



Tecnológico de Monterrey

Software Requirements Specification

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User Stories

User Story #1: Playable levels

As a user, I want to be able to play already published levels to explore other users' creations.

Validation

- Play a complete level

Value: 10

Priority: 1

Estimated time: 9 days

User Story #2: Game mechanics

As the product owner, I want the game designer (user in builder) to be able to implement different game mechanics, so that they strengthen their learning process.

Validation:

- Implement different mechanics using the level creator.

Value: 9

Priority: 1

Estimated time: 10 days

User Story #3: Insert objects in level builder mode

As the product owner, I want users to be able to insert different objects and mechanics, so that they can increase the complexity of the level and explore creation possibilities.

Validation:

- Create a new level.
- Insert different rooms.
- Insert different enemies within rooms.
- Insert interactive objects throughout the level.

Value: 10

Priority: 1

Estimated time: 3 days

User Story #4: Delete objects in level builder mode

As product owner, I want users to be able to delete objects from the level builder in order to maintain flexibility and allow design exploration.

Validation:

- Delete different rooms.
- Delete enemies from different rooms.
- Delete interactive objects and

Value: 10

Priority: 1

Estimated time: 3 days

mechanics.	
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<p style="text-align: center;">User Story #5: Test level in level builder mode</p> <p>As product owner, I want users to be able to test their created level so that they can visualize it.</p>

<p>Validation:</p> <ul style="list-style-type: none"> • Test new level. • Upload level once it is finished (only if test mode gets completed). • Find and play level. 	<p>Value: 8</p> <p>Priority: 1</p> <p>Estimated time: 4 days</p>
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<p style="text-align: center;">User Story #6: Store levels</p> <p>As product owner, I want levels to be stored in a database in order to allow users to play such levels.</p>
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<p>Validation:</p> <ul style="list-style-type: none"> • Create a new level. • Upload created level in database. • Check if the level was saved. 	<p>Value: 10</p> <p>Priority: 1</p> <p>Estimated time: 8 days</p>
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<p style="text-align: center;">User Story #7: Display statistics</p> <p>As product owner, I want to show game statistics within the website so that the user can visualize their ranking, points and progress.</p>

<p>Validation:</p> <ul style="list-style-type: none"> • Play the game. • Check if chosen statistics get displayed within the website. 	<p>Value: 9</p> <p>Priority: 1</p> <p>Estimated time: 11 days</p>
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<p style="text-align: center;">User Story #8: User sign in</p> <p>As product owner, I want the user to be able to sign in so that their statistics and created levels get saved.</p>

<p>Validation:</p> <ul style="list-style-type: none"> • Register user with name and password. • Save user data and password in the database. 	<p>Value: 8</p> <p>Priority: 1</p> <p>Estimated time: 5 days</p>
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<ul style="list-style-type: none"> • Safely register data against common web vulnerabilities. • Test access to levels that were created by the user. 	
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User Story #9: Created levels catalog

As the product owner, I want the user to be able to visualize and explore different levels created by other users so that they can play them.

Validation: <ul style="list-style-type: none"> • Navigate a window with published levels within the platform. • Play levels that were published by other users. 	Value: 8 Priority: 1 Estimated time: 7 days
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User Story #10: Game UI

As the product owner, I want the user to be able to access the main menu, stop the game in play mode, exit any level, or play it again so that they have an easy interaction with the UI.

Validation: <ul style="list-style-type: none"> • Play a level. • Test game mechanics within the level. 	Value: 10 Priority: 1 Estimated time: 9 days
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User Story #11: Credits window

As the product owner, I want the users to be able to visualize the game credits within the website in order to get more information.

Validation: <ul style="list-style-type: none"> • Observe the relevant credits regarding game development. 	Value: 9 Priority: 1 Estimated time: 2 days
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User Story #12: Game explanation

As the product owner, I want the website to display general data regarding the game so that the user knows its context and how to play it.

Validation: <ul style="list-style-type: none"> Visualize general data on a website. Visualize clear information about the game. 	Value: 8 Priority: 1 Estimated time: 2 days
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Functional and Non Functional Requirements

Functional Requirements	Non Functional Requirements
<ol style="list-style-type: none"> Create new level Play level mechanics and objectives from start to finish. Test game mechanics at the current level. Upload the level once it has been passed in test mode. Save and upload the designed level to the database. Display chosen statistics on the web page. Register new users using a username and a password. Get access to user created levels. Search for and get access to published levels. Website navigation of context, credits, game, and user login/register. 	<ol style="list-style-type: none"> Search level by ID Due date: June 14th, 2022 Version control through github Pixel art sprites Connection to server through node.js Stylise webpage to match game aesthetics. Allow infinite room creation Visualize general data and clear information about the videogame in the web page. Use UTF-8 in the webpage. Use of MySQLWorkbench to implement the relation-entity database. Protection against SQL injection. Host server in heroku. Embed videogame inside web page. Include license in web page

Product Backlog

Week 1

- Frontend significant development
- Define entity-relationship diagrams

Weeks 2 - 3

- Construction of both game and game builder
- Database script creation
- Backend connections
- Finish frontend

Week 4

- Review backend
- Functionality tests
- Final aesthetic details

Week 5

- Final product delivery

Case Use Tables

Use case description detail	Create level.
Related Requirements	Requirement 1
Goal In Context	A new or existing user requests the creation of a new level.
Preconditions	The system requires user information in order to access level creation mode, so the user needs to be registered in the database.
Successful End Condition	A new level is created for the user.
Failed End Condition	The creation of the new level is rejected.
Primary Actors	User and game
Secondary Actors	Database
Trigger	The user clicks the create level button
Main Flow	Step and action
	1° The user enters the main menu
	2° The user clicks the create button
	3° The user drags and drops different elements (rooms, obstacles or enemies)
Extensions	1.1.1° The user isn't able to enter the main menu
	2.1.1° The user clicks the create button but it does not work
	3.1.1° The user tries dragging and dropping different elements but it doesn't work.

Use case description detail	Test game mechanics in level
Related Requirements	Requirement 3
Goal In Context	A user who has created part of or the whole level tests said creation

Preconditions	A level must be in the process of being created by a user
Successful End Condition	The level is able to be play tested by the user
Failed End Condition	The level can not be play tested or the mechanics don't work as intended
Primary Actors	User and game
Secondary Actors	Database
Trigger	The user clicks the test button
Main Flow	Step and action
	1° The user creates a new level
	2° The user places various elements and rooms inside the level
	3° The user clicks the test button
	4° The user play tests the level
Extensions	3.1.1° The user clicks the place test button, but it does not work
	3.1.2° The user is able to access test mode but the mechanics do not work as intended

Use case description detail	Save and upload the designed level into the database
Related Requirements	Requirements 4 and 5
Goal In Context	A user who has created a completable level uploads said level into a database
Preconditions	A level must be created and completed during play test
Successful End Condition	The level is able to be uploaded into the database
Failed End Condition	The level can not be uploaded to the database or the level is saved incorrectly
Primary Actors	User and game
Secondary Actors	Database
Trigger	The user clicks the upload level button after

	the created level is completed.
Main Flow	Step and action
	1° The user creates a new level
	2° The user is able to complete said level
	3° The user clicks the upload level button
	4° The level is uploaded to the database with the correct parameters
	5° The database saves the level correctly
Extensions	3.1.1° The user clicks the upload level button, but it does not work and the level isn't uploaded
	4.1.1° The level is uploaded incorrectly or the txt files are corrupted
	4.1.2° The level saves the level incorrectly

Use case description detail	Get Access to user created levels
Related Requirements	Requirement 8
Goal In Context	A user can visualize and access their created levels.
Preconditions	The system requires the user to be logged in, so that they can directly access their created levels.
Successful End Condition	Users can access their created levels.
Failed End Condition	Users can't access any of their created levels.
Primary Actors	User and database
Secondary Actors	Game and webpage
Trigger	User enters the created games window.
Main Flow	Step and action
	1° User enters the main menu
	2° User enters the created levels window
	3° User clicks a level and is able to access it.

Extensions	1.1.1° The user isn't able to enter main menu
	2.1.1° The user isn't able to see the created levels window
	3.1.1° The user isn't able to access their created levels.

Use case description detail	Play level mechanics and objectives from start to finish
Related Requirements	Requirement 2
Goal In Context	Have a game that has a beginning and an end, filled with mechanics and room objectives in between.
Preconditions	A level has to be created and published. the user has to be registered in order to save the collected statistics on the current gaming session.
Successful End Condition	The registered user can play a level from the initial room, all the way to the final room, interacting with the designed mechanics and completing objectives.
Failed End Condition	The user can not play a selected level, no mechanics or objectives are present in the gameplay, and the level can not be completed or end.
Primary Actors	User and game.
Secondary Actors	Webpage
Trigger	the correct reading, loading, and functioning of the level file in the game.
Main Flow	Step and action
	1° Select/ click a level to play.
	2° Level loads from database onto the playable web interface
	3° The user plays the game with mouse and keyboard controls.
	4° The game is played from start to finish
Extensions	2.1.1° The gamebuilder reads the correct

	level file and displays it on a playable interface.
	4.1.1° The player/user encounters in the gameplay the intended mechanics and objectives.

Use case description detail	Search for and get access to published levels.
Related Requirements	Requirement 9
Goal In Context	A user is able to search and access different published levels.
Preconditions	The system requires user information to allow them to play any published level.
Successful End Condition	Users are able to access and search for published levels.
Failed End Condition	Users can't search or access published levels.
Primary Actors	Database and user
Secondary Actors	Game
Trigger	User clicks a published level or the user uses the search bar in the published levels window.
Main Flow	Step and action
	1° User enters the main menu.
	2° User enters the levels catalog.
	3° User searches for a level using the search tab.
	4° User accesses the level they want by clicking it.
Extensions	1.1.1° User is unable to enter the main menu.
	2.1.1° User is unable to access the level catalog.
	3.1.1° User is unable to use the search bar.
	4.1.1° User is unable to access a published

	level.
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Use case description detail	Visualize general data and clear information about the videogame in the web page.
Related Requirements	Non-functional requirement 9 and functional requirement 10
Goal In Context	Bring context to the game, its purpose and objectives along with some details that might complement said context.
Preconditions	Built Website and tab or section specific for the data that is required to be displayed.
Successful End Condition	The user can access the tab or section within the web page and is able to read the context of the videogame.
Failed End Condition	The user is unable to visualize the general information about the game on the website.
Primary Actors	User and web page.
Secondary Actors	NA
Trigger	Click on the tab or section that contains the general data.
Main Flow	Step and action
	1° The user clicks or navigates to the general information tab/section of the website.
	2° The user can visualize the information properly.
Extensions	1.1° The page must load fully in order to display or present the data previously mentioned.

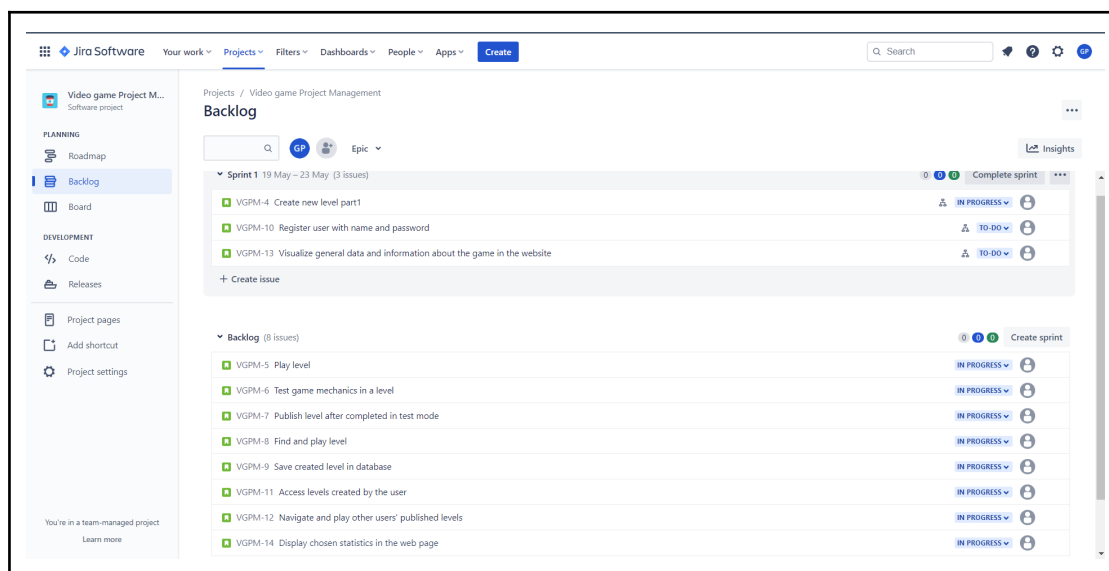
Use case description detail	Display chosen statistics in web page
Related Requirements	Requirement 6
Goal In Context	Different relevant statistics from users are displayed in the web page.
Preconditions	The web page, database and video game must be functional and well designed.

	Some level must be already created and played to display statistics.
Successful End Condition	The statistics are shown in the web page.
Failed End Condition	The statistics cant be accessed or the information that is displayed is either wrong or corrupted.
Primary Actors	Web page and database
Secondary Actors	User and game
Trigger	The user clicks on the statistics section of the web page
Main Flow	Step and action
	1° The user clicks the statistics web page section.
	2° Web page loads section
	3° Web page API requests information
	4° Information is displayed on webpage
Extensions	3.1.1° Web page API can't access information
	4.1.1° Web page does not display correct or complete information.

Use case description detail	Register new users
Related Requirements	Requirement 7
Goal In Context	Register new users with a unique user and password.
Preconditions	Functioning form on the web page, and a connection to a database established.
Successful End Condition	The user is registered successfully on the database and can log in on the web page.
Failed End Condition	The user is not registered at all and can not log in on the web page.
Primary Actors	User and Web page
Secondary Actors	Database
Trigger	filled form on web page





Main Flow	Step and action
	1° The user clicks on the register button.
	2° the user fills out new user form (username, password)
	3° The user clicks the send button
	4° The database inserts the information on the new user.
Extensions	2.1° The user is bound to use a unique Username and password.

Jira Board



Sprint Backlog

Register user with name and password

 Attach  Add a child issue  Link issue 









Description

Add a description...





Child issues

Order by   

 0% Done

- | | | | | |
|---|--|---|---|---|
|  VGPM-19 | First draft of the web pasqe, html and css |  |  | IN PROGRESS  |
|  VGPM-20 | new user form functional in web page draft |  |  | IN PROGRESS  |

Create new level part1

 Attach  Add a child issue  Link issue 

















Description

Add a description...

Child issues

Order by   

 75% Done

- | | | | | |
|---|--|---|---|---|
|  VGPM-15 | On new level, add rooms to the qird |  |  | DONE  |
|  VGPM-16 | Add/insert base enemy |  |  | DONE  |
|  VGPM-17 | Test button on the builder to test current level |  |  | DONE  |
|  VGPM-18 | Add/insert objects |  |  | IN PROGRESS  |

Visualize general data and information about the game in the website

 Attach

 Add a child issue

 Link issue










Description

Add a description...

Child issues

Order by   

0% Done

 VGPM-21	first draft or template of the website built.	  IN PROGRESS 
 VGPM-22	General data/information redacted and proofread.	  IN PROGRESS 