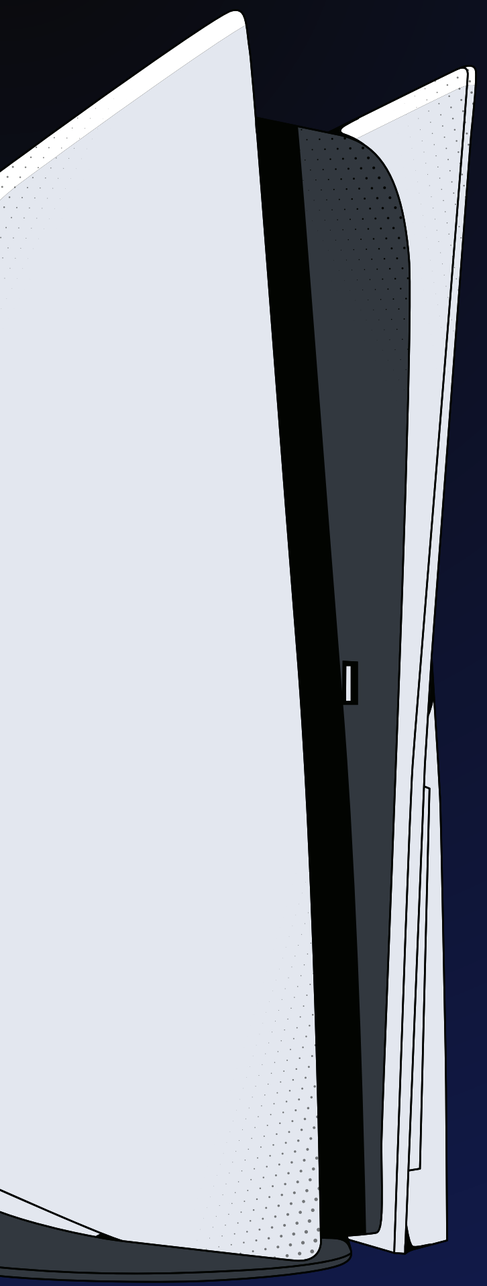


PLAYSTATION POST-GAME RECOMMENDATION ENHANCEMENTS

FINAL PROJECT PRESENTATION

By Amrit Kaur Klair (ID 21106395) & Karen Yao (ID 20860523)

Instructor Tabatha Dominguez
December 8, 2024

DEI 623 - Digital Media Solutions 2: Project Management | University of Waterloo
Stratford School of Interaction Design and Business
Master of Digital Experience Innovation (MDEI)

INTRODUCTION

CONTEXT & PROBLEM STATEMENT

PlayStation, a leading global gaming platform by Sony Interactive Entertainment, offers diverse games and services. However, its recommendation system underutilizes gameplay data, missing revenue opportunities. Personalized recommendations can increase user engagement by 40% and significantly boost sales (Source: GameDaily).

One key gap in game recommendations arises after players complete a game. After players complete a game, they currently receive limited or irrelevant suggestions, leading to frustration and decreased retention.

How might we improve the game discovery experience for PlayStation users after completing a game?

KEY GOALS

Improve Player Engagement
Provide tailored recommendations based on gameplay data to enhance user satisfaction and encourage continued interaction with the platform.

Boost Revenue
Drive game sales through relevant recommendations that align with players' interests.

Enhance User Experience
Offer seamless, post-game suggestions that integrate naturally into the gaming flow, keeping players excited and entertained.

INTENDED OUTCOMES

- Players enjoy a seamless transition to new games, improving user experience and satisfaction.
- PlayStation experiences higher click-through rates on recommendations, indicating better engagement.
- Reports and tracking provide valuable insights into user behavior, supporting continuous improvement of the recommendation system.
- Game developers gain increased visibility for their titles, fostering partnership opportunities with PlayStation and motivating the creation of diverse games.

PROJECT OVERVIEW

Our project focused on delivering an **Improved Post-Game User Interface** as the primary outcome for the sprint. The goal was to create a streamlined UI that showcased game recommendations immediately after players completed a game.

The interface was designed with inspiration from successful content presentation models, such as Netflix, to highlight similar titles. Key factors, including genre, gameplay style, and player reviews, were incorporated to ensure personalized and relevant game suggestions tailored to individual preferences.

The project spanned 4 weeks, divided into two 2-week sprints: the first focused on the initial output, while the second concentrated on revisions and refinements based on feedback.

TEAM MEMBERS

Amrit Kaur Klair
Project Owner

Karla Renic
Backend Developer

Karen Sue Ann Yao
Scrum Master

Rachel Han
Frontend Developer

RESEARCH & INSIGHTS

Understanding the Business Issue
PlayStation's current recommendation system can be improved with gameplay data. Its current gaps leads to missed opportunities for player engagement and sales.

User Needs & Momentum
Players can get discouraged with irrelevant or sparse recommendations after completing a game. Research shows personalized recommendations can increase engagement by up to 40%.

Inspiration
We looked at how Netflix suggests shows after you finish watching. The idea is to use "post-game" moments (like credits) to present personalized recommendations.

What We're Leveraging
Game data (genre, price, reviews, etc.) already exists in PlayStation's ecosystem, so we can tap into that for a simple but effective recommendation engine.

SCOPE & METHODOLOGY

We employed Agile methodology, leveraging Microsoft Teams for task coordination and communication. **The sprint focused on building foundational logic for a Minimum Viable Product (MVP)**, enabling iterative development and refinement based on user feedback. This approach emphasized foundational development, laying the groundwork for future enhancements.

PROJECT TIMELINE

PLANNING

SPRINT GOAL

Launch an MVP for post-game recommendations that appear immediately after a player finishes a game.

Focus
Build a basic but engaging system that can grow with user feedback and data over time.

SELECTED USER STORIES

As Sony (internal stakeholder), I want an algorithm for post-game recommendations, so that we have an organized dataset that is easily accessible and streamlined for efficient retrieval of game suggestions.

As Sony (internal stakeholder), I want a tracker that logs user actions related to post-game recommendations, so that we can analyze how many users save games based on these recommendations.

As Gaby the Gamer, I want a list of game recommendations on the credits screen of this game that I just finished, so that I can keep the excitement going and easily discover similar games to play next.

SPECIFYING THE ACCEPTANCE CRITERIA

Collection and Organization of Game Data

- Algorithm categorizes games by genre, price, gameplay, player preferences, and reviews.
- Recommendations are at least 80% relevant based on user history.
- Recommendations are displayed within 2 seconds.

Tracking User Actions

- Tracks user interactions with recommendations (clicks, saves, adds to cart).
- Data is accessible within 24 hours, anonymized, and compliant with data privacy regulations (GDPR, CCPA).

Post-Game Screen Recommendations

- Game recommendations display alongside the credits within 10 seconds of game completion.
- The UI is consistent with PlayStation branding, showing relevant recommendations with the ability to "Learn More."
- Video plays in the background, with relevant game details shown in the UI.

PROJECT TIMELINE

DEVELOPMENT

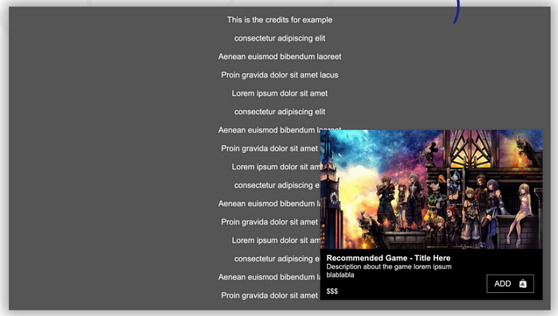
SPRINT 1

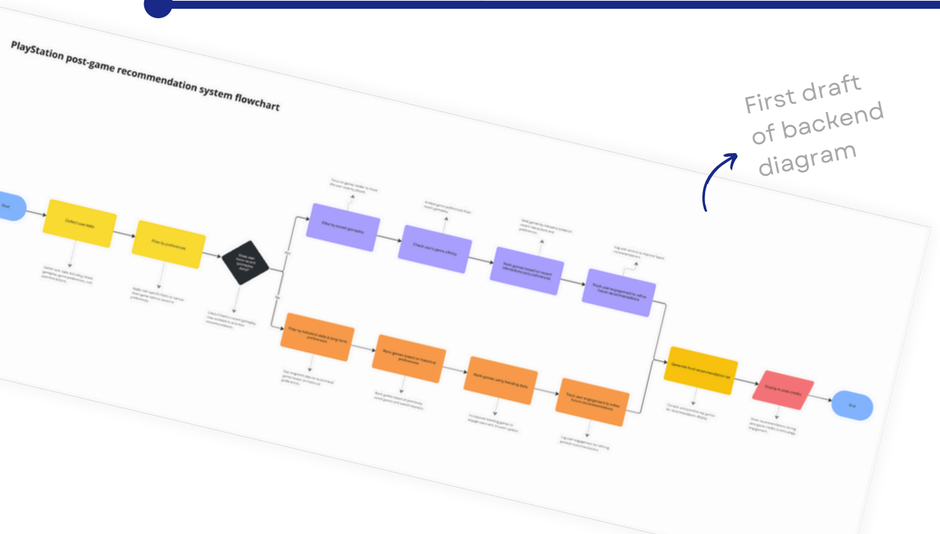
Oct 28, 2024 to Nov 8, 2024
10-day sprint

WEEK 1

- **FRONTEND:** Designed wireframes for a post-game recommendation interface (dual-pane view). Chose React for flexibility.
- **BACKEND:** Set up initial algorithm and data tracking for user engagement (clicks, saves).

Rough UI mock up





First draft of backend diagram

WEEK 2

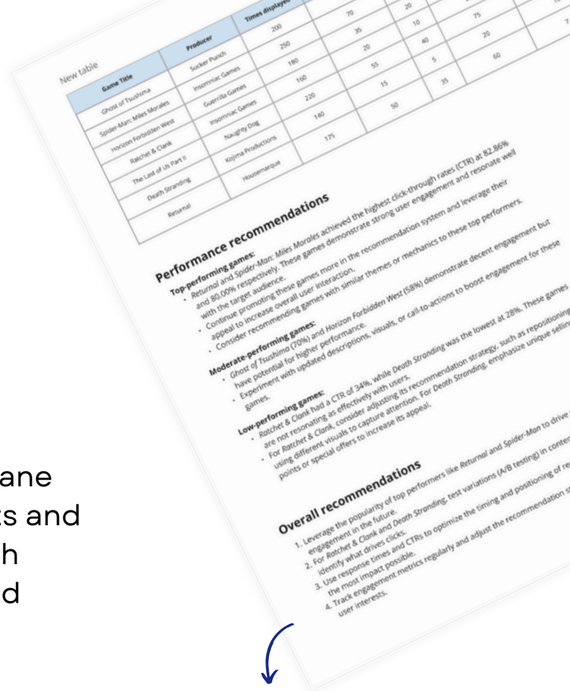
- **FRONTEND:** Refined wireframes and interaction flow. Integrated end-to-end testing with feedback from the product owner.
- **BACKEND:** Optimized data endpoints for user action tracking, prepping for UI integration.

SPRINT 2

Nov 11, 2024 to Nov 22, 2024
10-day sprint

WEEK 3

- **FRONTEND:** Improved dual-pane view with new visual elements and animations. Collaborated with backend to integrate updated metrics.
- **BACKEND:** Enhanced recommendation algorithm and interaction tracking for smoother data flow and faster, more accurate recommendations.



Sample data report from tracking

WEEK 4

- **FRONTEND:** Lorem ipsum summary of stuff Rachel did for Week 4.
- **BACKEND:** Lorem ipsum summary of stuff Karla did for Week 4.

PROJECT TIMELINE

OUTCOMES & IMPACT

DEFINITION OF DONE AS A GUIDE

Acceptance Criteria Met
All technical requirements are fulfilled (data categorization, UI display, tracking).

Quality Assurance
Thoroughly tested (unit, integration, and usability tests) and performance meets benchmarks (recommendations within 2 seconds).

Privacy & Data Compliant
Adheres to data privacy regulations (GDPR, CCPA).

Documentation
Updated documentation for backend, UI, and future updates.

Code Review & Approval
Code reviewed, approved, and demonstrated to stakeholders.

DELIVERABLES REVIEW

Diagram of the Backend Algorithm
Recommends games based on player's preferences and gameplay data.

Sample Report for a Tracking System
Logs user actions like clicks, saves, and adds to cart for recommendations.

Post-Game Recommendation UI MVP
Personalized game suggestions displayed after game completion and integrated UI showing recommendations with the "Learn More" option.

TEAM FEEDBACK

Our team also suggested expanding the recommendation feature to other areas (e.g., homepage, email notifications) and feedback on the relevance and seamless integration of recommendations from the team.

SPRINT RETRO MEETING SUMMARY

=The team noted strong collaboration and communication as key strengths, which helped complete all planned deliverables. Areas for improvement included better task estimation and more time for testing to enhance quality

ACTIONABLE ITEMS

Discussed during Sprint Retro

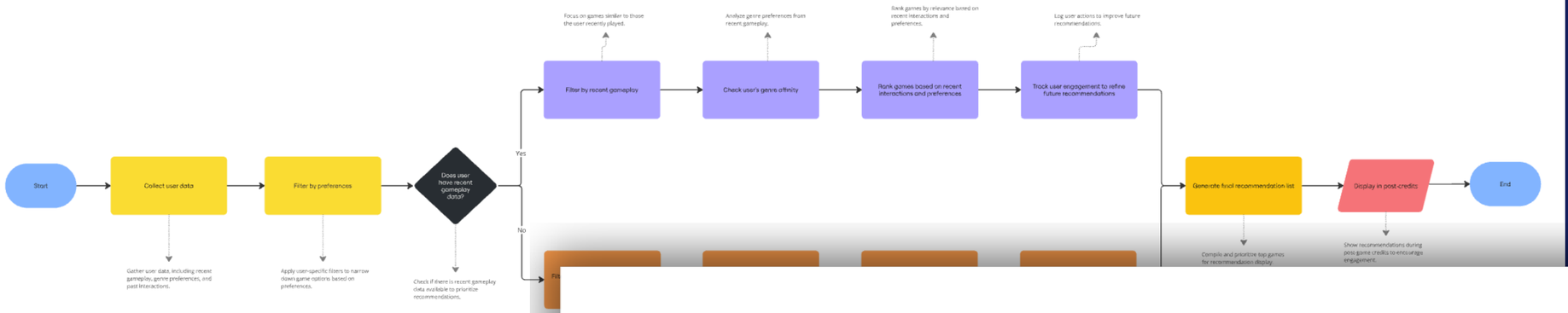
Gather Player Feedback
Early feedback indicates players appreciate the personalized recommendations. Some requests for more detailed game previews (e.g., trailers, deeper descriptions).

Iterate on Recommendations
Refine the algorithm to incorporate more personalized factors like playtime, social connections, and more.

UI Enhancements
Add more features to the UI, like trailers or gameplay snippets, to enrich the post-game experience.

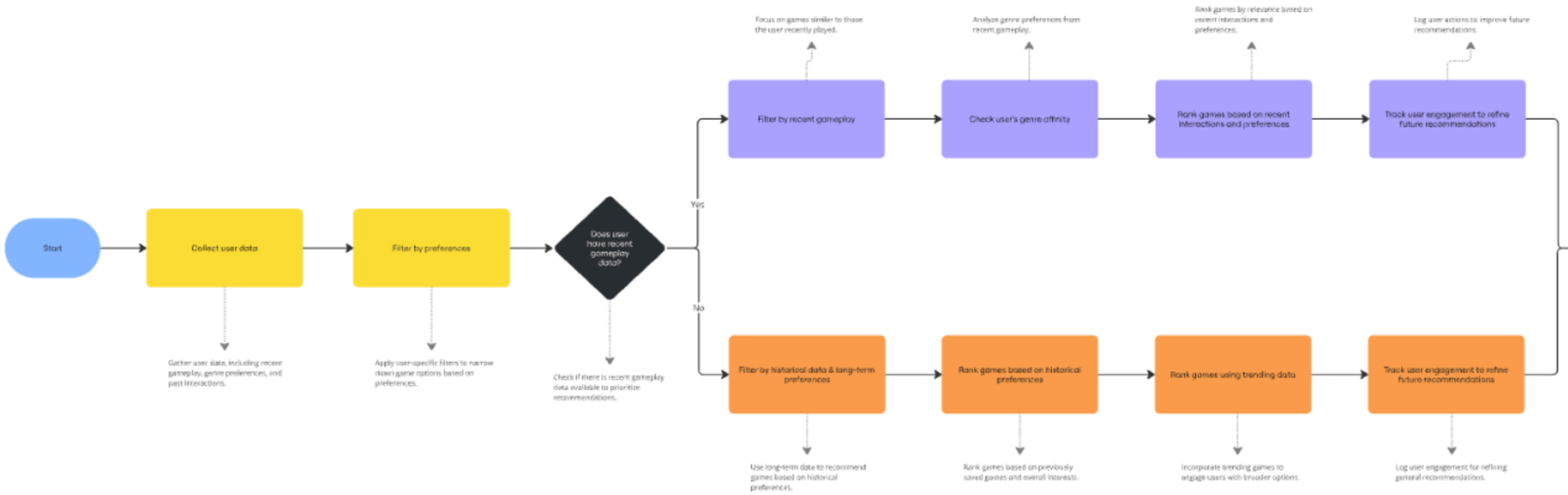
Broader Rollout
Expand the feature to other areas of the platform like the homepage or email notifications.

PlayStation post-game recommendation system flowchart



Backend Explained

PlayStation post-game recommendation system flowchart



New table

Game Title	Producer	Times displayed	Add to cart clicks	Saves	Learn more
Ghost of Tsushima	Sucker Punch	200	45	30	65
Spider-Man: Miles Morales	Insomniac Games	250	70	50	80
Horizon Forbidden West	Guerrilla Games	180	35	20	50
Ratchet & Clank	Insomniac Games	160	20	10	25
The Last of Us Part II	Naughty Dog	220	55	40	75
Death Stranding	Kojima Productions	140	15	5	20
Returnal	Housemarque	175	50	35	60

Performance recommendations

Top-performing games:

- *Returnal* and *Spider-Man: Miles Morales* achieved the highest click-through rates (CTR) at 82.86% and 80.00% respectively. These games demonstrate strong user engagement and resonate well with the target audience.
- Continue promoting these games more in the recommendation system and leverage their appeal to increase overall user interaction.
- Consider recommending games with similar themes or mechanics to these top performers.

Moderate-performing games:

- *Ghost of Tsushima* (70%) and *Horizon Forbidden West* (58%) demonstrate decent engagement but have potential for higher performance.
- Experiment with updated descriptions, visuals, or call-to-actions to boost engagement for these games.

Low-performing games:

- *Ratchet & Clank* had a CTR of 34%, while *Death Stranding* was the lowest at 28%. These games are not resonating as effectively with users.
- For *Ratchet & Clank*, consider adjusting its recommendation strategy, such as repositioning or using different visuals to capture attention. For *Death Stranding*, emphasize unique selling points or special offers to increase its appeal.

Overall recommendations

1. Leverage the popularity of top performers like *Returnal* and *Spider-Man* to drive more engagement in the future.
2. For *Ratchet & Clank* and *Death Stranding*, test variations (A/B testing) in content presentation to identify what drives clicks.
3. Use response times and CTRs to optimize the timing and positioning of recommendations to get the most impact possible.
4. Track engagement metrics regularly and adjust the recommendation strategy based on evolving user interests.

New table

Game Title	Producer	Times displayed	Add to cart clicks	Saves	Learn more clicks	Response time (s)	CTR (%)
Ghost of Tsushima	Sucker Punch	200	45	30	65	8	70.00
Spider-Man: Miles Morales	Insomniac Games	250	70	50	80	6	80.00
Horizon Forbidden West	Guerrilla Games	180	35	20	50	12	58.33
Ratchet & Clank	Insomniac Games	160	20	10	25	10	34.38
The Last of Us Part II	Naughty Dog	220	55	40	75	9	77.27
Death Stranding	Kojima Productions	140	15	5	20	18	28.57
Returnal	Housemarque	175	50	35	60	7	82.86

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Tracking Reports

1st Mock up

This is the credits for example

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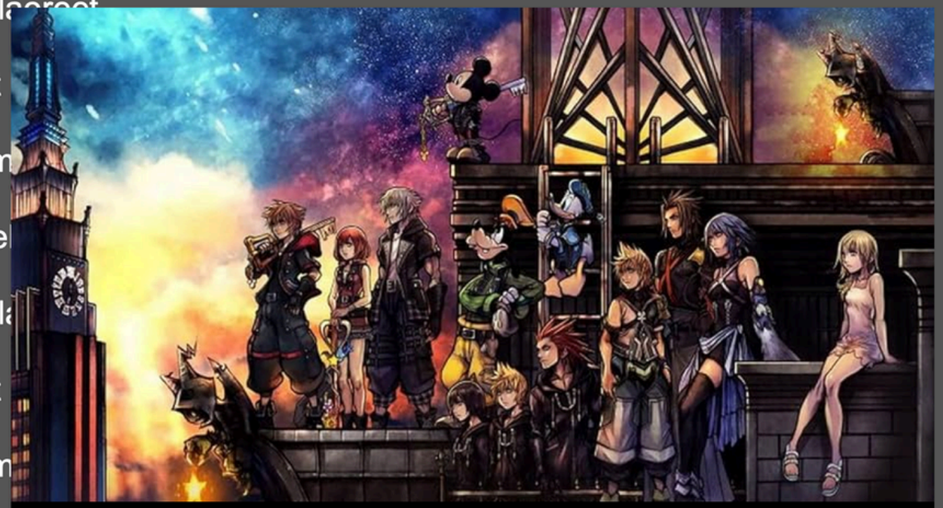
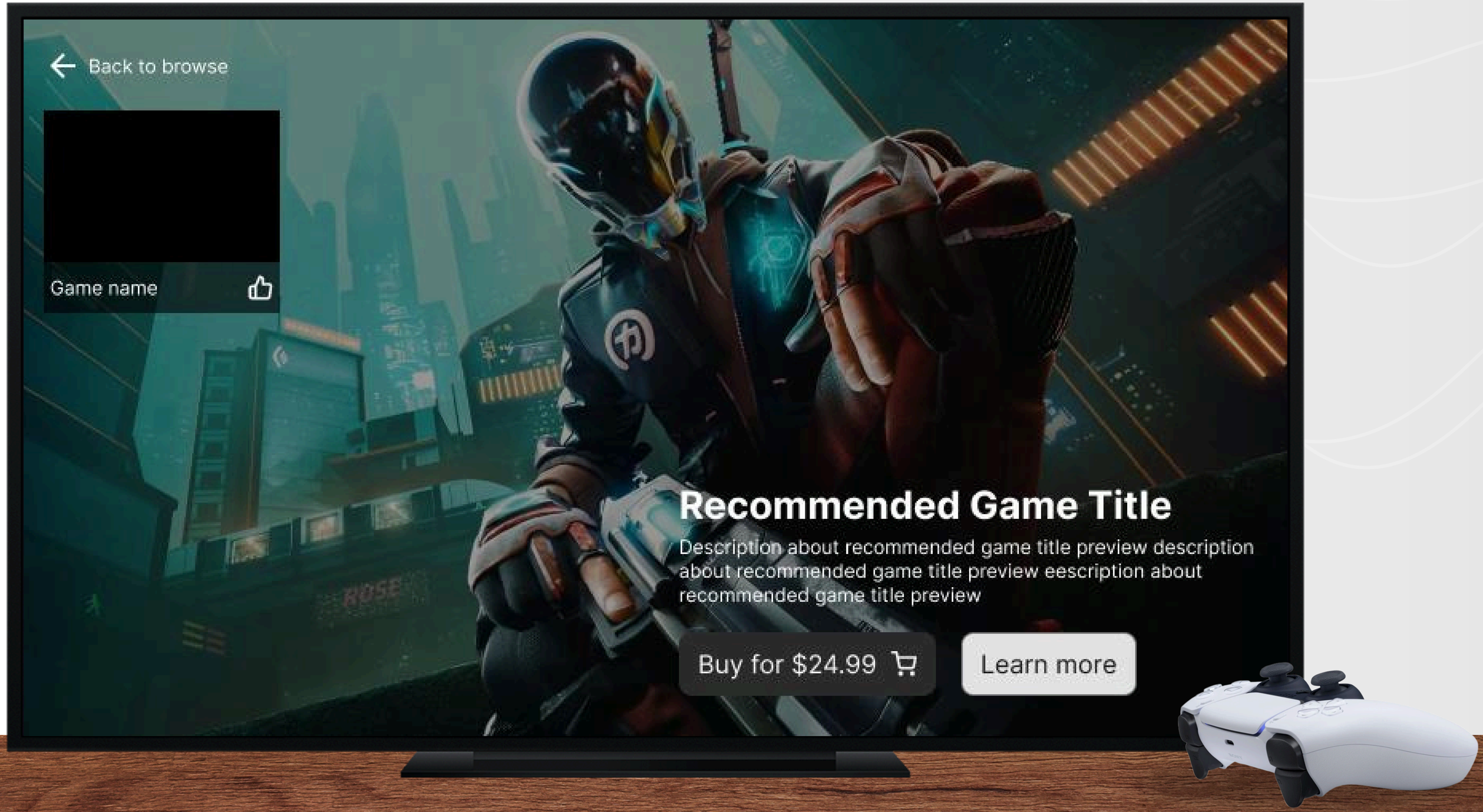


Recommended Game - Title Here
Description about the game lorem ipsum blablabla

$$$

ADD


Back to browse
Game name
Recommended Game Title
Description about recommended game title preview description about recommended game title preview eescription about recommended game title preview
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ASSUMPTIONS & LIMITATIONS

ASSUMPTIONS

Library Assumption
Library Assumption: PlayStation's library of 4,000+ games provides a sufficient variety of titles to align with player preferences for personalized recommendations.

Tech Feasibility
PlayStation's current game data (genre, gameplay style, etc.) is enough to create relevant recommendations for a first iteration.

Time Constraints
With a 2-week sprint, we can focus on building a functional, lightweight version of the feature.

Team Size
The project will be completed with a small team of two developers, which assumes that the workload can be effectively managed within the sprint timeframe and resource limitations.

LIMITATIONS

Redundant Recommendations
There is a risk that the recommendation system may suggest the same or similar games, especially for players who have already explored a broad range of titles.

Immature Fallback System
The current system lacks a robust fallback mechanism for when recommendations fail, meaning users may receive irrelevant or empty suggestions.

Niche Games
Games with low ratings or niche appeal may not fit well into the recommendation system, potentially affecting the accuracy and relevance of suggestions.

Data Gaps
Missing or incomplete game metadata may affect the quality and precision of the recommendations.

IMPACT

The limitations primarily affect the quality and relevance of the recommendations in the MVP phase. **As the current system is basic**, there is a likelihood of redundant suggestions, overlooked niche games, or the absence of fallback options when needed.

Additionally, **the lack of A/B testing for the UI** will limit our ability to refine and improve the design based on real user feedback.

This means the **recommendations may not always meet user expectations**, and **the UI may not be fully optimized for user engagement**.

Further refinement, including the development of fallback mechanisms, better handling of niche content, and user testing to inform design improvements, will be crucial for enhancing the system's performance and user experience in future iterations.

FEEDBACK IMPACT

“...There could be limitations beyond algorithms issues such as lack of programmers to create a variety of games etc. Moving forward you will have to assume that the product inventory available would be sufficient to satisfy any users preferences for the purpose of this project. “

Assignment 1 Part A Instructor Feedback

The feedback **emphasized the importance of assuming a sufficient product inventory for the project’s scope**. This prompted us to not only focus on PlayStation's game library but also consider the player's gaming history and behavior. We realized that understanding past interactions is crucial for delivering more personalized recommendations that align with individual preferences.

“Stakeholders and benefits are clearly laid out however you should consider how these groups interactions would likely shift motivations and behaviours of some of the stakeholder groups. For example, would game developers be more productive seeing the results of their games being adopted etc.”

Assignment 1 Part A Instructor Feedback

This feedback made us **consider the broader business opportunities** the recommendation feature could unlock, such as paid placements. Additionally, the data derived from user engagement not only benefits PlayStation but can also provide valuable insights to game developers, helping them understand adoption trends and optimize their offerings.

“...A story point of one should be an easy to implement clear item and a three would be relative. For the story point here that is three (your smallest), there are quite a number of parts that could be broken down further. For example, the "tracker logging user actions" could be interpreted several different ways...”

Assignment 1 Part B Instructor Feedback

This feedback emphasized the **importance of breaking down tasks and definition of deliverables more clearly**. It highlighted the need for well-defined user stories, ensuring that each task is straightforward and manageable, which ultimately helps with better estimation, workload assignment, and execution during development.

PROJECT CHALLENGES & SOLUTIONS

CHALLENGES	INTERIM SOLUTIONS	WHAT TO DO NEXT TIME
Time Zone Differences Delays in updates and feedback occurred as team members worked across different time zones, making real-time communication challenging and slowing progress on certain tasks.	Transparency and consistent communication through Teams ensured everyone stayed informed despite delays.	Utilize scheduling tools and shared calendars to coordinate updates and improve alignment across time zones.
Workload Imbalance Unequal distribution of tasks based on expertise. The backend developer was assigned more story points and complex criteria, resulting in a heavier workload compared to the frontend developer.	Provided better support to the backend developer to manage the heavier workload, as transitioning tasks mid-sprint wasn't feasible.	Reassess task allocation and story pointing to ensure workloads are balanced and tasks are aligned with expertise.
Lack of Detailed Task Breakdown in Early Stages Early on, some tasks were not sufficiently broken down, leading to confusion and inefficiencies in the team's execution.	Encouraged more communication and spelled out specifics during the sprint to reduce confusion and improve execution.	Implement more thorough upfront planning by breaking tasks into smaller, manageable steps with clear deliverables.
Inconsistent Use of Collaboration & Project Management Tools We didn't fully leverage project management tools like Asana or Trello, and there was inconsistency in using collaboration tools, leading to missed updates and unclear task ownership.	Relied on Teams for communication, though backtracking and progress checking remained a struggle.	Enforce stricter adherence to project management tools like Asana or Trello, and introduce templated tickets to simplify task creation and tracking.

KEY LESSONS LEARNED

THE IMPORTANCE OF CLEAR COMMUNICATION AND COLLABORATION

Even with a small team, clear and consistent communication was crucial. Our daily scrum meetings, quick chats, and collaborative problem-solving were essential for staying aligned and addressing challenges quickly. This project underscored how effective communication fosters a shared understanding and drives efficient progress.

What Worked Well
Clear, consistent communication kept the team aligned. Having worked together in the past also facilitated smoother communication and stronger teamwork.

Room for Improvement
More proactive discussions could have prevented issues from arising. Future projects could benefit from additional structured check-ins to ensure timely resolution of challenges.

THE VALUE OF A WELL-DEFINED DEFINITION OF DONE

Having a comprehensive Definition of Done helped us maintain a high level of quality and avoid overlooking critical aspects of development. It ensured we considered not just the code, but also testing, documentation, and stakeholder approval. Moving forward, we'll continue to emphasize the importance of a clear Definition of Done in all my projects.

What Worked Well
The clarity of a comprehensive yet Definition of Done—code, documentation, and stakeholder approval—helped keep the team aligned on expectations and priorities.

Room for Improvement
Incorporating more flexibility for iterative, ongoing feedback and user testing earlier in the process would improve the final product and evolve requirements.

THE NEED FOR FLEXIBILITY AND ADAPTATION

There is a call to remain flexible and adapt to unexpected challenges or feedback. Our initial estimations required adjustments, and user feedback highlighted areas we hadn't initially considered. This experience reinforced the value of iterative development and the importance of incorporating feedback loops to ensure we're meeting user needs effectively.

What Worked Well
Iterative development process helped us stay responsive, aligned with expectations and reach an MVP feature.

Room for Improvement
Factoring in more potential challenges upfront. Early user feedback could have been integrated sooner, allowing us to better anticipate adjustments and avoid last-minute changes.

REFLECTIONS & MUST DO'S IN FUTURE PROJECTS

CONSISTENCY WITH TEAM DYNAMICS

Maintaining flexibility with team members is essential. It's important to understand their individual needs, provide support when necessary, and gauge when to step in without being overbearing. Leading with empathy and adaptability ensures a smooth workflow and encourages teams to perform at their best.

FOSTERING TEAM AGILITY

The team needs to remain agile in both thought and execution. This means being able to pivot quickly when new challenges arise, adjusting to feedback, and iterating efficiently.

CLEAR FOCUS ON USER NEEDS

When refining the product backlog, keep the "How Might We" (HMW) statement and user needs at the forefront. Focus on delivering the quickest and most effective solutions to meet user expectations and strategic objectives.

Product Backlog available at Sprint Plan Document.

DEDICATED SPRINT RETROS AND SCRUM MEETINGS

Hold dedicated meetings to reflect on the process, identify areas of improvement, and discuss what went well. This helps with continuous process optimization and ensures that lessons learned are incorporated into future sprints.

CONSISTENT TRACKING OF METRICS

Track metrics, such as velocity, consistently across sprints to establish better benchmarks for future planning. By regularly monitoring the these team metrics, we can improve the accuracy of our sprint estimations and better align our efforts with the project goals.

IMPORTANCE OF FEEDBACK & SPRINT REVIEWS

Sprint reviews should emphasize gathering feedback from stakeholders and target audiences (such as paying customers). This feedback is crucial for validating the direction of the project, ensuring that the product aligns with user needs.

THANKS FOR LISTENING!

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