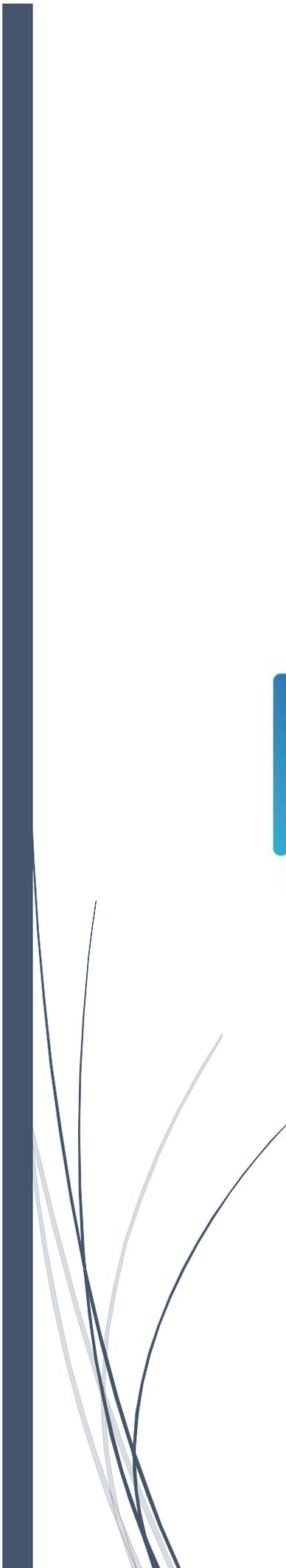


Blockchain
demonstrator
User manual



Version control

Version	Date	Author	Changes
1.0	22-6-2021	Shaun Westendorp Mees Doeleman Yazan al Nassr	Initial version
2.0	08-03-2022	Maxime Bouillon	Add game set up on computer

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1. Introduction

This document can be used to guide you, the reader, through the functionalities of each user. With this document, you can understand how the functionalities work, without any prior knowledge. In the following chapters, the functionalities of each type of user will be explained. These functionalities will be explained through visual steps, showing the process from start to end.

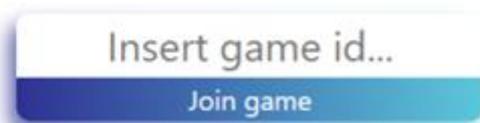
2. How to play the beer game

To be able to play the beer game, the player must follow a few mandatory steps before having the ability to play the game. These steps together with a guideline of extra steps on how to play the game will be explained in this chapter.

2.1. Joining a beer game

The first step is to join the game. The player can join the game on the index (home) page of the web application. In here, the player can insert game ID given to him by the game master or admin. This will have to be done manually during the workshop, where the ID is shown on the screen or given to the players verbally.

THE BLOCKCHAIN DEMONSTATOR BEERGAME



A screenshot of a web interface element. It features a white rounded rectangular box with a blue gradient bar at the bottom. The text 'Insert game id...' is centered in the white area, and 'Join game' is centered in the blue bar.

2.2. Choosing a role and name

To complete the joining process, the player must also insert a name and choose a role to play as. The player must first insert a name in order to able to choose a role. The role must also be available, this is signified by the greyed-out buttons. If another player has already chosen the given role, the player will no longer be able to choose that role.



A screenshot of a web interface for role selection. It shows the text 'What's your name?' above a text input field. Below the input field is the text 'Choose your role' followed by four buttons: 'Retailer', 'Manufacturer', 'Processor', and 'Farmer'. The buttons are greyed-out, indicating they are not available for selection.

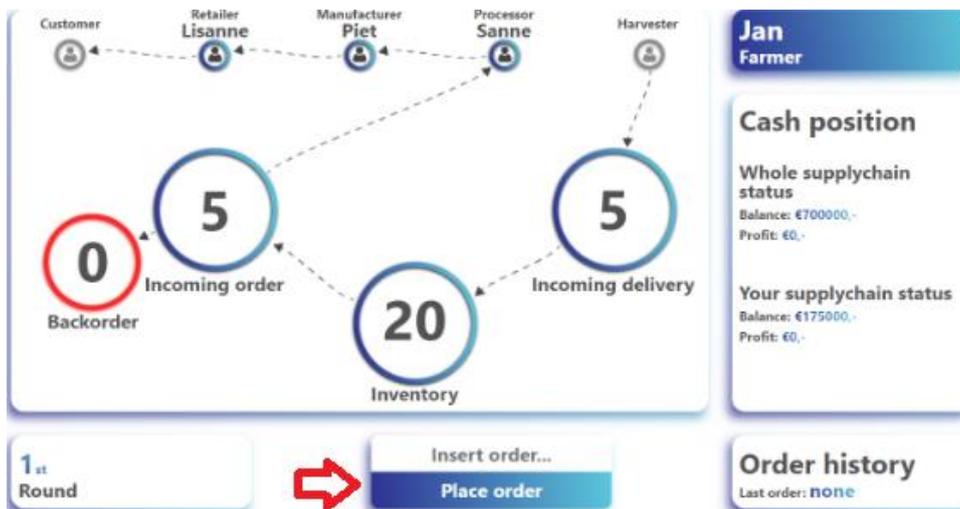
2.3. Waiting for the game to start

When the player has successfully joined the game, he will most likely see the following loading screen first. For the game to start, four players must join the game first. Therefore, the players who joined the game before it has started, must first wait for a full game.



2.4. Placing an order

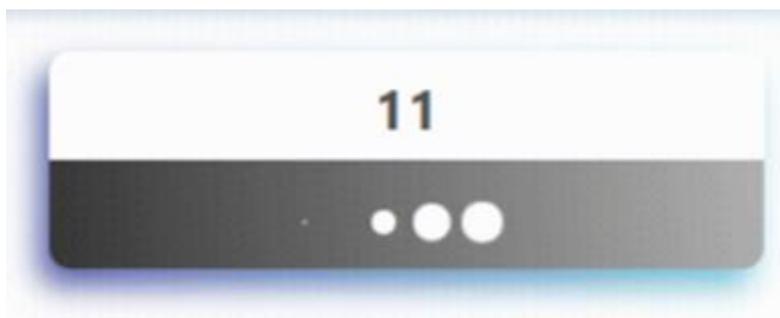
After all four players have joined the game, the game will start. The player is now able to place his first order and start playing the beer game.



The player is able to place his order with button in the bottom center of the screen. The player is also able to take in other information on the screen when choosing the order amount.

2.5. Waiting for everyone to place their order

The next is to first wait for everyone to place their order. This is shown to player with another animation, this time in the place order button. The button is also greyed-out and no longer able to be clicked on, signifying that the user must first wait before placing another order.



2.6. Choosing a new supply chain setup

After the 8th round, the second phase of the game begins. The player must now choose a new supply chain setup. Given to him are four different options, each with their own perks and downsides.

Choose your supplychain setup

- You provide
You are managing your own transportation system. You own the vehicles. You need to ensure the support staff and handle the administration yourself as an organization.
- You provide with help
You are leveraging a transportation company. Your order is priority. You own a few vehicles, yet the bigger part of the shipment is handled by an outside company. You partly handle the administration of the shipments.
- Trusted party
With another name, third party logistics. You hire a third company to handle your orders this way you outsource the responsibility a hiring a support and administration staff. You do not own vehicles for shipping. You partly handle the administration of this shipments.
- DLT
The distributed Ledger technology speed up the information flow in the supply chain. The transportation of the shipment is outsourced. Documentation between the stakeholders, authorities, and your own organization works as real time data. This way the cost can be reduced by 15 to 20% and the lead time can be decreased by 40%.

2.7. Choosing a supply chain setup together

After the 16th round, the third phase of the game starts. In phase 3 the players must collectively choose one supply chain setup together. The players can see each other's votes on the right-hand side of the box. The players are allowed to keep choosing a different option as long as not all four players have chosen. After everyone has chosen, the game will show which option has been collectively decided and the game will continue.

Choose your supplychain setup

- You provide
You are managing your own transportation system. You own the vehicles. You need to ensure the support staff and handle the administration yourself as an organization.
- You provide with help
You are leveraging a transportation company. Your order is priority. You own a few vehicles, yet the bigger part of the shipment is handled by an outside company. You partly handle the administration of the shipments. Piet
- Trusted party
With another name, third party logistics. You hire a third company to handle your orders this way you outsource the responsibility a hiring a support and administration staff. You do not own vehicles for shipping. You partly handle the administration of this shipments.
- DLT
The distributed Ledger technology speed up the information flow in the supply chain. The transportation of the shipment is outsourced. Documentation between the stakeholders, authorities, and your own organization works as real time data. This way the cost can be reduced by 15 to 20% and the lead time can be decreased by 40%. Lisanne
Jan

2.8. End of the game

After the 24th round, the game ends and all the players are sent to the page seen below. On this page, the player can review his performance over the span of the game. The player is able to see statistics about his inventory, order worth, overall profit and gross profit. The player can also see whether he and his team made a profit or deficit.



3. How to observe a beer game

Another important part of the beer game is for the game master to be able to observe the game. In this chapter, this process will be explained from the game master's point of view.

In order to launch the game, you need to reach out to us at info@sparklivinglab.nl. We will create for you a game master code that you will use in order to log in and follow games. You will also need to tell us when you plan to play the game (day, time and amount of games) so that we can create them for you. Once this arranged with the Spark! Living Lab team, following [this link](#), you will land on the page of the following step.

3.1. Log in as a game master

The very first step to observing a beer game is to first log in as a game master. In the top-right corner of the screen, the login button can be found.



The image shows a login form with a light blue background and rounded corners. It contains three elements: a light blue input field with the placeholder text "Insert id...", a second light blue input field with the placeholder text "Insert password... [optional]", and a dark blue button with the text "Login" in white.

The game master only needs an ID as his account is not password protected. The game master can get this ID from the admin manually.

3.2. Selecting a game

When the game master has successfully logged in, he will see the following screen.

Id	Players	Status
494323	Retailer, Manufacturer, Processor, Farmer	Playing
622564	Jeffrey, asdasd, asdasd, ASDas	Playing
733843		Waiting for players
745061	Reasdasd, asdasdasd, asdasd, asdasd	Done
815821	Retailer, Manufacturer, Processor, Farmer	Playing
887945	Jeffrey, Manufacturer, Processor, Farmer	Done

View game

Here the game master is able to choose from a list of games to view. When the game master selects one of the games, the view game button will light up as can be seen below.

Id	Players	Status
494323	Retailer, Manufacturer, Processor, Farmer	Playing
622564	Jeffrey, asdasd, asdasd, ASDas	Playing
733843		Waiting for players
745061	Reasdasd, asdasdasd, asdasd, asdasd	Done
815821	Retailer, Manufacturer, Processor, Farmer	Playing
887945	Jeffrey, Manufacturer, Processor, Farmer	Done

View game

On this page, the game master can also view the game ID's, current players, and the status of the games.

3.3. Observing the statistics

After the game master has selected a beer game and clicked on the view game button, he will be sent to the following page.



17th
Round

Show latest information

Team
Balance: -€11111186,-
Profit: -€11811186,-

In here, the game master can see statistics about the game. These statistics update as the game progresses, allowing for a nice and fluent observing experience. In this page, the game master is also able to view the latest information when clicking on the show latest information button.

3.4. Observing the latest information

In the latest information page, the game master can view detailed information about each player in the game.

Lisanne
Retailer

Last order: 14
Incoming order: 15
Backorder: 0
Inventory: 0
Incoming deliver: 15
Balance: -€9951782,5-
Profit: -€9951782,5-

Piet
Manufacturer

Last order: 15
Incoming order: 14
Backorder: 0
Inventory: 0
Incoming deliver: 10
Balance: -€148782,-
Profit: -€148782,-

Sanne
Processor

Last order: 15
Incoming order: 15
Backorder: 0
Inventory: 0
Incoming deliver: 5
Balance: -€331439,-
Profit: -€331439,-

Jan
Farmer

Last order: 15
Incoming order: 15
Backorder: 0
Inventory: 0
Incoming deliver: 15
Balance: -€679182,5-
Profit: -€679182,5-

17th
Round

Show graphs

Team
Balance: -€11111186,-
Profit: -€11811186,-

These values also update automatically as the game progresses. From this page, the game master is also able to switch back to the previous page with the show graphs button.

4. How to manage the web application

The last but also very important procedure the admin must take, managing the web application. Without a beer game or game master, there is nothing to play nor nothing to observe. This chapter will take the admin through the process of managing the web application.

4.1. Logging in as an admin

As with the game master, the admin must also first log in to be able to use his functionalities. Again, in the top-right corner of the screen, the login button can be found. This will bring the admin to the following page.



The image shows a login form with three input fields and a button. The first field is labeled "Insert id...", the second is labeled "Insert password... [optional]", and the third is a blue button labeled "Login".

The admin must then insert the ID of the admin account as well as the password. The ID and password of the admin account were created during the first-time setup, so if these are forgotten, please redo the setup for the products to setup the admin account again.

4.2. Managing games

After the admin has successfully logged in, he will be sent to the following page.

Game id	Game master id	Players	Status
251045	475782	Lisanne, Piet, Sanne, Jan	Done
492445			Waiting for players
494323	123456	Retailer, Manufacturer, Processor, Farmer	Playing
538090			Waiting for players
641563	475782		Waiting for players

Add game **View game** **Edit game** **Delete game**

On this page, the admin is able to add, view, edit and delete games. As can be seen in the picture above, only the add game button lights up because a game must first be selected in order to be viewed, edited or deleted.

The add game button simply creates a new game and adds it to the list of games. The view game button allows the admin to observe games just like the game master. The edit game button allows the admin to change data of a game.

Remove players

Retailer: Lisanne

Manufacturer: Piet

Processor: Sanne

Farmer: Jan

CurrentDay

169

Game started

GameMasterId

475782

Save **Back to List**

Such as being able to remove players from the game, changing the current day, resetting the game and changing the coupled game master. The delete button allows the admin to delete the game with the following confirmation page.

Are you sure you want to delete this?

Id	538090
Players	John, Kaylee, Connor, Daisey
CurrentDay	1
GameStarted	<input checked="" type="checkbox"/>
GameMasterId	

4.3. Managing game masters

As well as the games, the admin can also manage game master accounts. By clicking on the game masters tab in the top of the screen, the admin will be brought to the following page.

Game master id	Amount of games	Status
123456	5	Active
475782	2	Active
821424	1	Active
935844	1	Inactive

Add game master **View game master games** **Delete game master**

Here, the admin is able to add new game masters, view game master's games and delete a game master. The add game master button does not need to be further explained, as it does what the name implies. The view game master games button however is a bit more intricate. This button refers the admin back to the game list page but also filters the page with only the given game master, as seen below.

Game id	Game master id	Players	Status
251045	475782	Lisanne, Piet, Sanne, Jan	Done
641563	475782		Waiting for players

Add game **View game** **Edit game** **Delete game**

This makes it a lot easier to manage a game master's games, because when adding a new game, the game master will automatically be linked to it. The list is as said, also filtered to only the given game master, making viewing, editing and deleting his games a lot easier.

At last, the delete game master button in the previous screen, allows the admin to delete the selected game master, after which the admin is sent to the following screen to ask for confirmation.

Are you sure you want to delete this?

Id 475782

Amount of games 2

Status Active

Delete **Cancel**