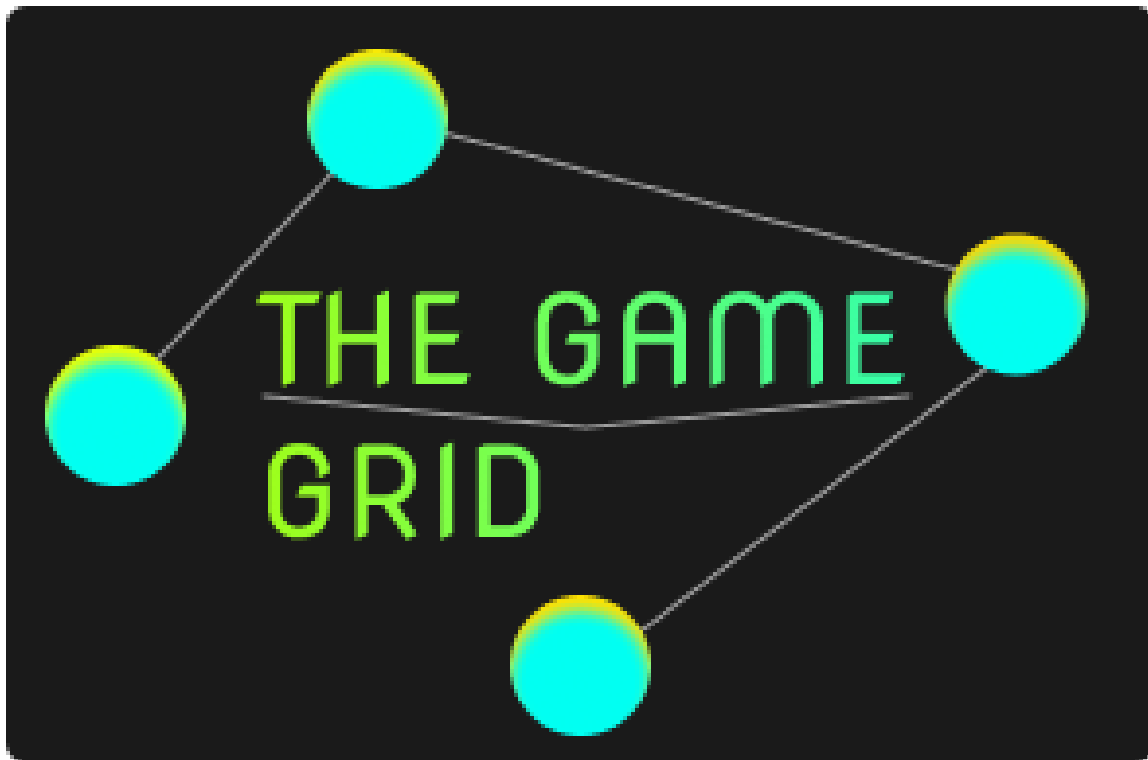**Project Proposal: THE GAME GRID**

David Golding 200238

Open Window, School of Fundamentals

Interactive Development 200

Tsungai Katsuri

B) Client Conceptualisation & Problem Statement

The GAME GRID is a web-based platform designed as a dedicated social hub for gamers. It operates in the gaming domain, providing a centralized space for players to discover games, engage in official communities, and stay updated with news.

The core problem is the fragmentation of gaming communities, where players struggle to find a unified place for personalized game exploration and interaction. This leads to disjointed experiences across multiple sites. The app solves this by integrating APIs for game data and news, while using a database for user content.

This solution is necessary to foster community engagement and reduce digital isolation in gaming. Constraints include API rate limits, which will be mitigated through caching, and potential hosting limits on AWS Free Tier.

Branding: The name THE GAME GRID evokes a connected network for gamers. The logo features a grid motif with a controller, keeping it simple and gaming-themed.

C) System Architecture

High-Level Design: The app uses a client-server model with React for the frontend, Node.js
with Express for the backend, and MySQL for the database. The frontend communicates
with the backend via RESTful APIs. The backend integrates the RAWG API for game
metadata, Steam API for public achievements, and NewsData.io for filtered gaming news.
The entire system is hosted on AWS Free Tier.
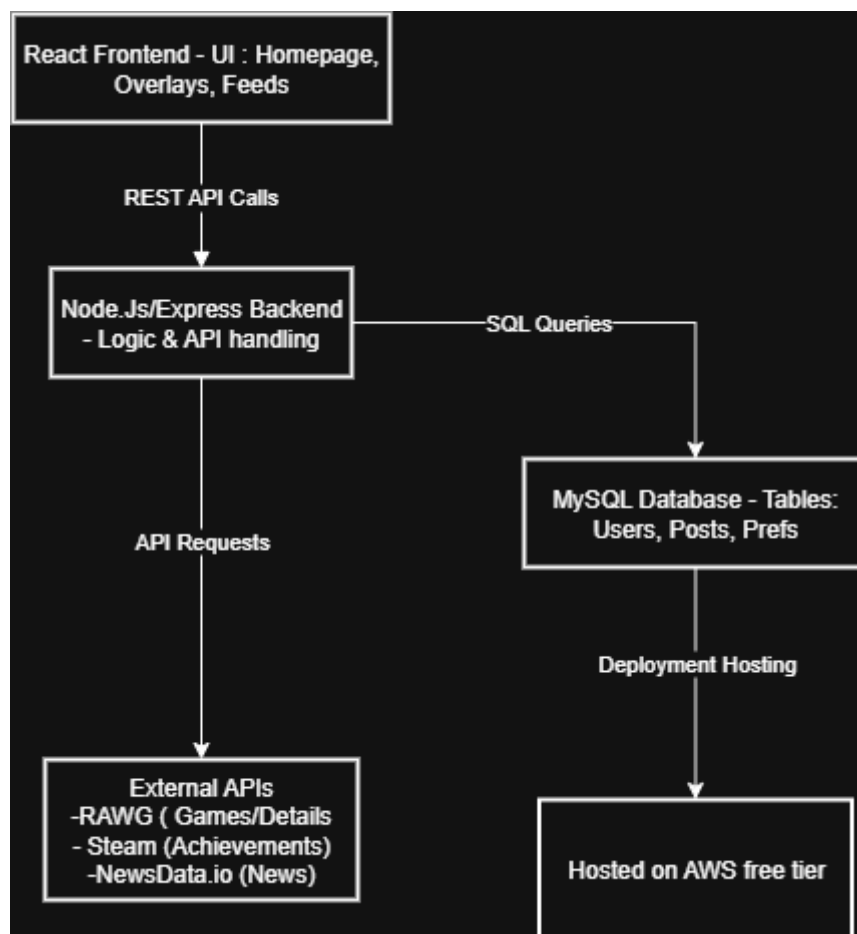
Technology Justification: React provides a dynamic UI for overlays and feeds. Node.js with
Express handles API calls efficiently. MySQL offers reliable storage for user data and
community content. AWS Free Tier (RDS for MySQL, EC2 for backend, S3 for frontend)
ensures cost-effective scalability.

D) Feature Requirements & Scope

Scope: Included: Authentication (accounts for commenting/liking/reviews), personalized homepage (RAWG-filtered games), explore section, game overlays (RAWG data with community links), official communities (admin posts/memes with user comments/likes/reviews/follows), news widgets (NewsData.io with external links), profiles (basics + Steam achievements).

SMART Objectives: Specific (MVP: auth + game/community flows); Measurable (100 users, 95% uptime); Achievable (tech stack + timeline); Relevant (fixes fragmentation); Time-bound (MVP Week 7, final Week 16).
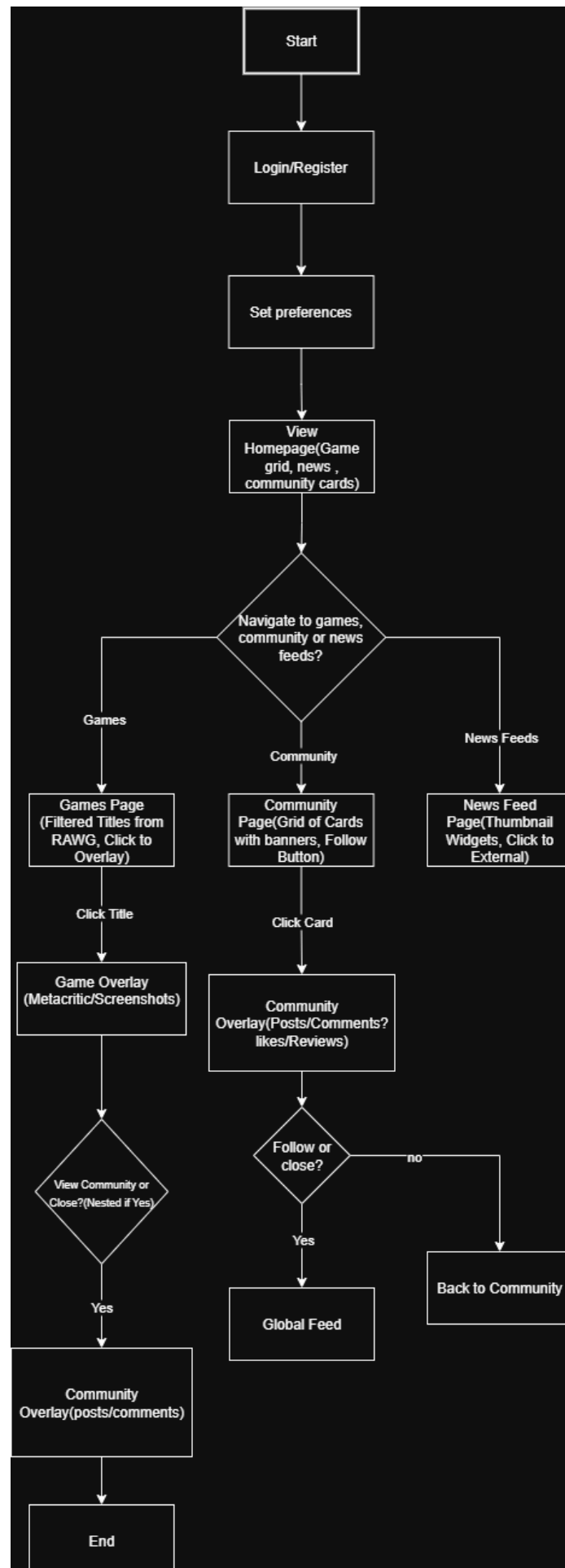
Major Features: Authentication, reporting (likes/comments), data management (preferences/posts).

Prioritization: MVP: Auth, homepage filtering, game overlays (click → description/Metacritic/screenshots → reviews). Nice-to-Have: Official communities (posts/comments/likes/follows), news widgets (click → external), profiles with achievements. Future: User-created communities.
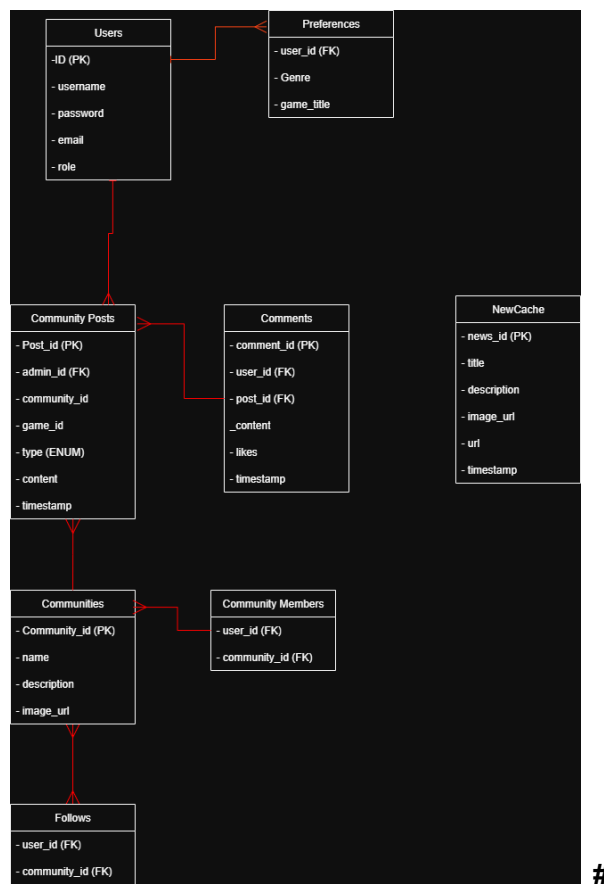
User Roles: Standard: CRUD comments/reviews on official posts, follow communities. Admin: Create official posts, moderate content.

System Flow/User Stories: Login → preferences → homepage grid → click title → overlay (close/view community) → follow community → view global feed.

```
                              ┌──────────┐
                              │  Start   │
                              └────┬─────┘
                                   │
                              ┌────▼──────────┐
                              │ Login/Register│
                              └────┬──────────┘
                                   │
                              ┌────▼──────────┐
                              │Set preferences│
                              └────┬──────────┘
                                   │
                              ┌────▼──────────┐
                              │    View       │
                              │ Homepage(Game │
                              │ grid, news ,  │
                              │community cards)│
                              └────┬──────────┘
                                   │
                              ╱────▼────╲
                             ╱ Navigate  ╲
                            ╱ to games,    ╲
                            ╲ community or ╱
                             ╲ news feeds?╱
                              ╲────┬────╱
```

Games → Games Page (Filtered Titles from RAWG, Click to Overlay)

Community → Community Page(Grid of Cards with banners, Follow Button)

News Feeds → News Feed Page(Thumbnail Widgets, Click to External)

Click Title → Game Overlay (Metacritic/Screenshots)

Click Card → Community Overlay(Posts/Comments? likes/Reviews)

View Community or Close?(Nested if Yes)

Follow or close?

no → Back to Community

Yes → Global Feed

Yes → Community Overlay(posts/comments)
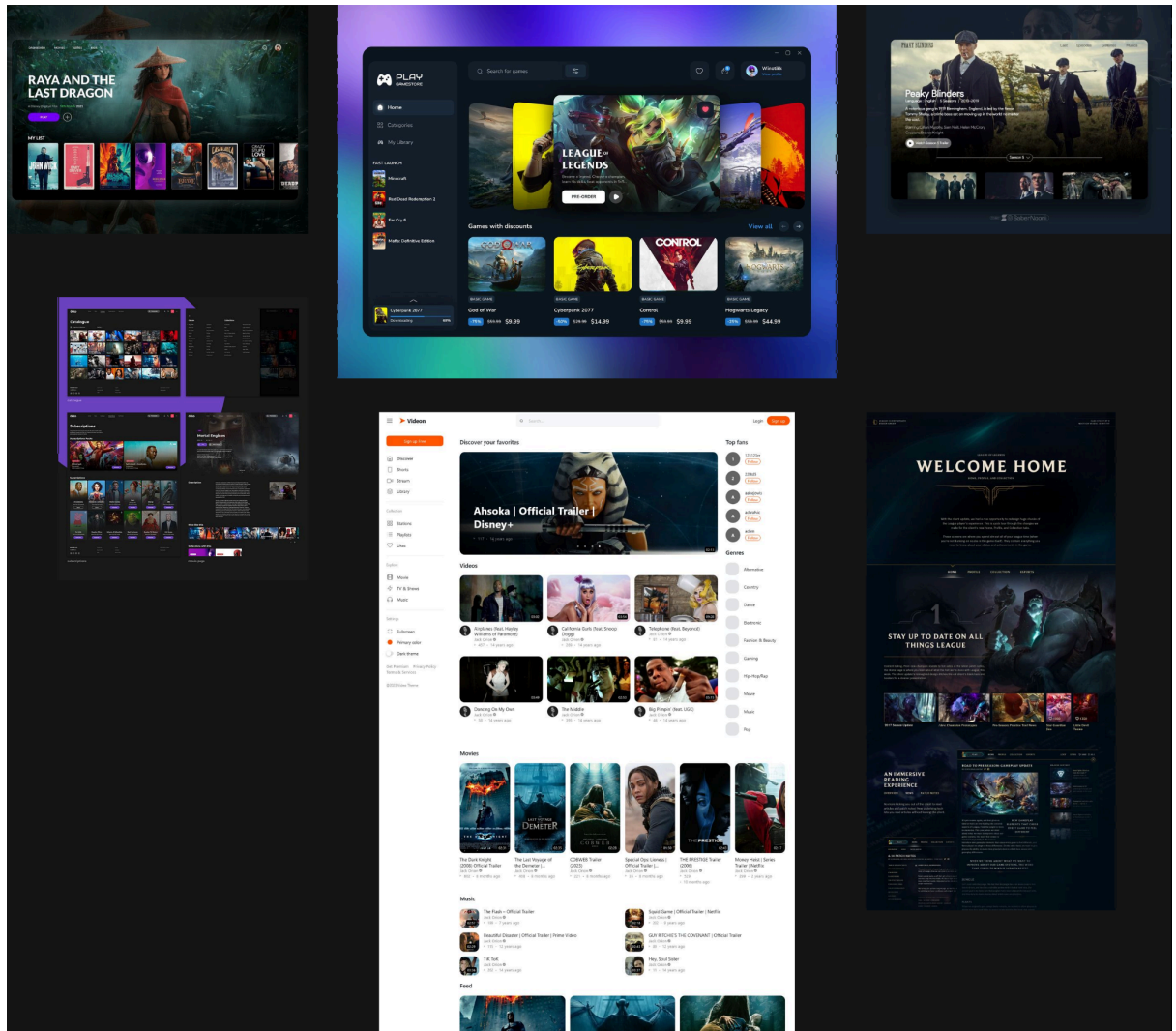
End

E) Data Planning

Key Tables and Relationships: Users (ID PK, username UNIQUE, password, email, role) –
Links to all. Preferences (user_id FK, genre, game_title). CommunityPosts (post_id PK,
admin_id FK, community_id FK, game_id, type ENUM, content, timestamp). Comments
(comment_id PK, user_id FK, post_id FK, content, likes, timestamp). Communities
(community_id PK, name, description, image_url). Follows (user_id FK, community_id FK).
NewsCache (news_id PK, title, description, image_url, url, timestamp).

Data Types/Constraints: INT PK for IDs, VARCHAR for text, ENUM for role/type, FOREIGN
KEYs for relationships. Manual seeding for official posts.

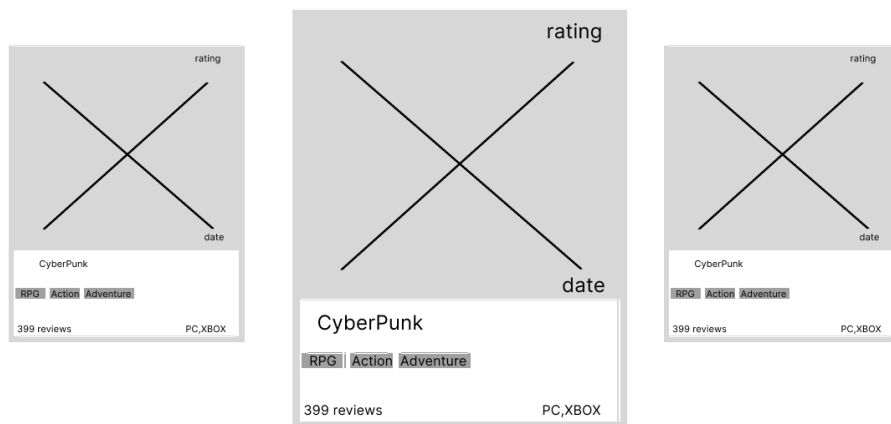## F) Wireframes & UI/UX Considerations

- **Moodboard:**

Landing

Sign up

Login

Genre

Titles

community

home page

genres

detail view

user comments

Profile

all pages

news page

view

Username

THE GAME
GRID

Home   Games   Community   News

Welcome to the World of CyberPunk, Full of
augmentations and lawlessness

rating

Close

Home   Games   Community   News
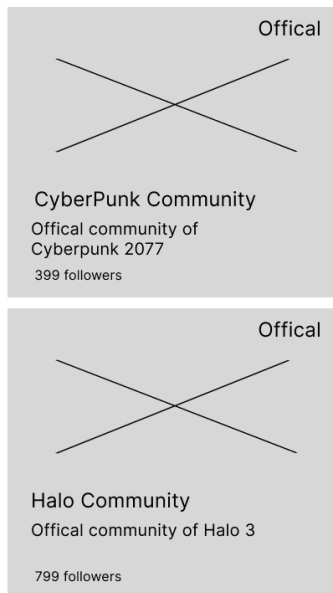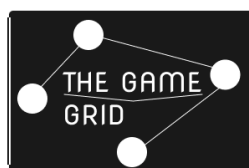
THE GAME GRID

Games

rating

date

rating

CyberPunk

RPG Action Adventure

399 reviews   PC,XBOX

rating

CyberPunk

RPG Action Adventure

399 reviews   PC,XBOX

rating

CyberPunk

RPG Action Adventure

399 reviews   PC,XBOX

Explore

Shooters

rating

CyberPunk

RPG Action Adventure

399 reviews   PC,XBOX

rating

CyberPunk

RPG Action Adventure

399 reviews   PC,XBOX

rating

CyberPunk

RPG Action Adventure

399 reviews   PC,XBOX

rating

CyberPunk

RPG Action Adventure

399 reviews   PC,XBOX

THE GAME
GRID

Home   Games   Community   News

Username ⊗

Games

rating

date

CyberPunk

RPG   Action   Adventure

399 reviews   PC,XBOX

Communities

Offical

CyberPunk Community

Offical community of
Cyberpunk 2077

399 followers

Offical

Halo Community

Offical community of Halo 3

799 followers

News

33 days ago

Ubisoft imploding

News 24

32 days ago

EA needs more money

News 24

13 days ago

AI ruining games

News 24

THE GAME
GRID

Please select 5 genres
you are interested in

Horror	FPS	RTS
Sport	Simulator	Racing
Hunting	3rd Person	Building

THE GAME
GRID

Username

Password

login

THE GAME GRID

Full name

Password
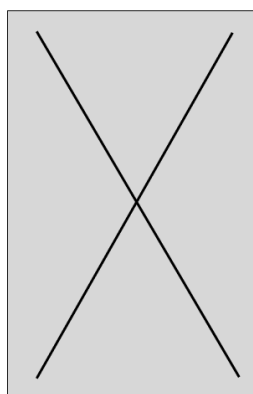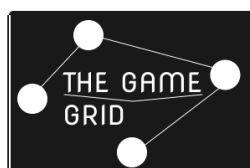
Repeat Password

dd/mm/yyyy

confirm

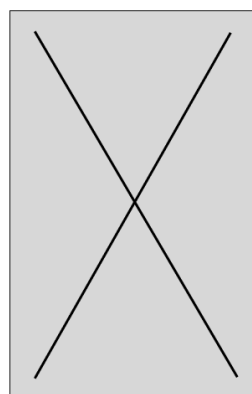☐ I consent
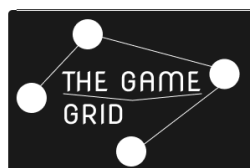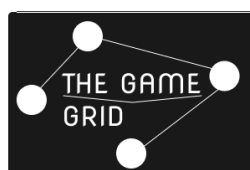
THE GAME GRID

WELCOME TO THE
GAME GRID YOU ALL IN
GAMING HUB

SIGN IN   LOGIN

G) Project Timeline & Workflow

● **Milestones (16 Weeks):** Week 3-4: Backend Setup. Week 5-7: Frontend

Development. Week 8-10: API/Feature Integration. Week 11-13: Testing. Week

14-16: Deployment (AWS Free Tier).

H) Risks, Challenges & Conclusion

● **Risks/Mitigations:** API limits: Cache data. Time: Agile sprints. Content overload:

Admin moderation. AWS caps: Monitor/optimize.

● **Conclusion:** THE GAME GRID addresses gaming fragmentation with a focused

platform—game data from RAWG, communities in MySQL, news from NewsData.io,

hosted on AWS.