

Factory Royale

Production Report

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Part 1 – Technical Infrastructure

Click up Structure

Our click up page is divided into two folders, one has the backlogs for the game and the app, the other has the sprints.

The game backlog contains all the information for the game's features. It is divided in three different categories: the "to do" category has all the features that have not yet been implemented; the "in progress" has the features we are currently working on; the "complete" has the finished features for the game.

The app backlog is the same as the game backlog one but for the app features.

The second folder has the sprints, it is currently divided into eight different sprints, one for each week working on the project. There we keep a record of what was done every week regarding the game and the app.

The sprints tasks are divided into five different categories: the "open" has all the tasks that are not being worked on yet; the "in progress" has all the tasks that are currently being worked on; the "review" has the tasks that were done but not yet seen by other team members ;the "ready" has all the features that are done but not yet implemented into the game; the "closed" has the features that were completely finished that week.

Google Drive Structure

The google drive folder for the project has the builds for each version and the app and game features in more detail.

Part 2 – Production Report

Game Concept

Factory Royale is a management and stealth game based on the realism time era, more specifically on the painting *The Iron Rolling Mill* by Adolph Menzel.

In this game you play as a company owner in a map filled with rival companies, your company starts with a single factory, which you can upgrade and visualise all its stats. Every other company starts with a single factory as well and your objective is to buy all the other factories and be the last company on the map.

In order to achieve that goal, you must upgrade your factory and sabotage others to increase your income and decrease theirs. After each successful sabotage the target factory will have consequences, but if you fail, the consequences are for the sabotage. Eventually you will have enough money to buy other factories.

App Concept

The Factory Royale companion app is called “Journal”, in there the player can keep up with all its factories stats, as well as check a newspaper that describes occurrences of each game day.

The connection with the game is the Journalist, the journalist is an in-game NPC that when interacted with will give the options to ... **NEED TO KNOW**.

Main Features

Game

- A map, as well as 23 factories on it
- 9 sabotage levels being used
- Random events (upgrades, sabotages) for the rival factories
- Connection to Database

App

- Newspaper
- Stats for every player factory
- Connection to Database

Sprint Reports

Sprint Report 1 – 28th October

Sprint objectives

For this sprint the objectives were, first analysing the feedback that was given to us on the first delivery and make changes on our game and app based on it, the second objective was starting the Game UI

Backlog

Left to do:

-Nothing

In progress:

-Nothing

Concluded:

-Game UI – User interface of the game (minimap)

-Assets – Creation of sprites for the game

-Planning – Planning of the game and app

Sprint planning

Most of this sprint was planning the game and app and making changes to them, Bruno did the Game UI and the assets.

Sprint review

All tasks were completed, the assets currently in the game were the ones created by Bruno.

Sprint Retrospective

Even though it doesn't look like much was done during this sprint it was crucial for the game, since what was decided in the planning part would be our game and app. Therefore, not many advances were made in the game, but it was a productive sprint long term.

Sprint Report 2 – 4th November

Sprint objectives

For this sprint, the objective was to work on the basics of the game and get them out of the way in a way we could put them to the side until after the second delivery.

Backlogs

Task	Description	Person(s)	Time
App layouts	Creating the app layouts	Bruno	1 day
Game layouts	Creating the game layouts	Bruno	2 days
Sabotage layout	Creating the sabotage layouts (10 levels)	Pedro	5 days
Guards	Creation of the FOV (field of view)	Sergio	5 days
Collision	Creation of collisions on the main world and sabotage	Pedro, Bruno	1 hour

Game UI	Stats bar (factory on click)	Bruno	Half day
App UI	Menu and transitions	Bruno	Half day

Sprint planning

This sprint was all individual work from each of the members of the group, Bruno did the game and app UI and layouts and implemented collisions on the main world, Pedro did the sabotage layouts and implemented the playable character and collisions, Sergio started on the Guard code.

Sprint review

All tasks were completed. The guards were finished, being able to chase the player. The sabotage layouts that were planned to be made that sprint were completed (using the sprites previously made) as well alongside with the player in the levels and collisions. The full game layout was made with 22 factories and one more for the player, the player and 2 more were isolated, those are the factories being used for the presentation.

Sprint Retrospective

This was a big jump in the creation of the game, since it was individual work made by the 3 members of the group, everyone could work at their speeds and no one was dependent on some other person, because of that, even though it was a lot of work it managed to be pulled of and all the members finished their work on time.

Sprint Report 3 – 15th November

Sprint Objectives

Start creating events and interactions, keep working on the sabotage layouts and implement guards on all the layouts. Creating a Main Menu and upgrade menu for the start of the game and for the main world respectively. Keep working on the App UI. And finally, connecting the main world and the sabotage.

Backlogs

Tasks	Description	Person(s)	Time
Main Menu	Creation of the Main Menu	Bruno	1 hour
Sabotage - levels	Creation of 15 more levels (10 in paper, 5 in unity)	Pedro	5 days
Sabotage - guards	Implementation of the guards on existing levels and new	Pedro, Sergio	5 days (made with levels)
Main World – upgrade menu	Creation of an upgrade menu (on paper)	Sergio	3 days
Main World - sabotage	Connection between the Main World and the sabotage	Bruno, Sergio	2 hours
App	Factory status on the app completed for presentation	Bruno	1 day

Sprint planning

This sprint had a lot of objectives, the objective for the sabotage was to add more levels and start making all the levels sort of complete by implementing the guards. As for the Main World, creating upgrade menu (on paper) and connecting it to the sabotage were both big steps.

Sprint review

All tasks were completed, due to some tasks being made by multiple members of the group they required more time to be completed, the level design of the sabotage levels was concluded and a big step was taken on the app, having half of it done for the presentation

Sprint Retrospective

This sprint was a lot like the sprint 2, every member of the group kept working on what they were working and finished the tasks they had to, having all the bases for the game and leaving only details to add to the game. For the app, half of it was done after this week, leaving only the stats part to be done.

Sprint Report 4 – 22nd November

Sprint Objectives

Finish both the game and app, leave only polish for the last sprint before the presentation.

Backlogs

Tasks	Description	Person(s)	Time
Upgrade	Having the upgrades fully working	Bruno, Sergio	1 day
Factory Name	Showing every factory name when on the Main World	Bruno	3 hours
Sabotage Win/Lose Screens	Creation of win a lose screens, concluding the sabotage	Pedro	6 hours
Sabotage - Guards	Making small adaptations to the guards	Pedro, Sergio	1 day (divided)
Bug Fixes	Fixing bugs along the way	Bruno, Pedro, Sergio	1 week
Sabotage	Finishing the implementation of everything on the sabotage	Pedro	3 days
Journalist	Creating the journalist on the Main World	None	None

Sprint planning

The objective for this sprint was to “finish” the game for the presentation, leaving only polish and small changes for the final sprint before the presentation. The sabotage was supposed to be done and prepared for adding future levels but due to problems with the guards it was not finished this sprint. The upgrade screen was successfully finished and all the changes on the Main World were successful. The journalist was cut out due to lack of time from the members of the group.

Sprint review

Most tasks were completed, leaving only a few bugs with the guards, all the members worked on the guards in order to fix the bugs, leaving most of them fixed. Besides the journalist, the Main World was left with nothing to add, leaving only the journalist and small changes.

Sprint Retrospective

This was one of the most hard-working sprint for all the team members, having some bugs making parts of the game unplayable. But all and all it was a good work week finishing most aspects of the game except for the journalist who was cut out for now due to time.

Sprint Report 5 – 29th November

Sprint Objectives

Polish the game (organise everything that was in the game) and App for the presentation and get all the documentation done.

Backlogs

Task	Description	Person(s)	Time
Fixing Bugs	Fixing the last bugs on the game	Bruno, Pedro, Sergio	3 days
App finish and polish	Final touches on the app	Bruno	3 days
Game polish	Final touches on the game and sabotage	Bruno, Pedro, Sergio	4 days
Documentation	Getting the documentation and presentation ready	Bruno, Pedro, Sergio	2 days

Sprint planning

This sprint was previously planned to be polish only, but due to unfinished tasks we had to fix some bugs that were left from the sprint 4 so that was our priority, after correcting the bugs, we had to start working on the paperwork.

Sprint review

As this was the last sprint before the delivery and because there were some tasks left from the previous sprint this was a very hard-working sprint. All the tasks were finished successfully.

Sprint Retrospective

As the last sprint it went well, the game polish was good, having most things working. Some bugs had to be left out due to time, but since there are no game breaking bugs the group decided to focus more on the polish and making the features that were already done better and more enjoyable to the player. The App was finished in time with no bugs and every feature working as intended for the delivery.

Sprint Report 6 – 13th December

Sprint Objectives

Begin the Database creation and server implementation.

Backlogs

Task	Description	Person(s)	Time
DataBase Diagrams	Begin the creation of the database on paper	Bruno, Pedro, Sergio	3 days
App database implementation – 1st part	Start implementing the database on the app	Bruno	3 days
Database	Creation of the database on computer	Bruno, Pedro, Sergio	4 days
Setting up Server	Start setting up the server for the database	Bruno, Pedro, Sergio	2 days

Sprint planning

After some changes due to the presentation we decided to start working on the database right away in order to make certain aspects of the game work.

Sprint review

We were all still very relaxed because of the presentation, but this sprint went well and we got some nice bases for our current database.

Sprint Report 7 – 20th December

Sprint Objectives

We decided to join all the future sprints and put them all in one due to vacations and other school projects. Therefore, this sprint was the one we took until the final presentation.

Backlogs

Task	Description	Person(s)	Time
Database implementation	All the connections and changes to scripts to connect the database	Bruno, Pedro, Sergio	2 weeks
Server connection	Connect the game and app to the server	Bruno, Pedro, Sergio	6 weeks
Sabotage finish levels	Finishing the sabotage levels that are being used, using database	Bruno, Pedro	4 weeks
UI changes	Alter the UI	Bruno, Pedro, Sergio	1 week
Connection between the game and app	Connect the app and the game thru the database	Bruno	2 weeks
Bots actions	Give actions to the Bots (upgrades, sabotage, buy factories)	Pedro, Bruno	1 week
Journalist	Create the journalist (using the database)	Bruno, Sergio	2 weeks
Sprite changes	Change the sprites of the game	Bruno, Sergio	2 days
App connection to database	Connect the app to the database and	Bruno, Sergio	4 weeks
App authentication	Create an authentication method for the companion app	Bruno	1 day

Sprint planning

Since this sprint was made of a lot of time, it was hard measuring how long things took since task were being picked up and dropped at every time. By the end it was very stressful time. And some bugs had to be left in the game.

Sprint review

since work got piled up to the end due to the lack of organisation some minor tasks were left unfinished but most of the game aspects are working as intended.

Development Analysis

(More thorough list of the tasks completed)

Game:

Mechanics:

- Payer Movement – movement with the arrow keys and WASD;
- Guards – guards in the sabotage will move according to waypoints and will detect the player;
- Database – all values are stored in a database;
- Upgrades – Upgrades for each factory, both for player's factory and rival ones;
- Rival factories – rival factories will upgrade and sabotage;
- Journalist - NPC that walks around in the Main Map, player can interact with him to...

Designs

- Map Design – The overworld map with all the sprites implemented;
- Sabotage Design – 9 currently different levels of the sabotage being used, with guards and objectives implemented;
- UI – user interface on all screens;

App:

Mechanics

- Newspaper – connection with the game, ...
- Stats – the player can check the stats for every factory owned;

Design

- UI – user interface, everything running smoothly

Evaluation

The group feels the project was a bit too ambitious. Due to the size of it many things were not completed by the end.

There were some organisation problems and as always, some unexpected problems from everywhere, which resulted in some tasks not being finished by the end.

Workflow

Being this the first time, the group was working together there were some disagreements but overall everyone stepped up when it was time to work.