interface		Not Started Yet	High						3
21	Defining game objectives and implementation		Not Started Yet	Medium						3
22	Adding SFX to the Game		Not Started Yet	Low						3
23	Creating a playable Level		Not Started Yet	High						9
24	Researching Advanced Unity Tooling for multi platform games		Not Started Yet	Low						2
25				Total						20



Teamwork Agreement

Participation

Active participation and punctual attendance are crucial for team success. Team members should communicate in advance if they'll miss a meeting, allowing for adjustments. Catching up on missed topics before the next meeting is expected, fostering accountability and ensuring a productive team dynamic focused on project success.

Communication

The team will communicate via Slack and hold meetings on Zoom. Jira software will track tasks, and dependencies will be noted in task comments. Final deliverables will be shared and edited using GitHub, Slack, and Google Docs, promoting efficient collaboration and project success.

Work Division

The project will be divided equally among team members, with each responsible for timely completion. Delays affect overall team performance. Open communication is encouraged for members facing challenges, fostering a collaborative environment where issues are collectively addressed to meet deadlines successfully.



PROJECT DESCRIPTION

Unconventional Gameplay Mechanics

"The Great Escape" offers a radical departure from traditional game narratives. Set in a high school during a zombie apocalypse, the game intertwines survival tactics with a profound puzzle-solving narrative. Players are drawn into a world where each decision shapes the storyline, and every action has consequences, creating a deeply immersive experience.

Dynamic & Responsive World

The world of "The Great Escape" is built to be dynamic and responsive, adapting not only to player actions but also to the in-game time and character health. This dynamic difficulty ensures a tailored challenge to each player, making every playthrough unique.

Memory Retrieval Quests

A unique aspect of our protagonist's journey is the collection of artifacts necessary to recall their identity. These memory retrieval quests are integral to the narrative, leading to multiple endings based on the memories reclaimed and the paths chosen.



MINIMAL VIABLE PRODUCT (MVP)

Visual Aesthetics:

- **Detailed Pixel Art:** The cafeteria is a sample of the pixel art style, attention to detail, and thematic consistency across different map areas.
- **Environment Design:** Each location within the high school has unique visual elements that contribute to the atmosphere of the game.



Functional and Technical Elements:

- **Layering System:** Allows for dynamic interactions and depth within the 2D space.
- **Collision Detection:** Ensures characters interact realistically with the environment.
- **Scaling and Optimization:** Map is optimized for performance while allowing scalability for future expansions.
- **Navigation:** Players can move through the high school with clear pathfinding.
- **Interactivity:** Objects in the environment can be interacted with for survival gameplay.
- **Safe Zones:** Specific areas like the cafeteria provide temporary refuge from zombies.

PRODUCT BACKLOG

Projects / Great Escape

Backlog

		SPRINT 1	IN PROGRESS	SM	...
Backlog (11 issues)					
<input type="checkbox"/>	<input checked="" type="checkbox"/> KAN-9 Brainstorming Level Design		IN PROGRESS		
<input checked="" type="checkbox"/>	KAN-10 Drafting MVP	SPRINT 1	IN PROGRESS		
<input checked="" type="checkbox"/>	KAN-11 Sound Design	SPRINT 1	IN PROGRESS		
<input checked="" type="checkbox"/>	KAN-19 Creating the Interface	SPRINT 2	TO DO		
<input checked="" type="checkbox"/>	KAN-21 Adding SFX to the game	SPRINT 2	TO DO		
<input checked="" type="checkbox"/>	KAN-22 Researching Advanced Unity Tooling	SPRINT 2	IN PROGRESS		
<input checked="" type="checkbox"/>	KAN-23 Create Game Story based on High School Zombie apocalypse		TO DO		
<input checked="" type="checkbox"/>	KAN-24 Create engaging puzzles		TO DO		
<input checked="" type="checkbox"/>	KAN-25 Character Design for (Male and Female) Playable character		TO DO		
<input checked="" type="checkbox"/>	KAN-26 Integration of Artificial Intelligence in game design		TO DO		
<input checked="" type="checkbox"/>	KAN-27 Similar Games Research for inspiration	SPRINT 0	TO DO		

ACCEPTANCE CRITERIA & USER STORIES

Sr. No.	User Stories	Acceptance Criteria
1	As a player, I want to encounter environmental hazards that require puzzle-solving skills, So that I can progress in the game.	Scenario: Puzzles in-game area. Given environmental hazards that block the player's path, When the player examines the hazards and finds clues, Then the player can solve the puzzles and overcome the hazards.
2	As a player, I want to encounter NPCs with their own goals and agendas, So that the game world feels alive and reactive.	Scenario: Player interactions with NPCs (Non-Playable Characters) Given NPCs with dynamic behavior and goals, When the player interacts with these NPCs, Then the NPCs' actions and reactions affect the game world and the player's journey.
3	As a player, I want to encounter unique zombie types that require different strategies to defeat, so that the game remains challenging and engaging.	Scenario: The player encounters a zombie that explodes upon death, damaging nearby surroundings. Given the variety of zombie mutations in the game, When the player faces these unique zombies, Then the player must use caution and strategy to defeat them without causing additional harm.
4	As a player, I want to engage in crafting, so that I can create useful items and tools.	Scenario: A player encounters a puzzle and to solve that puzzle an item needs to be created from the crafting table to reach the next level. Given the availability of crafting materials, When the player accesses the crafting menu, Then the player can combine materials to craft items like weapons, tools, and consumables.

ACCEPTANCE CRITERIA & USER STORIES

5	<p>As a player, I want to encounter dynamic events that affect the game world, So that the game feels dynamic and unpredictable.</p>	<p>Scenario: A horde of zombies invades a previously safe area. Given the game's dynamic event system, When the player is in the affected area, Then the player must adapt to the new threat and find a way to survive.</p>
6	<p>As a player, I want to strategize my movements, So that I can avoid being overwhelmed by zombies.</p>	<p>Scenario: The player enters a room with multiple exits and zombies approaching. Given the player's current position and the zombie locations, When the player plans their route carefully, Then the player <u>successfully avoids</u> the zombies and reaches safety.</p>
7	<p>As a player, I want to uncover the history of the game world, So that I can understand the events leading up to the zombie outbreak.</p>	<p>Scenario: The player finds a series of old newspapers detailing a government cover-up. Given the player's exploration, When the player reads the newspapers, Then the player learns about the conspiracy behind the outbreak.</p>
8	<p>As a player, I want to encounter unique boss battles, So that I can test my skills against powerful foes.</p>	<p>Scenario: The player encounters a mutated zombie with enhanced abilities. Given the unique boss design, When the player engages in battle, Then the player must use strategy and quick reflexes to defeat the boss and progress in the game.</p>

ACCEPTANCE CRITERIA & USER STORIES

9	<p>As a player, I want to encounter unique landmarks and locations, So that the game world feels rich and diverse.</p>	<p>Scenario: High School Location Given the presence of a variety of locations within the game world, including a high school. When the player explores the high school location. Then the high school should have its own distinct story, perhaps related to survivors who sought refuge or a pivotal event that unfolded during the zombie apocalypse. And Then the location should present specific challenges, such as navigating dark and narrow hallways, solving puzzles related to the school's layout, or encountering unique zombie types that might be tied to the school setting. And Then the high school should offer rewards upon successful exploration, such as valuable resources, clues to progress in the main storyline, or potential new survivors to recruit. And Then the environment within the high school should reflect its narrative, showcasing elements like makeshift barricades, survivor notes, or remnants of previous events that contribute to the overall immersion.</p>
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Timeline:

Projects / Kanban

Timeline

Q SM YV Z H AP KC +2 Status category Epic

		FEB	
▼ KAN-1 Sprint 0	KAN-4 Brainstorming Idea	DONE	
	KAN-5 Development Foundational Tooling	DONE	
	KAN-6 Establish Team Roles	DONE	
	KAN-7 Setup Weekly Meetings and Feedback	DONE	
▼ KAN-2 Sprint 1	KAN-8 Brainstorming Level Design	DONE	
	KAN-9 Drafting MVP	IN PROGRESS	YV
	KAN-10 Sound Design	IN PROGRESS	SM
	KAN-11 Stories Planned	IN PROGRESS	L
	KAN-12 Architecture Diagrams	DONE	KC
	KAN-13 User Stories	DONE	AP
	KAN-19 Metrics	IN PROGRESS	H
	KAN-15 Project Demo	TO DO	Z
	KAN-14 Project Demo	TO DO	YV
	KAN-22 Creating Timeline	TO DO	SM
	KAN-23 Creating Backlog	TO DO	SM



Backlog

11 issues

6 2 0

Backlog (8 issues)			
<input checked="" type="checkbox"/> KAN-20 Researching Advanced Unity Tooling	SPRINT 2	TO DO ▾	
<input checked="" type="checkbox"/> KAN-19 Metrics	SPRINT 1	IN PROGRESS ▾	
<input checked="" type="checkbox"/> KAN-15 Project Demo	SPRINT 1	TO DO ▾	
<input checked="" type="checkbox"/> KAN-18 Adding SFX to the game	SPRINT 2	TO DO ▾	
<input checked="" type="checkbox"/> KAN-14 Project Demo	SPRINT 1	TO DO ▾	
<input checked="" type="checkbox"/> KAN-16 Creating the Interface	SPRINT 2	IN PROGRESS ▾	
<input checked="" type="checkbox"/> KAN-22 Creating Timeline	SPRINT 1	TO DO ▾	
<input checked="" type="checkbox"/> KAN-23 Creating Backlog	SPRINT 1	TO DO ▾	

+ Create issue





SPRINT 2 SCHEDULE

KAN-3 Sprint 2					
<input checked="" type="checkbox"/>	KAN-20 Researching Advanced Unity Tooling	TO DO			
<input checked="" type="checkbox"/>	KAN-18 Adding SFX to the game	TO DO			
<input checked="" type="checkbox"/>	KAN-16 Creating the Interface	IN PROGRESS			
<input checked="" type="checkbox"/>	KAN-17 Defining Game Objectives	TO DO			

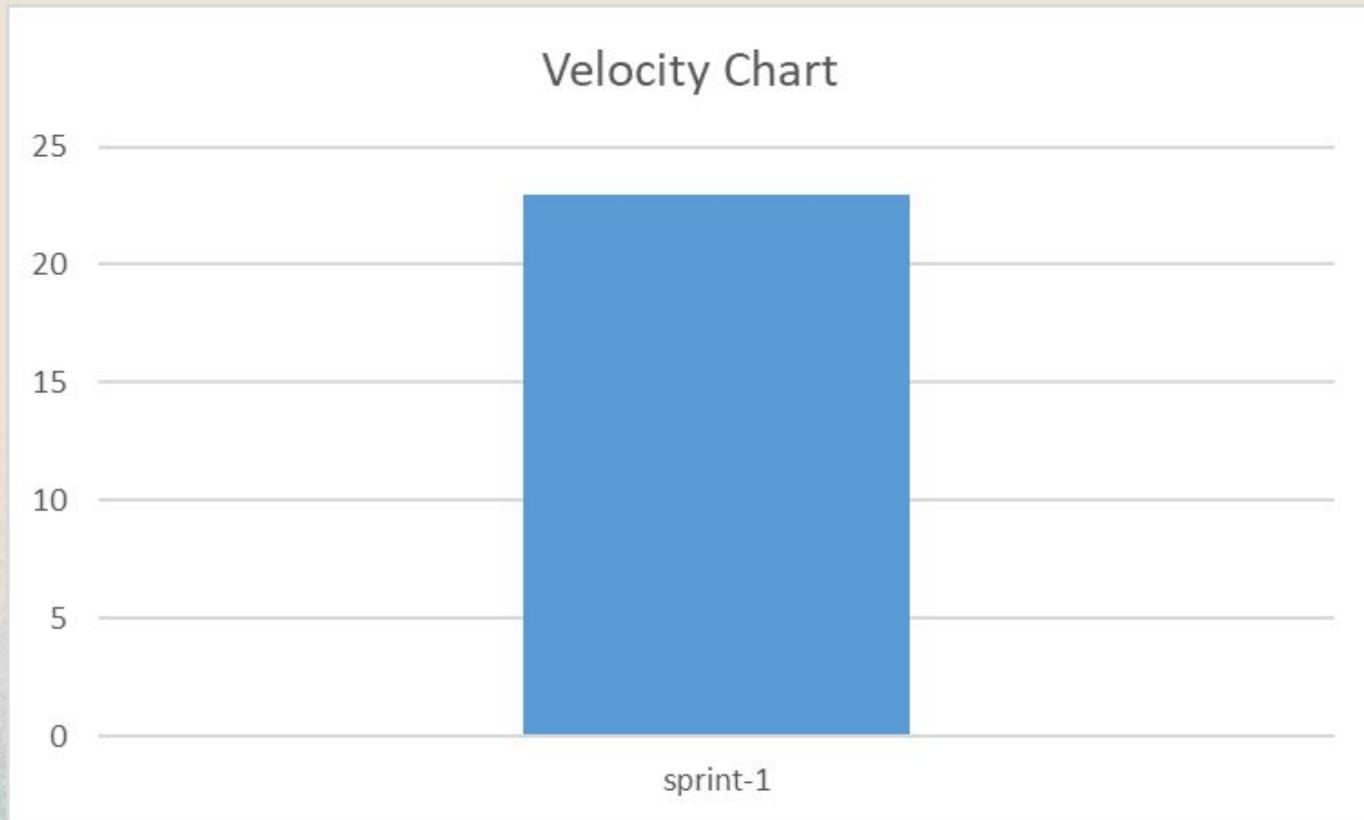


METRICS

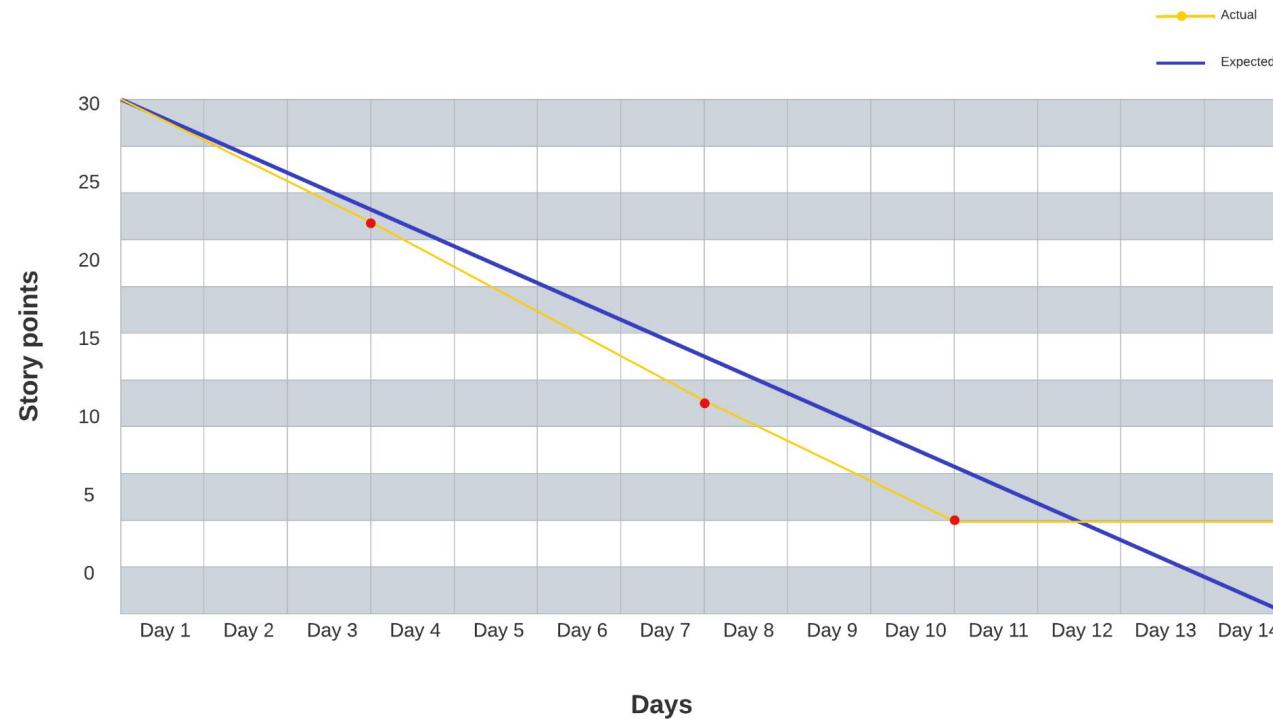




Team Velocity



Burndown Chart





Completed/Committed Ratio

Committed Story points = 28

Completed Story points = 23

Our Completed to Committed ratio is **82.14%**



RETROSPECTIVE

★ What helped us move forward

- **Effective Communication:** Through communication, each member has a good understanding of the Sprint's own tasks.
- **Technology Planning:** We still need to learn more about the Unity game engine that we will be using to complete the development of the combat system and HP system in future Sprints.
- **Collaborative Teamwork:** By working together seamlessly, we successfully gathered project requirements in a timely manner.



RETROSPECTIVE

★ What held us back

- **Inconsistent Group Chat Monitoring:** Some team members encountered delays in staying updated with important communications. This led to occasional lapses in information dissemination and coordination.
- **Participation Levels Need Improvement:** While teamwork is a cornerstone of our collaboration, there's room for enhancement in terms of team participation.



RETROSPECTIVE

★ What we will improve

- **Slack Implementation:** Recognizing the limitations of communication via WhatsApp group chat, we will transition towards utilizing Slack workspace as our primary communication platform.
- **Time Tracking and Meeting:** To optimize team meetings and ensure effective utilization of available time, we will implement a system for tracking each member's availability.
- **Task Assignment:** Prior to the commencement of each sprint, we will implement a proactive approach to task allocation. Assigning specific responsibilities to each team member and setting clear deadlines for completion.



NEXT SPRINT

▼ Board (1 of 11 issues visible)

- KAN-17 Defining Game Objectives

SPRINT 2

+ Create issue



▼ Backlog (3 of 6 issues visible)

- KAN-20 Researching Advanced Unity Tooling

SPRINT 2

- KAN-18 Adding SFX to the game

SPRINT 2

- KAN-16 Creating the Interface

SPRINT 2

+ Create issue

NEXT SPRINT

3 Open 0 Closed

Author ▾

Label ▾

Projects ▾

- As a player, I want to uncover the history of the game world, So that I can understand the events leading up to the zombie outbreak. User Story

#9 opened 18 minutes ago by lialazyoaf
- As a player, I want to encounter NPCs with their own goals and agendas, So that the game world feels alive and reactive. User Story

#4 opened 30 minutes ago by lialazyoaf
- As a player, I want to encounter environmental hazards that require puzzle-solving skills, So that I can progress in the game. User Story

#3 opened 31 minutes ago by lialazyoaf



GitHub



PROJECT DEMO



```
using System.Collections;
using System.Linq;
using UnityEngine;

public class PlayerController : MonoBehaviour
{
    Rigidbody2D rb;
    float speed = 4.0f;

    // Start is called before the first frame update
    void Start()
    {
        rb = GetComponent();
        rb = GetComponent<Rigidbody2D>();
    }

    // Update is called once per frame
    void Update()
    {
        //Move
        if (Input.GetKey(KeyCode.W))
        {
            rb.velocity = new Vector2(0, speed);
            anim.SetBool("Up", true);
        }
        else if (Input.GetKey(KeyCode.S))
        {
            rb.velocity = new Vector2(0, -speed);
            anim.SetBool("Down", true);
        }
        else if (Input.GetKey(KeyCode.A))
        {
            rb.velocity = new Vector2(-speed, 0);
            anim.SetBool("Left", true);
        }
        else if (Input.GetKey(KeyCode.D))
        {
            rb.velocity = new Vector2(speed, 0);
            anim.SetBool("Right", true);
        }
    }
}
```

THANK YOU

