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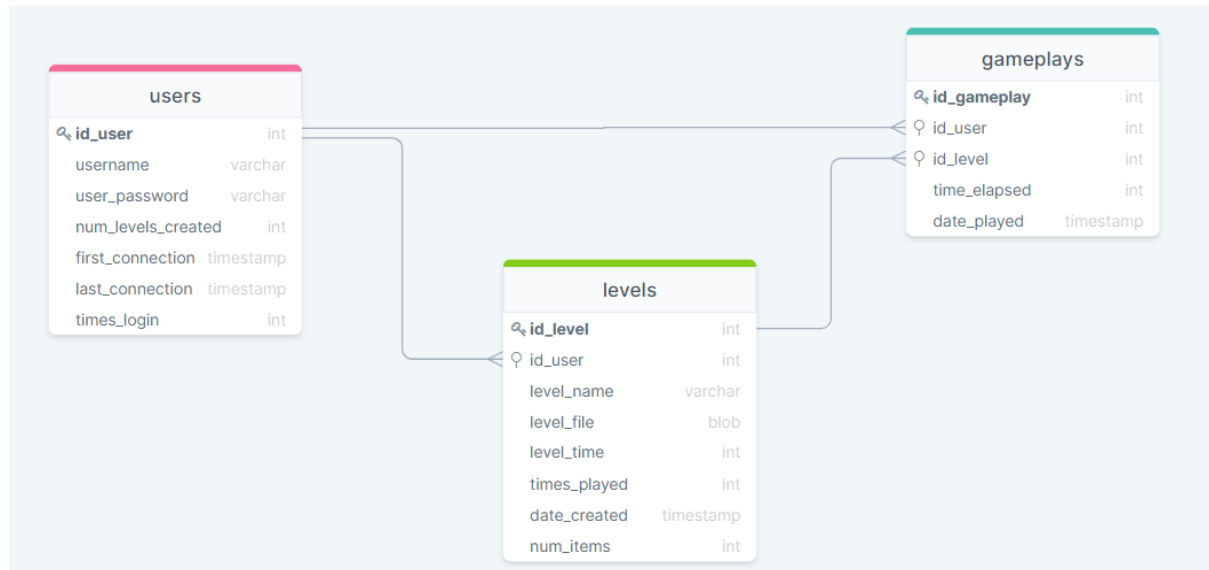
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Prof. Esteban Castillo

## Database Scheme and SCRUM

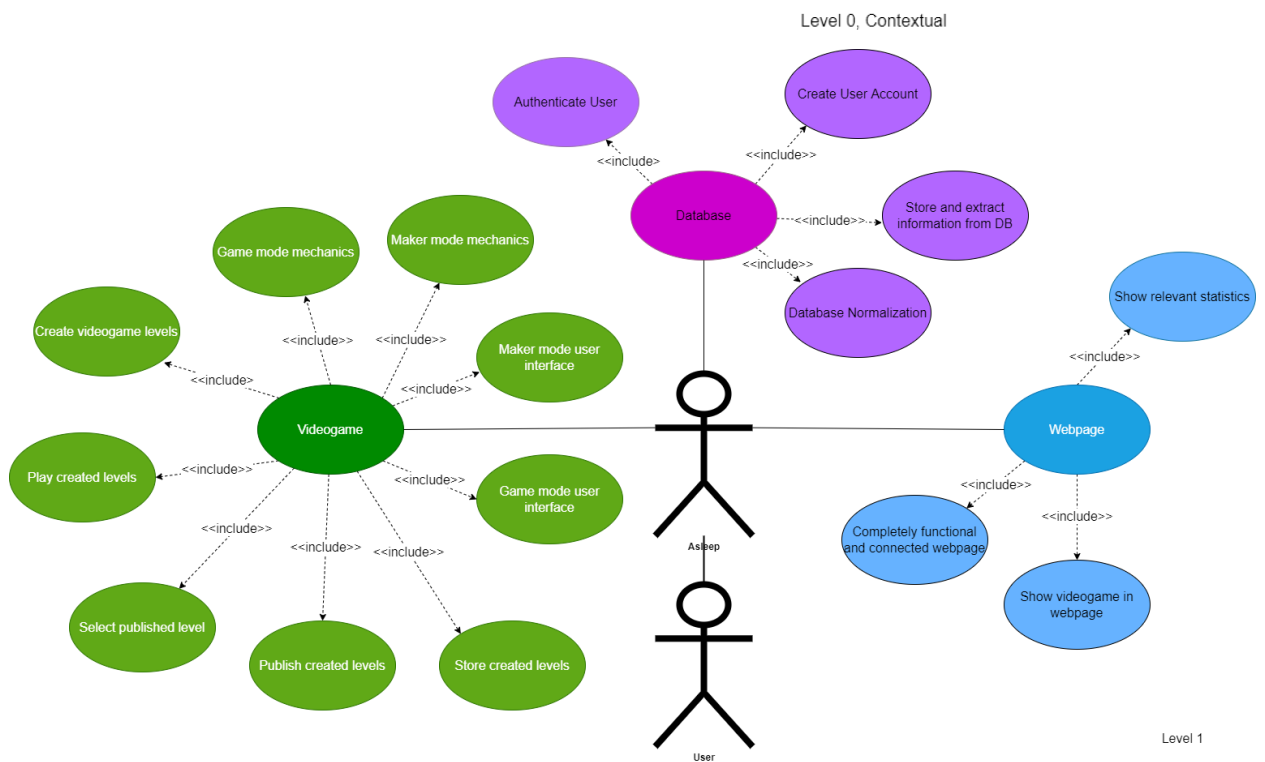
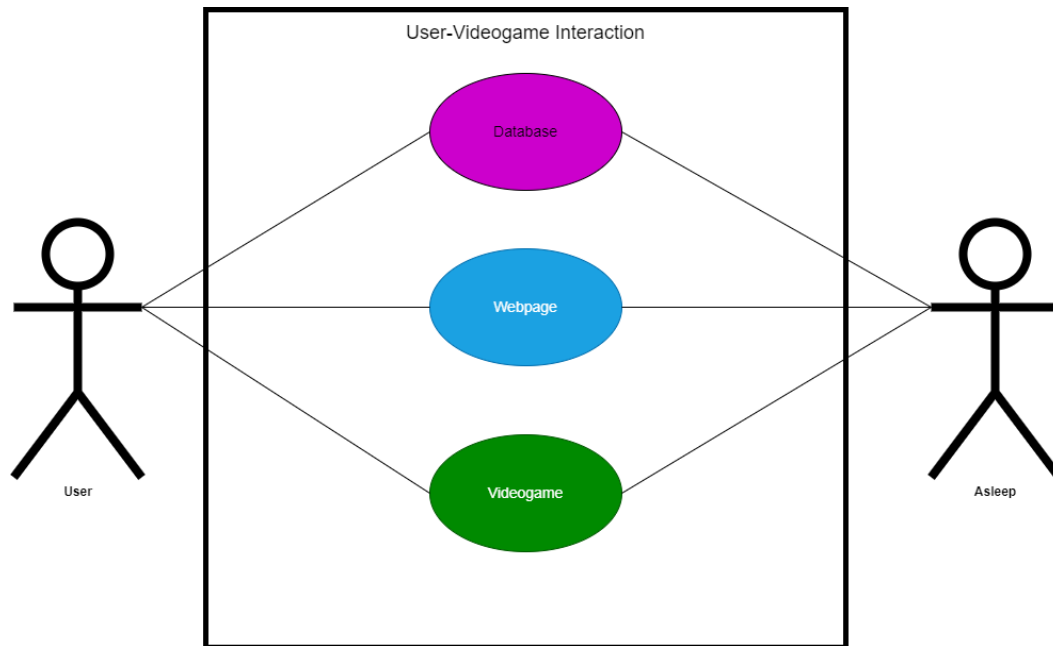
### Entity-Relation Final Version:



- The cardinality from users to levels is one to many.
- The cardinality from users and gameplays is one to many.
- The cardinality from level to gameplays is one to many.
- Integrity Restrictions:
  - Every attribute of every table is not nullable.
  - Every table has a unique, integer, primary key, not nullable and auto-incremental.
  - Every table except for users has a foreign key.
- 1st and 2nd Normal Form
  - Every table has an integer, unique, auto incremental, not NULL, primary key.
    - Represented by a single column.
  - There is no data repetition neither redundant data
  - There are no empty values.
  - Every attribute is atomic.
  - The attributes of a table are wholly dependent on their primary key.
  - There are no transitive dependencies between columns.
  - Modifying or deleting an attribute does not affect the existence of the other attributes within the table.

- 3rd Normal Form
  - There are no impostor primary keys.
    - All data from every table is completely and solely dependent on a unique non-impostor primary key.
    - For table users
      - All data of the columns except for id\_user (primary key) are created by unity when a user signs up.
      - The retrieval of information from the table is wholly dependent on id\_user and this primary key works as foreign key in the other tables.
      - The reason why username isn't an impostor key is because it is more of a characteristic that describes the identity of the user within the game than a unique identifier and this attribute is a varchar.
    - For table levels
      - All data of the columns except for id\_level (primary key) is generated by unity when a user creates a level.
      - The retrieval of information from the table is wholly dependent on id\_level and this primary key works as foreign key in the table gameplays.
      - The reason why level\_name isn't an impostor key is because it is more of a characteristic that describes the level, has a default value and it doesn't need to be unique, than a unique identifier. This value is also a varchar.
      - As level\_name, the attribute id\_user, is more of a characteristic that describes the identity of the level within the game than a unique identifier since multiple levels can be created by a single id\_user.
    - For table gameplays
      - All data of the columns except for id\_gameplay (primary key) is generated by unity when a user plays a level.
      - The retrieval of information from the table is wholly dependent on id\_gameplay.
      - The reason why id\_level isn't an impostor key is because it is more of a characteristic that describes the gameplay and it doesn't need to be unique, since multiple gameplays can be created for a single id\_level.
      - The reason why id\_user isn't an impostor key is because one this attribute is also, more of a characteristic that describes the identity of the gameplay than a unique identifier since multiple gameplays can be created by a single id\_user.
  - There are no transitive functional dependencies.
  - The database is in the 1st and 2nd Normal Form

## Use-Case Diagrams:



## Activity Diagrams:

Diagrama de Actividades: Create Videogame Levels

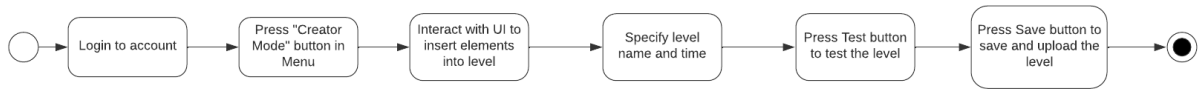


Diagrama de Actividades: Maker Mode Mechanics

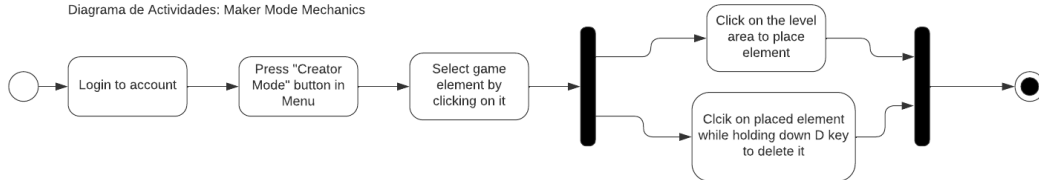


Diagrama de Actividades: Play Mode Mechanics

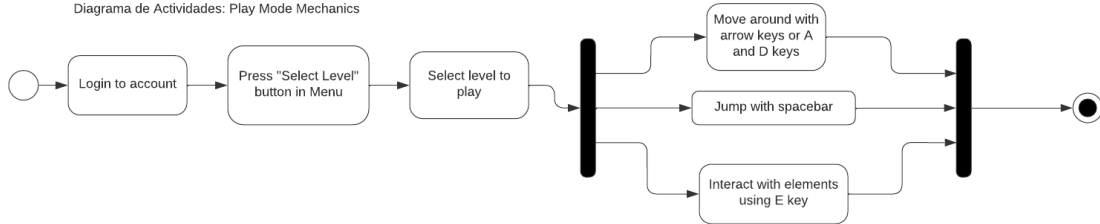
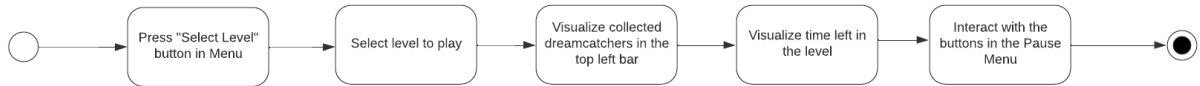


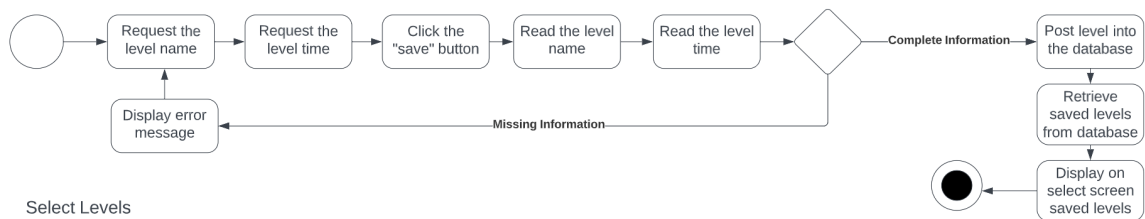
Diagrama de Actividades: Create Mode UI



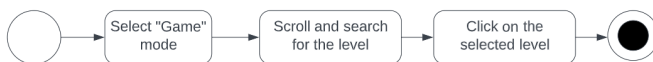
Diagrama de Actividades: Play Mode UI



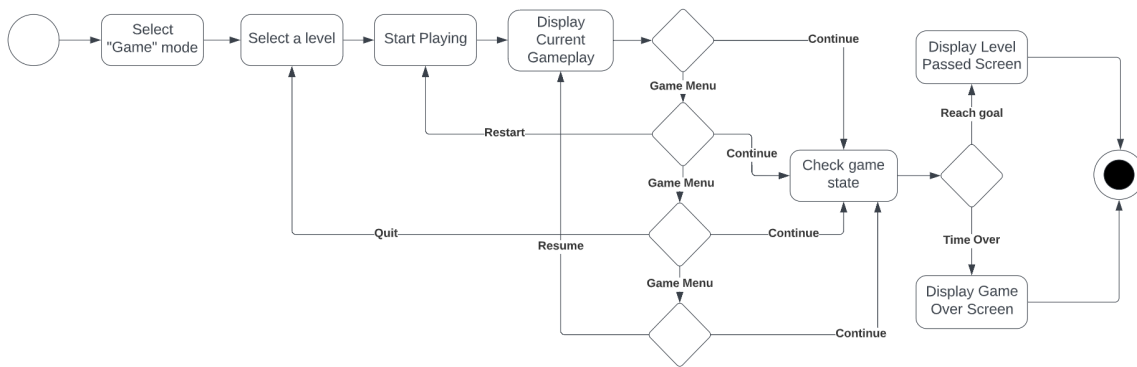
### Store and Publish Created Levels



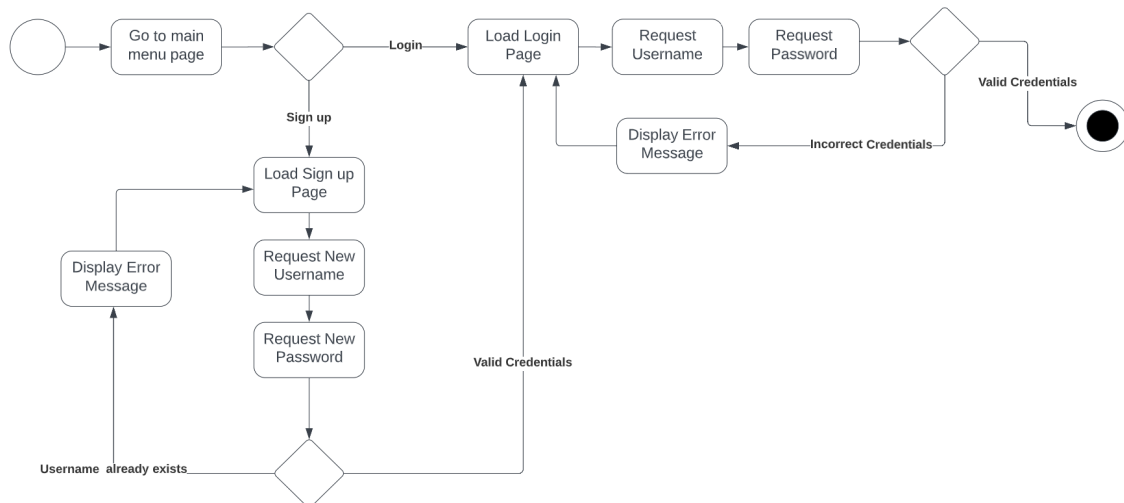
### Select Levels



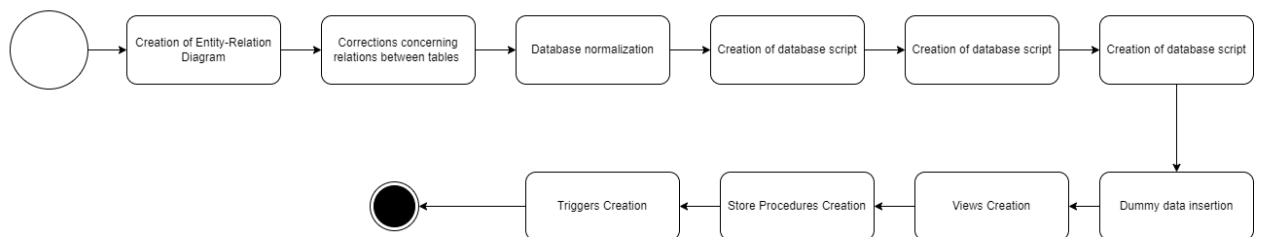
### Play Created Levels



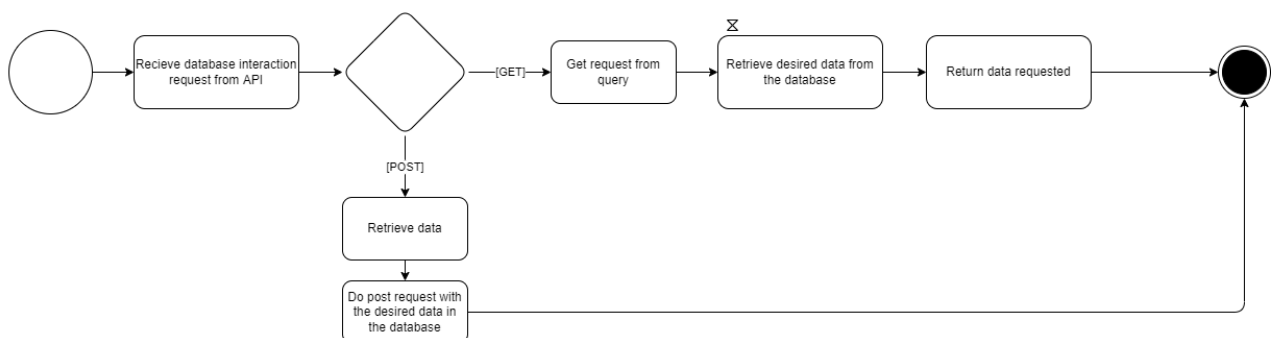
### Authenticate user



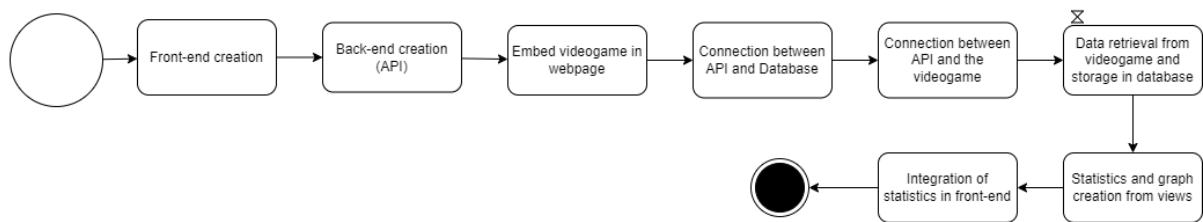
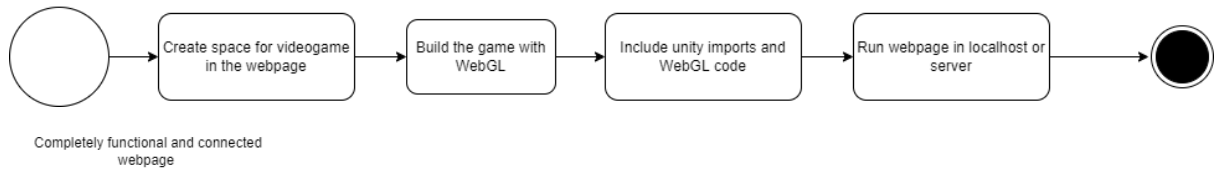
### Database Creation and Normalization



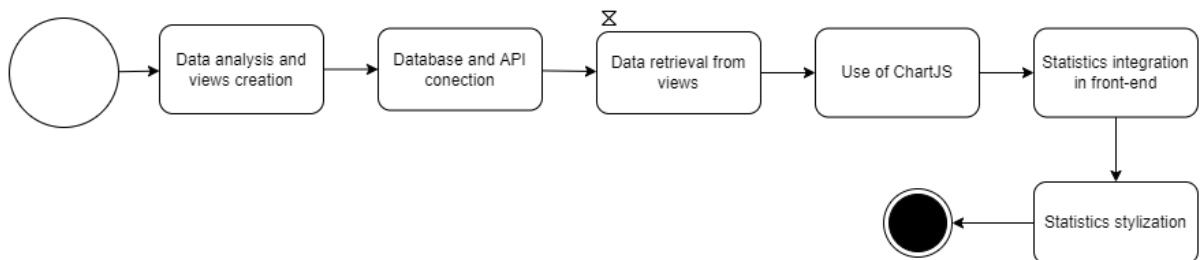
### Store and extract information from the database



Show video-game in webpage



Select and show relevant statistics



## Final SQL Scheme:

```
1 • SET NAMES utf8mb4;
2 • SET @@OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0;
3 • SET @@OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0;
4 • SET @@OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='TRADITIONAL';
5
6 • DROP SCHEMA IF EXISTS asleep_db;
7 • CREATE SCHEMA asleep_db;
8 • USE asleep_db;
9
10 • CREATE TABLE users(
11     id_user INT NOT NULL AUTO_INCREMENT,
12     username VARCHAR(45) NOT NULL,
13     user_password VARCHAR(45) NOT NULL,
14     num_levels_created INT NOT NULL DEFAULT 0,
15     first_connection TIMESTAMP NOT NULL DEFAULT CURRENT_TIMESTAMP,
16     last_connection TIMESTAMP NOT NULL DEFAULT CURRENT_TIMESTAMP,
17     times_login INT NOT NULL DEFAULT 0, #trigger
18     PRIMARY KEY (id_user)
19 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
20
21 • CREATE TABLE levels(
22     id_level INT NOT NULL AUTO_INCREMENT,
23     id_user INT NOT NULL, #esta es la foreign key
24     level_name VARCHAR(255) NOT NULL,
25     level_file TEXT NOT NULL,
26     level_time INT NOT NULL,
27     num_items INT NOT NULL,
28     times_played INT NOT NULL DEFAULT 0,
29     date_created TIMESTAMP NOT NULL DEFAULT CURRENT_TIMESTAMP, #agregar cosa a la dummy data y agregar en views
30     PRIMARY KEY (id_level),
31     KEY idx_fk_user_id (id_user),
32     CONSTRAINT `fk_level_id_user` FOREIGN KEY (id_user) REFERENCES users(id_user)
33 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
34
35 • CREATE TABLE gameplays(
36     id_gameplay INT NOT NULL AUTO_INCREMENT,
37     id_user INT NOT NULL, #foreign key
38     id_level INT NOT NULL, #foreign key
39     time_elapsed INT NOT NULL,
40     date_played TIMESTAMP NOT NULL DEFAULT CURRENT_TIMESTAMP,
41     PRIMARY KEY (id_gameplay),
42     KEY idx_fk_user_id (id_user),
43     CONSTRAINT `fk_game_id_user` FOREIGN KEY (id_user) REFERENCES users(id_user),
44     KEY idx_fk_level_id (id_level),
45     CONSTRAINT `fk_game_id_level` FOREIGN KEY (id_level) REFERENCES levels(id_level)
46 ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

	id_user	username	user_password	num_levels_created	first_connection	last_connection	times_login
▶	1	andre1na	M4rt3	4	2022-06-09 12:47:58	2022-06-13 21:21:58	7
	2	testUser	12345	0	2022-06-09 13:49:08	2022-06-09 13:49:15	1
	3	Topo42	quieroamitopo	0	2022-06-09 14:02:35	2022-06-09 14:02:46	1
	4	super-user57	password	0	2022-06-09 14:03:23	2022-06-09 14:03:23	0
	5	saturn7979	solar_system	1	2022-06-09 14:48:19	2022-06-13 21:15:50	3
	6	Akemi	soyracista	2	2022-06-09 14:49:50	2022-06-14 11:25:43	23
	7	Rick	Morty	1	2022-06-09 22:30:04	2022-06-13 21:12:02	4
	8	supremaciaTopo	eltoposiguevivo	1	2022-05-21 11:34:22	2022-05-23 19:43:47	3
	9	testUser	userTest	0	2022-05-23 13:43:47	2022-05-23 13:43:47	1
	10	user123	computadora	0	2022-05-23 17:02:56	2022-06-19 09:29:52	2
	11	wtfIsAsleep	wtfIsRemi	0	2022-05-26 10:29:18	2022-05-26 10:29:18	1
	12	carlitos	clavoUnClavito	3	2022-05-27 16:18:06	2022-06-08 13:01:47	7
	13	Topo	quieroUnTopo	0	2022-05-27 20:26:01	2022-05-27 20:26:01	1
	14	tigres	tragaronTrigo	5	2022-05-27 18:56:57	2022-06-14 22:16:20	12
	15	andy1D	teamo1D	2	2022-06-03 15:45:51	2022-06-06 23:06:24	2
	16	JiminMiVaron	BTS2002	2	2022-06-04 00:33:11	2022-06-09 16:37:43	4
	17	Stranger	Things	0	2022-06-13 14:39:18	2022-06-13 14:39:28	1
	18	gil	power	1	2022-06-13 14:59:16	2022-06-13 14:59:33	1
	19	nikki7	soynikki	0	2022-06-13 20:58:07	2022-06-13 20:58:23	1
	20	andriu	1234	1	2022-06-15 11:15:40	2022-06-15 11:15:50	1
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

	id_level	id_user	level_name	level_file	level_time	num_items	times_played	date_created
▶	1	1	MyFirstLevel	14,-33,-23,0<15,-34,-23,0<15,-19,-6,0<15,-1...	240	340	15	2022-06-09 13:46:56
	2	1	JustWin!	3,-21,-22,0<	15	1	8	2022-06-09 15:02:34
	3	7	DummyLevel	2,-9.717666,-22.40278,0<3,-13,-21,0<12,-20...	30	14	9	2022-06-09 22:31:34
	4	1	JustPortals	6,-21,-21,0<5,-29,-21,0<3,3,-22,0<9,-3,-22,...	35	7	8	2022-06-09 22:38:33
	5	5	MyFears	3,-14,-21,0<2,-19.10425,-20.40559,0<0,-19,-...	40	11	6	2022-06-09 22:42:22
	6	6	justPortals2	3,5,-21,0<15,-22,-15,0<15,-21,-15,0<15,-18,...	60	19	11	2022-06-13 12:57:06
	7	1	demo1	16,-23,-17,0<1,-24,-12.485,0<1,-15.28904,-2...	240	203	9	2022-06-13 14:16:13
	8	18	playhere	1,-11.485,-22.48212,0<3,4,-21,0<6,-33,-22,0...	40	17	5	2022-06-13 15:04:59
	9	6	test1234	15,-18,-23,0<15,-17,-22,0<15,-16,-23,0<14,-...	60	44	6	2022-06-13 17:04:35
	10	20	test level andriu	16,-20,-22,0<14,-13,-23,0<2,-8.103601,-18.4...	60	25	1	2022-06-15 11:24:24
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

	id_gameplay	id_user	id_level	time_elapsed	date_played
▶	1	1	2	2	2022-06-09 15:02:43
	2	1	4	11	2022-06-09 22:38:49
	3	1	3	8	2022-06-09 22:39:04
	4	1	3	4	2022-06-09 22:39:15
	5	7	2	2	2022-06-09 22:39:39
	6	7	2	2	2022-06-09 22:39:44
	7	7	2	2	2022-06-09 22:39:49
	8	7	4	5	2022-06-09 22:39:57
	9	5	3	6	2022-06-09 22:41:19
	10	5	2	2	2022-06-09 22:41:24
	11	5	3	4	2022-06-09 22:41:35
	12	5	5	8	2022-06-09 22:42:34
	13	6	4	34	2022-06-13 11:32:38
	14	6	3	5	2022-06-13 11:33:12
	15	6	5	39	2022-06-13 11:55:22
	16	6	4	34	2022-06-13 12:27:24
	17	6	4	13	2022-06-13 12:55:47
	19	6	4	17	2022-06-13 13:22:11
	20	6	4	29	2022-06-13 13:22:44
	23	6	7	239	2022-06-13 14:36:06
	24	17	4	11	2022-06-13 14:39:48
	25	18	8	7	2022-06-13 15:05:38
	26	18	8	38	2022-06-13 15:06:24
	27	19	9	57	2022-06-13 20:59:39
	28	19	7	239	2022-06-13 21:07:31
	29	5	8	20	2022-06-13 21:16:17
	30	5	9	55	2022-06-13 21:17:24
	31	1	2	7	2022-06-13 21:24:46
	32	1	8	39	2022-06-13 21:25:38

	33	6	8	39	2022-06-14 11:26:39
	34	6	8	7	2022-06-14 11:26:59
	35	20	7	239	2022-06-15 11:20:43
	36	20	2	3	2022-06-15 11:21:16
	37	20	10	8	2022-06-15 11:24:39
*	NULL	NULL	NULL	NULL	NULL



## Views:

View that consists of the username, the number of times the user has logged in, their first and last connection.

- This view is used for two of the statistics, a bar chart of the most active users and a timeline chart from the first to the last connection of each user.

```
6 • DROP VIEW IF EXISTS user_log;
7 • CREATE VIEW user_log AS
8     SELECT username, times_login, first_connection, last_connection FROM asleep_db.users
9     ORDER BY times_login DESC
10    LIMIT 10;
11 • SELECT * FROM user_log;
```

username	times_login	first_connection	last_connection
tigres	12	2022-05-27 18:56:57	2022-06-14 22:16:20
carlitos	7	2022-05-27 16:18:06	2022-06-08 13:01:47
JiminMiVaron	4	2022-06-04 00:33:11	2022-06-09 16:37:43
supremaciaTopo	3	2022-05-21 11:34:22	2022-05-23 19:43:47
user123	2	2022-05-23 17:02:56	2022-06-19 09:29:52
andy1D	2	2022-06-03 15:45:51	2022-06-06 23:06:24
testUser	1	2022-05-23 13:43:47	2022-05-23 13:43:47
wtfIsAsleep	1	2022-05-26 10:29:18	2022-05-26 10:29:18
Topo	1	2022-05-27 20:26:01	2022-05-27 20:26:01

View that consists of the username and the number of levels they have created.

- This view is used for a pie chart that shows the users that have created levels..

```
17 #basicamente es una view del username con el numero niveles que ha creado ordenados por username en orden alfabético
18 • DROP VIEW IF EXISTS user_view;
19 • CREATE VIEW user_view AS
20     SELECT username, num_levels_created FROM asleep_db.users
21     ORDER BY username ASC;
22 • SELECT * FROM user_view; #SELECT GRAFICA 3
--
```

username	num_levels_created
andy1D	2
carlitos	3
JiminMiVaron	2
supremaciaTopo	1
testUser	0
tigres	5
Topo	0
user123	0
wtfIsAsleep	0

View that consists in the level name, the number of times the level has been played and the username that created the level.

- This view is used for a bar chart that shows the 10 most played levels.

```
26 • DROP VIEW IF EXISTS times_level;
27 • CREATE VIEW times_level AS
28     SELECT level_name, times_played, username FROM asleep_db.levels INNER JOIN asleep_db.users
29     ON users.id_user = levels.id_user
30     ORDER BY times_played DESC
31     LIMIT 10;
32 • SELECT * FROM times_level; #SELECT GRAFICA 4
--
```

Result Grid			
Filter Rows:			
Export:			
Wrap Cell Content:			
level_name	times_played	username	
Donde esta el topo	0	supremaciaTopo	
New level	0	carlitos	
3 stories level	0	carlitos	
Nivel 1: Facil	0	tigres	
Nivel 2: Dif Media	0	tigres	
Sprint level	0	carlitos	
Nivel 3: Avanzado	0	tigres	
Nivel 4: Difcil	0	tigres	
Nivel 5: Nightmare	0	tigres	
Basic	0	andy1D	

View that consists of the username, level name, the time set on the level and the time the user spent in the level.

- This view is used for the drop down list in which by level a bar chart shows you the best 5 times by user.

```
33 #view del usuario, el nombre del nivel, el tiempo total del nivel y cuanto se tardó el usuario en pasarlo
34 • DROP VIEW IF EXISTS level_times;
35 • CREATE VIEW level_times AS
36     SELECT username, level_name, level_time, time_elapsed FROM asleep_db.users INNER JOIN asleep_db.levels
37     ON users.id_user = levels.id_user
38     INNER JOIN asleep_db.gameplays
39     ON levels.id_user = gameplays.id_user
40     ORDER BY time_elapsed ASC;
41
42 • SELECT * FROM level_times WHERE level_name = "MyFirstLevel" LIMIT 5; #SELECT GRAFICA 5
43 • SELECT * FROM level_times;
44
```

Result Grid			
Filter Rows:			
Export:			
Wrap Cell Content:			
username	level_name	level_time	time_elapsed
andrea	MyFirstLevel	240	2
andrea	MyFirstLevel	240	4
andrea	MyFirstLevel	240	8
andrea	MyFirstLevel	240	11

View that consists of the username, the id of the level, the level name, the level file and the date when created.

- This view is used for the level selector in unity.

```
50 • DROP VIEW IF EXISTS levels_view;
51 • CREATE VIEW levels_view AS
52     SELECT username, levels.id_level, level_name, level_file, date_created FROM asleep_db.users INNER JOIN asleep_db.levels
53     ON users.id_user = levels.id_user
54     ORDER BY id_level ASC;
55 • SELECT * FROM levels_view;
```

username	id_level	level_name	level_file	date_created
supremaciaTopo	1	Donde esta el topo	0,-25,-21,0<0,-26,-21,0<	2022-05-23 19:47:32
carlitos	2	New level	0,-25,-21,0<0,-26,-21,0<	2022-05-27 16:27:29
carlitos	3	3 stories level	0,-25,-21,0<0,-26,-21,0<0,-27,-21,0<	2022-06-06 17:04:13
tigres	4	Nivel 1: Facil	0,-25,-21,0<	2022-05-27 18:59:07
tigres	5	Nivel 2: Dif Media	0,-25,-21,0<0,-26,-21,0<	2022-05-27 23:28:58
carlitos	6	Sprint level	0,-25,-21,0<0,-26,-21,0<0,-27,-21,0<	2022-06-08 10:04:13
tigres	7	Nivel 3: Avanzado	0,-25,-21,0<	2022-06-11 09:34:21
tigres	8	Nivel 4: Dificil	0,-25,-21,0<0,-26,-21,0<	2022-06-13 00:04:19
tigres	9	Nivel 5: Nightmare	0,-25,-21,0<0,-26,-21,0<0,-27,-21,0<	2022-06-14 16:21:45
andy1D	10	Basic	0,-25,-21,0<	2022-06-03 18:31:22
JiminMiVaron	11	New Level	0,-25,-21,0<0,-26,-21,0<	2022-06-04 01:21:42

## Triggers:

In our team's case the use of triggers was not necessary because we used unity as our main tool, but for this deadline we implemented them as if unity didn't fulfill that functionality.

- The first trigger consists of updating the times a user has logged in the game with the aid of a stored procedure.
- The second trigger consists of updating the number of times a level has been played, also by calling a stored procedure.
- The third trigger consists of updating the number of levels a user has created

```
1 • USE asleep_db;
2
3 # update the last connection timestamp, cambiar a update en vez de after en vez times_login
4 DELIMITER $$
5 • DROP TRIGGER IF EXISTS update_connections;
6 CREATE TRIGGER update_connections ON users
7 AFTER UPDATE users.last_connection AS
8 BEGIN
9     CALL add_connections(users.times_login);
10    UPDATE users.times_login SET users.times_login = RETURN_STATUS;
11 END$$
12
13 # update the number of times a level has been played
14 DELIMITER $$
15 • DROP TRIGGER IF EXISTS update_timesP;
16 CREATE TRIGGER update_timesP
17 AFTER INSERT ON gameplays
18 FOR EACH ROW
19 BEGIN
20     CALL num_timesP(levels.id_level);
21     UPDATE levels.times_played SET levels.times_played = RETURN_STATUS;
22 END$$
23
24 # update the number of levels a user has created
25 #chechar el user_id de la tabla levels y aumentar en la fila de ese usuario el # de niveles creados
26 DELIMITER $$
27 • DROP TRIGGER IF EXISTS update_levelsC;
28 CREATE TRIGGER update_levelsC
29 AFTER INSERT ON levels
30 BEGIN
31     SET @levelUser = NEW.id_user;
32     #SET @numLevels =
33     SELECT num_levels_created FROM users WHERE id_user = levelUser;
34     UPDATE num_levels_created = num_levels_created + 1;
35 END$$
--
```

## Stored Procedures:

```
-- UNITY
DELIMITER $$
• DROP PROCEDURE IF EXISTS num_timesPlayed;
CREATE PROCEDURE num_timesPlayed (IN idLevel INT)
BEGIN
    UPDATE levels SET times_played = times_played + 1 WHERE (id_level = idLevel);
END$$
DELIMITER ;

DELIMITER $$
• DROP PROCEDURE IF EXISTS updt_lastConnection;
CREATE PROCEDURE updt_lastConnection (IN idUser INT)
BEGIN
    UPDATE users SET last_connection = CURRENT_TIMESTAMP WHERE (id_user = idUser);
END$$
DELIMITER ;

DELIMITER $$
• DROP PROCEDURE IF EXISTS updt_logTimes;
CREATE PROCEDURE updt_logTimes (IN idUser INT)
BEGIN
    UPDATE users SET times_login = times_login + 1 WHERE (id_user = idUser);
END$$
DELIMITER ;

DELIMITER $$
• DROP PROCEDURE IF EXISTS updt_createdLevels;
CREATE PROCEDURE updt_createdLevels (IN idUser INT)
BEGIN
    UPDATE users SET num_levels_created = num_levels_created + 1 WHERE (id_user = idUser);
END$$
DELIMITER ;
```

## One-Page SCRUM and Summary:

# Sprint	Dates	Functional Requirements	Non-Functional Requirements
1	May 16th - May 22nd <b>Scrum Master:</b> Karla <b>Developers:</b> Sebastián, Andreína	<ol style="list-style-type: none"> <li>1. Maker Mode Mechanics</li> <li>2. Store created levels</li> <li>3. Maker Mode User Interface</li> </ol>	<ol style="list-style-type: none"> <li>1. Sprite design</li> <li>2. Color palette design</li> <li>3. Website template definition</li> </ol>
2	May 23rd - May 29th <b>Scrum Master:</b> Andreína <b>Developers:</b> Sebastián, Karla	<ol style="list-style-type: none"> <li>1. Maker Mode Mechanics</li> <li>2. Game Mode Mechanics</li> <li>3. Maker Mode User Interface</li> <li>4. Game Mode User Interface</li> </ol>	<ol style="list-style-type: none"> <li>1. Sprite design</li> </ol>
3	May 30th - June 5th <b>Scrum Master:</b> Sebastián <b>Developers:</b> Andreína, Karla	<ol style="list-style-type: none"> <li>1. Publish created Levels</li> <li>2. Select Published Level</li> <li>3. Play the created levels</li> <li>4. Create a user account.</li> <li>5. Authenticate user <ol style="list-style-type: none"> <li>a. Log-in user with registered credentials (user authentication)</li> </ol> </li> <li>6. Database Creation and Normalization</li> </ol>	<ol style="list-style-type: none"> <li>1. Sprite design</li> <li>2. Game UI design</li> </ol>
4	June 6th - June 12th <b>Scrum Master:</b> Karla <b>Developers:</b> Andreína, Sebastián	<ol style="list-style-type: none"> <li>1. Store and extract information from the database</li> <li>2. Select and show relevant statistics</li> </ol>	<ol style="list-style-type: none"> <li>1. Dashboard design</li> <li>2. Creation of triggers</li> <li>3. Creation of views</li> <li>4. Creation of stored procedures</li> </ol>
5	June 13th - June 17th <b>Scrum Master:</b> Andreína <b>Developers:</b> Sebastián, Karla	<ol style="list-style-type: none"> <li>1. Create videogame levels</li> <li>2. Show video-game in webpage</li> <li>3. Completely functional and connected webpage</li> </ol>	<ol style="list-style-type: none"> <li>1. Hide warnings</li> <li>2. Music and sound effects</li> </ol>

	Database	Webpage	Videogame
	Create a user account.	Show video-game in webpage	Create videogame levels
<b>Number of hours:</b> <b>Estimated Hours:</b>	1 hrs 1 hrs	1 hrs 15 min	10 hrs 7 hrs
	Authenticate user	Completely functional and connected webpage	Maker Mode Mechanics
<b>Number of hours:</b> <b>Estimated Hours:</b>	30 min 2 hrs	8 hrs 6 hrs	30 hrs 10 hrs
	Database Creation and Normalization	Select and show relevant statistics	Game Mode Mechanics
<b>Number of hours:</b> <b>Estimated Hours:</b>	5 hrs 2 hrs	6 hrs 3 hrs	20 hrs 15 hrs
	Store and extract information from the database	Dashboard design	Game Mode User Interface
<b>Number of hours:</b> <b>Estimated Hours:</b>	5 hrs 1 hrs	4 hrs 2 hrs	7 hrs 5 hrs
	Creation of stored procedures	Color palette design	Maker Mode User Interface
<b>Number of hours:</b> <b>Estimated Hours:</b>	2 hrs 2 hrs	2 hrs 30 min	10 hrs 5 hrs
	Creation of triggers	Website template definition	Play the created levels
<b>Number of hours:</b> <b>Estimated Hours:</b>	4 hrs 2 hrs	1 hrs 15 min	3 hrs 5 hrs
	Creation of views		Store created levels
<b>Number of hours:</b> <b>Estimated Hours:</b>	2 hrs 1 hrs		8 hrs 6 hrs
			Publish created Levels
<b>Number of hours:</b> <b>Estimated Hours:</b>			2 hrs 1 hrs

			Select Published Level
Number of hours: Estimated Hours:			8 hrs 4hrs
			Music and sound effects
Number of hours: Estimated Hours:			10 hrs 4 hrs
			Sprite design
Number of hours: Estimated Hours:			24 hrs 7 hrs
			Game UI design
Number of hours: Estimated Hours:			5 hrs 2 hrs
Total hours per area:	21 hrs	19 hrs	137 hrs
Total hours:	177 hrs		

	Number of hours
User Stories	4 hrs
Product Backlog	5 hrs
Use-Case Diagrams	10 hrs
Activity Diagrams	4 hrs
Total hours	23 hrs