WORKSHOP 1 — REQUIREMENTS, USER STORIES, AND STORY MAPPING

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1. Requirements Documentation

- List and describe the main functional requirements (what the system should do)

FR-01 — User Authentication & Account Management
The system shall allow users to register, authenticate (email/password, OAuth), recover/reset passwords, and manage account profile (display name, avatar, payment methods, privacy settings).
Acceptance criteria: a registered user can log in, update profile, and add/remove a payment method.

FR-02 — Browse & Search Storefront
The system shall provide browsing and search capabilities (filters by genre, price, publisher, tags, release date, rating) and show game details (price, screenshots, trailers, system requirements, reviews).
Acceptance criteria: a user can find a game using search or filters and open its product page.

FR-03 — Shopping Cart
The system shall provide a cart where users can add/remove games, view subtotal, discounts, taxes, and proceed to checkout.
Acceptance criteria: items added to cart persist across user sessions; totals update correctly when items or discounts change.

FR-04 — Checkout & Payment Processing
The system shall support checkout flow and integrate with third-party payment providers (e.g., PagSeguro or other gateways) to process payments, handle success/failure, and provide transaction receipts.
Acceptance criteria: a successful payment adds the license to the user's library and sends a receipt; failed payments return a clear error and retry options.

FR-05 — Digital License Delivery & Library
The system shall deliver purchased digital licenses to the purchaser's library, allow immediate download/installation, and maintain a library view listing owned games with install/manage actions.
Acceptance criteria: after successful purchase the game appears in library with a download/install button.

FR-06 — Game Download & Launch
The system shall enable users to download game installers/content and launch installed games from the client (or provide links for platform-appropriate launch).
Acceptance criteria: a user can start a download and launch the installed game from the library.

FR-07 — Cloud Save & Sync
The system shall offer cloud save functionality to back up and synchronize game progress across devices for supported games.
Acceptance criteria: a saved game on device A is available on device B after sync.

FR-08 — User Reviews & Ratings
The system shall allow verified owners to create, edit, and delete reviews (title, body, star rating). Reviews shall display author, date, and aggregate rating on the product page.
Acceptance criteria: only users who own the game can submit a review; reviews update immediately after edit.

FR-09 — Achievements / Badges
The system shall track game achievements and display earned badges on the user profile and game pages. Publishers can define achievements per title.
Acceptance criteria: when achievement criteria are met the badge is awarded and visible in profile.

FR-10 — Social Features (Friends & Chat)
The system shall allow users to add friends, view friends' activity, and use an in-app chat (one-to-one and group messaging) to communicate.
Acceptance criteria: a user can add a friend, see their online status, and exchange chat messages.

FR-11 — Community & Content (Blogs, Forums, Live Streams)
The system shall provide community spaces such as user blogs, forums/workshops, and integration points for live streams and community posts. Moderation controls shall exist for reported content.
Acceptance criteria: a user can publish a blog post; moderators can remove posts flagged as inappropriate.

FR-12 — Wishlist & Recommendations
The system shall allow users to add games to a wishlist and receive personalized recommendations based on purchase history, playtime, and preferences.
Acceptance criteria: wishlist persists per user; recommendations update after purchases.

FR-13 — Publisher / Distributor Dashboard
The system shall provide a publisher portal where game publishers can upload metadata, binaries, pricing, release dates, and view sales/usage statistics.
Acceptance criteria: a publisher can submit a new game listing and view daily sales metrics.

FR-14 — Admin & Moderation Tools
The system shall provide administrative features to manage users, products,

reviews, disputes, promotional campaigns, and to moderate community content.
Acceptance criteria: an admin can suspend a user and remove abusive reviews.

FR-15 — Promotions, Discounts & Sales
The system shall support timed promotions, coupon codes, bundle discounts, and regional pricing.
Acceptance criteria: applying a valid coupon updates the cart total appropriately.

FR-16 — Purchase History & Refunds
The system shall keep a record of all transactions, allow users to view purchase history, and implement a refund workflow per policy (request, review, approve/deny).
Acceptance criteria: a user sees all past purchases and can request a refund which enters a review queue.

FR-17 — Support & FAQ / Ticketing
The system shall offer a support center with searchable FAQs and a ticketing system for user-reported issues. Support staff can respond and close tickets.
Acceptance criteria: a user can open a ticket and receive responses in the ticket thread.

FR-18 — Analytics & Reporting
The system shall collect and present analytics for business KPIs (sales, active users, retention, downloads) to admins and publishers (with appropriate access control).
Acceptance criteria: admin can generate a sales report for a date range.

- List and describe the main non-functional requirements (quality attributes e.g. usability, performance, security, scalability)

NFR-01 — Performance
The web app shall respond to typical user actions (page navigation, search, add-to-cart) within **5 seconds** under normal classroom/demo load. API endpoints used in core flows (search, add-to-cart, checkout) shall respond within **1 second** for local/staging tests.

Acceptance criterion: Measured response times in a basic load test or local profiling show ≤5s for pages and ≤1s for core API calls.

NFR-02 — Scalability
The system shall be designed to handle a small number of concurrent users (tens to low hundreds) and be deployable as a single Docker container for the backend and a static frontend. No autoscaling required.

Acceptance criterion: Backend and frontend run in Docker locally and handle basic concurrent requests in a classroom demo.

NFR-03 — Availability & Reliability
The service shall be deployable with a demo deployment (local/staging) with reproducible steps (Docker + simple start script).

Acceptance criterion: The app can be started from the provided Docker image and runs without crashes during a 30-minute demo session.

NFR-04 — Security & Compliance
Sensitive data (passwords) must be stored securely (hashed with a modern algorithm like bcrypt). All deployed endpoints must be accessible over HTTPS if hosted; during local development HTTP is acceptable. No PCI compliance required — use a mocked/stubbed payment flow or a payment sandbox.

Acceptance criterion: Passwords in the DB are hashed; payment flow uses sandbox or stubs; deployment instructions mention HTTPS when hosted.

NFR-05 — Data Integrity & Transactions
Critical operations (purchase/issue license) must use database transactions to avoid partial updates.

Acceptance criterion: Checkout flow is implemented inside a DB transaction; tests demonstrate rollback on simulated failure.

NFR-06 — Privacy
Users can edit basic profile fields and request account deletion; the system documents what data is retained.

Acceptance criterion: Profile edit and a simple "delete account" endpoint exist; documentation explains retention behavior.

NFR-07 — Maintainability & Extensibility
Codebase shall follow OOP principles, include at least two documented design patterns (e.g., Repository + Singleton/Factory), and have modular structure and inline documentation.

Acceptance criterion: Repo contains a short design document describing the patterns used and code modules follow the described design.

NFR-08 — Observability & Logging
The app shall log key events (errors, purchases) to console or a file and expose basic health/status endpoints for CI checks. No full monitoring stack required.

Acceptance criterion: Logs are produced during runs and a `/health` endpoint returns OK for CI.

NFR-09 — Backup & Disaster Recovery
Provide a script or instructions to export/import the database (SQL dump) so data can be restored for demos or grading.

Acceptance criterion: `dump_db.sh` and `restore_db.sh` or equivalent commands are included and tested.

NFR-10 — Usability & Accessibility
Frontend should be responsive and follow basic usability principles; apply a few accessibility checks (semantic HTML, alt attributes, keyboard navigation). Full WCAG compliance is optional.

Acceptance criterion: Frontend passes a small checklist: responsive layout, alt text for images, and keyboard-accessible main actions.

NFR-11 — Abuse Mitigation

Implement a simple rate limit for critical API endpoints (e.g., login, checkout) to prevent accidental abuse during demos.

Acceptance criterion: Rate limiting middleware is implemented or documented and demonstrated in tests.

NFR-12 — CI/CD & Reproducibility
GitHub Actions shall run tests and build a Docker image for the backend. Deployment steps for running the Docker image locally must be documented.

Acceptance criterion: GitHub Actions pipeline runs unit tests and produces a Docker image; README contains run/build instructions.

2. **User Stories**

- Write user stories for different roles
- Use the format: As a [role], I want to [action] so that [benefit].
- Each story should include acceptance criteria in the format: Given [context], when [event] then [outcome]

US-01: Purchase Digital Video Game

User Story

As an Estim User
I want to purchase a digital video game
So that I can download it and play it from my library

Acceptance Criteria

- **Given** that I am authenticated and have a valid payment method,
  When I add a game to the cart and confirm the payment,
  Then the game appears in my library with the option for immediate download, and I receive a purchase receipt.

- **Given** that the payment fails,
  When I try to confirm the purchase,
  Then I see a clear error message and options to retry or change the payment method.

US-02: View purchased games

User Story

As an Estim User
I want to view all the purchased games
So that I can download any of these from my library

Acceptance Criteria

- **Given** that i purchased some games,
  When i press the button "library"
  Then an interface appears with all the games i have

- **Given** that i never purchased a game
  When i press the button "library"
  Then i see a window with a message that says "Here you can see your games"

US-03: Log in to existing account

User Story

As an Estim User
I want to log in to my account
So that I can access to the services of Estim

Acceptance Criteria

- **Given** that I have an existing account,
  When I sign in with the correct credentials,
  Then the main interface appears, with the information of the user.

- **Given** that I have an existing account,
  When I sign in with the wrong credentials,
  Then I see an error message indicating the sign in failed.

- **Given** that I don't have an existing account,
  When I try to sign in with a non-existent account,
  Then I see an error message saying the user name does not exist

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US-04: Download a game

User Story

As an Estim User
I want to download one of my games
So that I can play the game whenever I want

Acceptance Criteria

- **Given** that I have previously bought games
  When I look in my virtual library
  Then all the games I have bought will appear in the virtual library

- **Given** that I have bought the desired game
  When I click download on the selected game in my library,
  Then my computer will start downloading the game

- **Given** that I haven't bought the desired game
  When I look for the game in my library
  Then I will not see the game, and the download option

US-05: Add a game to the wishlist

User Story

As an Estim User
I want to add a game to the wishlist
So that I can be notified when said game has a promotion

Acceptance Criteria

- **Given** that I found a game I want to buy later,
  When I add said game to the wishlist,
  Then I will be notified the game has been added to the wishlist, and the wishlist gets updated.

- **Given** that I found a game I already have,
  When I try to add said game to the wishlist,
  Then I will be notified I already own the game, and the wishlist does not get updated.

- **Given** that I found a game I already wish to have,
  When I try to add said game to the wishlist,
  Then I will be notified the game is already on the wishlist, and the wishlist does not get updated

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US-06: Write a blog

User Story

As an Estim player
I want to write a blog related to a videogame

So that I can provide information of interest regarding my games

- **Given** that I already own the selected game,
  When I select the option "Write a blog",
  Then a writing interface will appear, where I can write and submit my blog.

- **Given** that I have written a blog in the blog interface,
  When I select the "Submit" button,
  Then my blog will be published to the community section of the game

- **Given** that I have written a blog with potentially offensive or dangerous content,
  When I select the "Submit" button,
  Then I will see a warning, saying my blog will be sent for review to the moderators.

US-07: Publish Game Review

User Story

As a Estim player,
I want to publish a review for a game I have purchased,
So that others can evaluate their potential purchase.

Acceptance Criteria

- **Given** that I own the game,
  When I enter a review with title, text, and rating and submit it,
  Then the review is published with my profile and date, visible on the game's page.

- **Given** that I do not own the game,
  When I try to review it,
  Then the system prevents me from posting and displays the ownership requirement.

- **Given** that I edit or delete my review,
  When I save the changes,
  Then the review is updated or no longer publicly visible.

US-08: Chat with a friend

User Story

As an Estim User
I want to chat with a friend
So that I can use the platform to communicate with my friends

Acceptance Criteria

- **Given** that I have added a given user as a friend,
  When I select the "Chat" button in the Social Hub,
  Then a new window opens, with the chat interface with said user.

- **Given** that I want to start a group chat,
  When I select the "Group Chat" button in the Social Hub,
  Then a new window opens, asking to give a name to the Group Chat, and select its members from my friend list.

US-09: View earned achievements

User Story

As a Estim player,
I want to view what achievements, i have unlocked,
So that i go to the section "achievements"

Acceptance Criteria
- **Given** that I own the game,
  When I select the game and select the button "view my achievements",
  Then a drop-down menu comes out and I can see my achievements and the achievements I don't have.

- **Given** that I do not own the game,
  When I select the game and select the button "view the achievements"
  Then a drop-down menu comes out and I can see the total of the achievements.

US-10: Validate Active Licenses

User Story

As an Estim User,
I want to I want to validate my active game licenses,
So that I can ensure my purchased games are authentic and still accessible.

Acceptance Criteria
- **Given** that I'm connected to the internet,
  When I launch a purchased game,
  Then the system verifies my license before allowing access.

- **Given** that my license has expired or is invalid,
  When I attempt to play,
  Then the system denies access and shows a renewal or support option.

US-11: View Similar Games

User Story

As an Estim User,
I want to view games similar to the one I'm exploring
So that I can discover alternative titles that match my interests.

Acceptance Criteria
Given that I'm on a game's detail page,
When I scroll down,
Then I see a list of similar games by genre or tags.

- **Given** that I click one,
  When I select it,
  Then I'm redirected to that game's description page.

US-12: Browse and Compare Community Reviews Across Games

User Story

As an Estim User,
I want to browse and compare reviews for different games
So that I can decide which one to buy.

Acceptance Criteria

- **Given** that I open the "Compare Reviews" section,
  When I select two or more games,
  Then I see their average ratings and top comments side by side.

- **Given** that I change filters,
  When I adjust the view,
  Then the comparison updates immediately.

US-13: Publish a Game

User Story

As a game developer
I want to publish my game in Estim
So that I can sell my game to the Estim users

Acceptance Criteria

- **Given** that I have created a game,
  When I submit the "Publish" option,
  Then my game will be sent for review to the moderators.

- **Given** that I have submitted a game for publishing,
  When the moderators approve my videogame,
  Then I get notified my game was approved, and I get access to the game management section for my published game.

- **Given** that I have submitted a game for publishing,
  When the moderators reject my videogame,
  Then I will receive a message from the moderators, specifying the motives that led them to reject my videogame

US-14: Recover Password if Forgotten

User Story

As an Estim User,
I want to recover my password if I forget it
So that I can regain access to my account**.**

Acceptance Criteria

- **Given** that I forgot my password,
  When I click "Forgot Password" and enter my email,
  Then I receive a password reset link.

- **Given** that I open the reset link,
  When I create a new password,
  Then I can log in again with the updated credentials.

US-15: Create a promotion

User Story

As a game publisher
I want to offer a promotion for limited time
So that I can incentivize my users to buy my games

Acceptance Criteria

- **Given** that my desired game does not have a promotion,
  When I select and indicate the desired promotion, with its respective timeframe,
  Then the game price during said time period will be updated to the promotion, and the users will see the discount percentage and duration of the promotion.

- **Given** that my desired game already has a promotion,
  When I select and indicate the desired promotion, with its respective timeframe,
  Then I see a small notification, saying the game already has an active promotion, which can not be modified, and the game's price is not updated.

US-16: Remove or Deactivate Games

User Story

As a game publisher,
I want to remove or deactivate games from the store,
So that they are temporarily unavailable for purchase.

Acceptance Criteria

- **Given** that I own a published game,
  When I select "Deactivate" from the management panel,
  Then the game no longer appears in the store listings.

- **Given** that I want to reactivate a game,
  When I select "Activate" again,
  Then the game reappears in the store and becomes purchasable.

US-17: View and Respond to User Tickets

User Story

As a support agent,
I want to view and respond to user support tickets,
So that I can assist users with their issues.

Acceptance Criteria

- **Given** that I'm in the support dashboard,
  When I open a ticket,
  Then I can view its details and add a response.

- **Given** that I submit a response,
  When the message is sent,
  Then the user receives a notification with my reply.

- **Given** that I have multiple tickets assigned,
  When I filter them by status or priority,
  Then the system displays only the tickets that match my selected filters.

3. User Story Mapping

- Create a visual map of the table showing how user stories are grouped and prioritized for development.

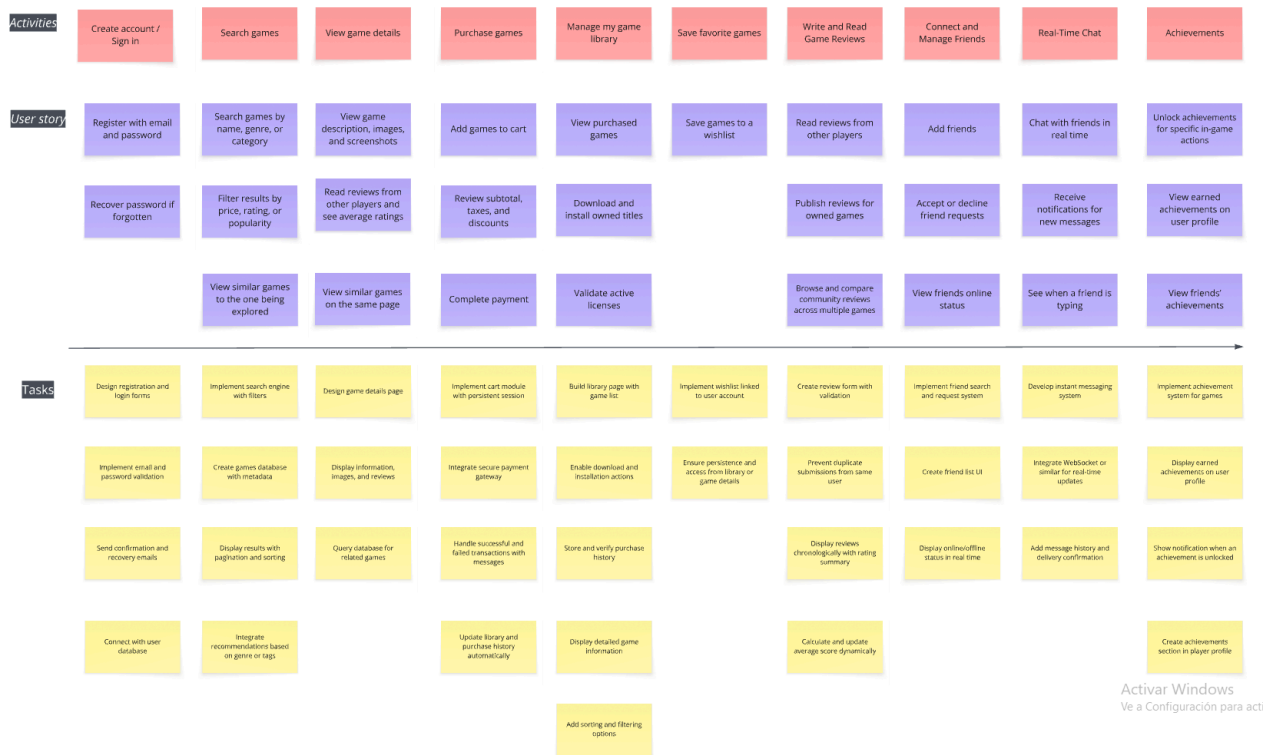| Activities	Create account / Sign in	Search games	View game details	Purchase games	Manage my game library	Save favorite games	Write and Read Game Reviews	Connect and Manage Friends	Real-Time Chat	Achievements
User story	Register with email and password	Search games by name, genre, or category	View game description, images, and screenshots	Add games to cart	View purchased games	Save games to a wishlist	Read reviews from other players	Add friends	Chat with friends in real time	Unlock achievements for specific in-game actions
	Recover password if forgotten	Filter results by price, rating, or popularity	Read reviews from other players and see average ratings	Review subtotal, taxes, and discounts	Download and install owned titles		Publish reviews for owned games	Accept or decline friend requests	Receive notifications for new messages	View earned achievements on user profile
		View similar games to the one being explored	View similar games on the same page	Complete payment	Validate active licenses		Browse and compare community reviews across multiple games	View friends online status	See when a friend is typing	View friends' achievements
Tasks	Design registration and login forms	Implement search engine with filters	Design game details page	Implement cart module with persistent session	Build library page with game list	Implement wishlist linked to user account	Create review form with validation	Implement friend search and request system	Develop instant messaging system	Implement achievement system for games
	Implement email and password validation	Create games database with metadata	Display information, images, and reviews	Integrate secure payment gateway	Enable download and installation actions	Ensure persistence and access from library or game details	Prevent duplicate submissions from same user	Create friend list UI	Integrate WebSocket or similar for real-time updates	Display earned achievements on user profile
	Send confirmation and recovery emails	Display results with pagination and sorting	Query database for related games	Handle successful and failed transactions with messages	Store and verify purchase history		Display reviews chronologically with rating summary	Display online/offline status in real time	Add message history and delivery confirmation	Show notification when an achievement is unlocked
	Connect with user database	Integrate recommendations based on genre or tags		Update library and purchase history automatically	Display detailed game information		Calculate and update average score dynamically			Create achievements section in player profile
				Add sorting and filtering options						

Figure 1. Player User Story Map
Shows how players discover, buy, and play games, and interact in the community.

| Publish games | Review sales | Create promotions | Manage titles |

| Upload games with metadata and files | View sales and download statistics | Create discounts and coupons | Edit game details |

| Validate completeness of files and information | Export reports by date | Set start and end dates for campaigns | Remove or deactivate games |

| Publish uploaded games to the store | | | |

| Create upload form with file validation | Create dashboard with charts and tables | Implement discount and coupon system | Implement game management panel |

| Integrate storage for games and assets | Allow CSV or PDF export | Validate dates and usage limits | Track changes and control versions |

| Implement validation rules for required information | | Add admin interface to create and edit promotions | |

| Enable publishing status toggle | | | |

Figure 2. Publisher User Story Map

Shows how publishers upload, manage, and promote their games.

| Manage tickets and support | Access FAQ |

| Submit support tickets or bug reports | Search FAQ to solve common issues |

| View and respond to user tickets | |

| Mark tickets as resolved or closed | |

| Create ticket form with attachments | Create searchable FAQ page with filters |

| Build admin panel for support | Organize categories and content |

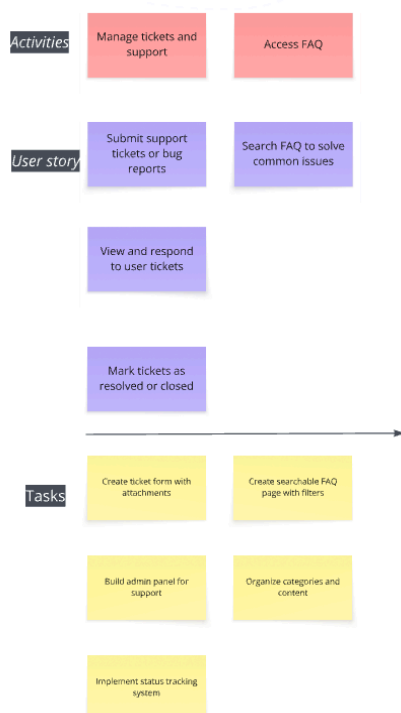| Implement status tracking system | |

Figure 3. Administrator User Story Map

Shows how admins manage the platform and support users.

The complete interactive User Story Maps can be viewed at the following link: **View on Miro**

References:

Valve Corporation. (n.d.). *Steam Store* [Digital distribution platform]. Retrieved from https://store.steampowered.com/

Plan.io. "User Story Mapping — A Practical Guide." https://plan.io/blog/user-story-mapping/