# PIRATE QUEST ISLAND

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# EXECUTIVE SUMMARY

Our game is targeted towards companies to use among their employees to improve collaboration skills, teamwork, and healthy competition in the workplace. This adventure game is about surviving on an island with your colleagues. To escape and survive, it is necessary to team up and complete the different challenges. Each time someone wins a challenge, they will get a piece of the puzzle. The winner will be the first to complete the whole map.

The game was strategically created in a way that it contains 6 different locations, which, depending on the location, contain different types of challenges targeting specific skills such as teamwork, communication, problem-solving, empathy, healthy competition, and getting to know your coworkers.

The teams will be randomized, so be careful, since you may team up with someone that was your rival the previous round. With this randomizer, the goal is to learn how to cooperate with people that you may not like or understand since this is the biggest challenge in daily life.  Learning about cooperation and healthy competition, will allow users to understand and learn the importance of communication, problem-solving, and trust among other characteristics that make the environment of the workplace nice and comfortable.

Even though this game is created to be played in teams, the winner will be an individual. By doing this, the players will learn that even though when working you do your best to get promoted, it is really important to fully understand the importance of having and working as a team in order to accomplish your individual goal.

# INTRODUCTION

This report provides an overview of our first-year Industrial Design (ID) project (P1) focused on the design brief of creating a physical-digital hybrid educational game. The project aims to develop a game that combines tangible, physical elements with digital components to enhance teamwork in both collocated and non-collocated settings and a hybrid of these two. In this introductory section, we will explore the context of the report, provide insights into the educational game's design brief, and offer a brief outline of the report's structure.

## Context of the Report:

The project is a part of the first-year ID-curriculum, specifically Project 1 (P1). The design challenge revolves around creating a physical-digital hybrid educational game that not only introduces a new concept but is entirely unique to our creative efforts. The essence of the project lies in both physical and digital elements to foster teamwork.

## Design Brief Overview:

The design brief tasks us with crafting a game that is not only innovative and newly conceptualized but is also educational, providing valuable insights into relevant and challenging topics. The educational aspect could delve into societal issues, skills, knowledge, or attitudes. Moreover, the game must maintain a respectful and non-insulting tone while aligning with the university's reputation. To meet the design brief, the game must address a (preferably) challenging and (preferably) relevant educational topic. Additionally, it must be playable by a minimum of three people and cater to both collocated and non-collocated settings. These constraints necessitate different rule sets for various gameplay scenarios. The game must be an amalgamation of physical and digital components, creating a unique interactive experience.

## Structural Overview of the Report:

The report starts by talking about what we wanted to achieve with our project, explaining the specific goals of creating our desired game. We then share the process we went through, creating an overview of why we made decisions. Next, we talk about the different iterations and how those led towards our final outcome. Finally, we wrap up the report by looking back at our journey, summarizing the important parts, and giving an overall view of our final game, and reflections on the process, how we met the goals and teamwork.

# PROJECT GOAL

Our main design objectives during this process were centered around the following elements:

**Assisting people:** Our primary goal was to develop a design that would offer people support and help. Through our design, we hoped to meet their needs, resolve their issues, and improve their experience as a whole.

**Producing something aesthetically pleasing**: Our goal was to create a design that would draw people in and encourage interaction. Our goal was to improve the design's overall aesthetic appeal by introducing components of beauty, elegance, and harmony.

**Changing the world:** Our goal was to create a product or solution that would significantly and favorably affect the global community. We aimed to tackle noteworthy issues or support a cause that would result in constructive societal transformation.

**Creating something distinctive:** Our design objectives required differentiation. Our goal was to produce something special and unusual that would distinguish our design from competing products on the market. Making it stand out from the competition and be instantly recognizable was our main objective.

By aligning our design process with these goals, we strived to create a solution that not only met functional requirements but also had a positive impact on users, visually appealed to them, stood out from the crowd, and made a difference in the world.

# PROCESS

During our design process, we mainly focused on details. This meant that we spent most of our time in the envisioning and doing section of the RTDP. This resulted in the main changes of the game being more aesthetic rather than technical. We overwent several iterations that allowed us to modify the game as we went along. The process was oriented always taking into account the user experience and accessibility of the game.

Our process started by envisioning what we wanted to create, this allowed us to gather information to create our vision. By brainstorming all together and creating various versions of a game we slowly narrowed down the theme of our game into a pirate-themed game. This was done by comparing and contrasting ideas, trying to fuse them all and discarding many others. Initially, we attempted to fuse them all into one, this was a bad idea as it created unnecessary difficulty. We then went towards the analyzing circle of the RTDP, here started to investigate different games which we used to become inspired and create our first version. We also discussed what was important to us to add the educational part to our game, we were all very interested in helping kids. We realized the problem that many kids, especially



Figure 1, inspirational boat, working towards concept.

neurodivergent ones, had with recognizing emotions. That is why we decided to create a game that would help kids recognize emotions and teach them how to handle them.

Suddenly the playing mode had to be changed as we were told that we could no longer use kids as our target audience. At first, we thought about changing the whole concept of the game but suddenly realized some adults also have problems handling emotions. We transformed and adapted the game, this allowed us to target our game towards psychologists to use them in group therapy sessions. After further consideration and discussion, we decided to redirect it again. We noticed how challenging creating minigames targeting specific emotions would be. Another challenge that would make this too difficult would be having to involve psychologists.

After reflecting on what we thought was important and realizing our group problems, we concluded that we were going to redirect our target towards companies. This meant we would have to change the whole concept of the game. That is why we started over. To re-develop our idea we explored the ideating circle of the RTDP. We conducted some research and started creating minigames (Smart, 2023). This research would allow us to make the games focus on what we wanted them to focus on. After a coach session, we were told to make our games more specific as we had too many but not necessarily targeting what we

wanted. It was at this moment when we should have conducted some user testing in order to validate games and decide which ones to leave behind.

During the initial stages of the process, we were also working on developing the gameplay mechanics. We wanted to create a fun game that hid the educational part inside. To disguise the educational aspect of the game we decided to integrate fun game dynamics, as from past experiences we felt that games that directly teach you something were way less motivating. Gameplay mechanics were very influenced by games we had all played such as mario bros" and "league of Legends."  This meant that the type of gameplay was very similar to aspects of these games, making them fun.  We were inspired by Mario Bros in the kids game to create different worlds targeting different emotions, when the target audience shifted towards adults the game became more of a role-playing game in which each emotion would be a character and have its individual strengths and weaknesses. We decided to create this adaptation as we thought it would be more appealing towards adults. as our game transformed, we reassessed some ideas we had previously had.



Figure 2, this is a picture of the first idea of the board.



Figure 3, initial development of packaging

Trying to integrate the digital aspects since the very beginning was important as it allowed us to create a balance between creative aspirations and the feasibility of implementing what we wanted to integrate. This allowed us to revisit previous ideas and make the implementation significant.

Another important part of the process was trying to integrate the digital aspects of the game in a meaningful way.  During the design of the interface we discussed various ways of merging the digital and the physical, we saw ourselves looking back at ideas that we had previously discarded and trying to adapt them. One of the main challenges we faced was creating an effective method of



Figure 4, inside of initial prototype

randomizing the game. In each version, we found a potential problem, but after discussing we were able to come up with a solution that would potentially be more appealing towards companies. By developing different ideas we were able to realise potential problems and fix them by altering different factors. Furthermore, we had to analyse what were the really important features our app should contain. We did this by exploring and validating different prototypes of the app, which allowed us to narrow it down and create the final version. By

considering the user and accessibility, we decided to integrate features that would allow them to deeply understand the mechanics of each minigame.

To create the packaging and aesthetics of the game we envisioned an experience. We had in mind the idea of opening a box containing something magic. We realized that the best example of that was finding a treasure, which is why we decided to integrate the theme into our packaging. Keeping the theme constant was very important to us which is why we decided to make a treasure chest as the packaging of our game. We went over multiple prototypes testing different mechanics and compartments for each aspect of the game. Furthermore, when creating the pieces of the game we also tried to maintain the pirate theme by adding typical objects related to the sea such as waves, boats…etc
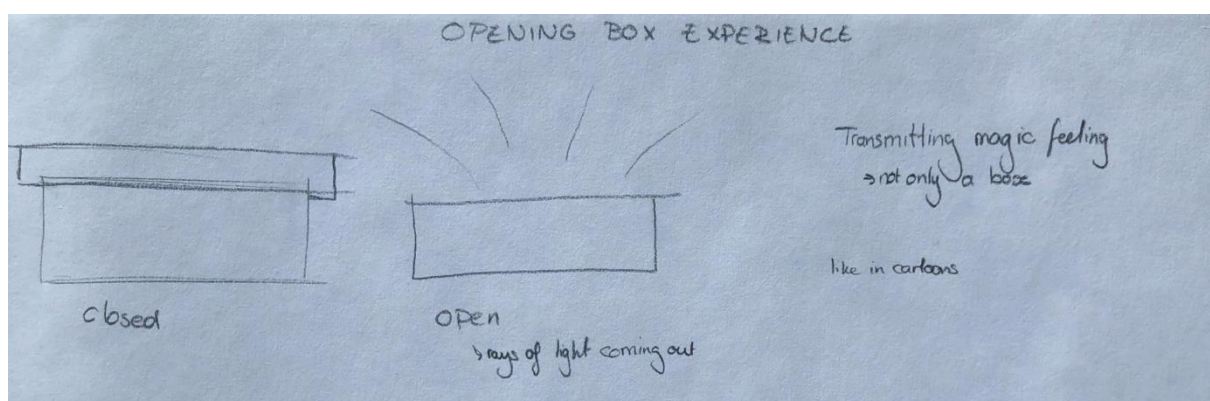


Figure 5 initial ideas of concept behind packaging

*Planning and organizing:*

When the project started, everything was a chaos since no one was aware of what we had to do. The organization was not there, the meetings were not planned ahead neither were the tasks that would be covered during the next meeting. Later on, the tutors introduced the Gantt chart. The first Gantt chart had all the semester planned with all the tasks. However, not enough subtasks emerged and this was a problem since not everyone was able to identify what they had to do. In quartile 2, there was a new Gantt chart, this one was more complete and specific. We also became more strict with it.
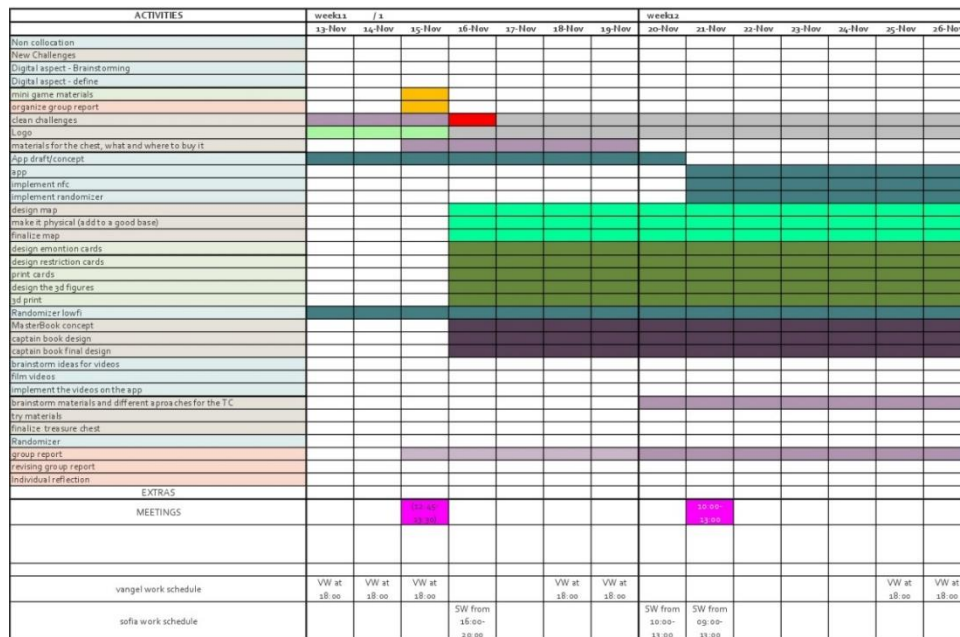


**Figure 6, this is part of the planning, it corresponds to the first two weeks of the Gantt chart.**



**Figure 7, this is the key for the Gannt chart.**

# ITERATIONS – RTDP

## First iteration:

During this iteration, we created the general idea of the game and determined an initial target audience. The goal was to create an idea that integrated what was necessary.

- *Envisioning :*
  - After researching on autism and Asperger's and and realizing how it affects their emotional recognition (Nationwide Childrens, n.d.), we decided we wanted to create a game helping them manage and recognise emotions.
- *Validating:*
  - By creating different game versions to investigate the concept of emotional recognition, we came to the conclusion that making it pirate themed would be fun for them.
    i. Inspired by Dr. Sean Paul, game recommendations for autistic children. (Dr. Sean Paul, 2023)
  - Coaches told us it is not ethical to work with kids. This led to us having to change our target audience.

We noticed that most of this work became useless due to the change in the target audience. Therefore, we decided to change the concept of the game and focus it towards adults.

## Second iteration:

During this iteration, we focused on determining what our actual game was going to be as well as deciding the game mechanics. The goal was to adapt the idea targeting it towards adults.

- *Transforming and adapting:*
  - Adapting the ideas for adults by removing those aspects targeted uniquely towards kids, and enhancing those that adults would also enjoy.
- *Exploring in context and validating:*
  - We explored different ways of approaching an emotional game for adults, taking into account that psychologists also work with adults in order to help them handle their emotions.
- *Ideating:*
  - We started creating different versions of the games, inspired by different games such as *"Mario Bros"* and *"Dungeons and Dragons"*, where we thought about different kingdoms targeting different emotions or creating a quest in which characters would be emotions and have weaknesses and strengths. This characters would enhance their personalities as the game unraveled.
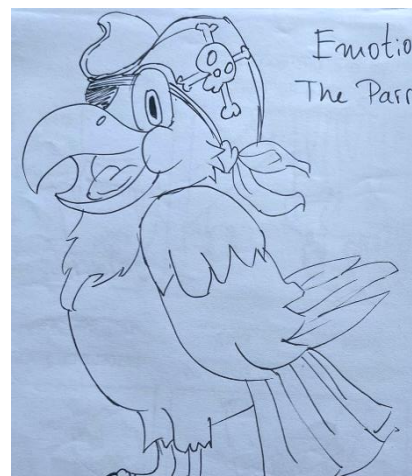


Figure 8, the parrot belongs to a version in which he would have represented the villain that tried to sabotage the quest. However, the players had to find out that he was just lonely and did not want them to leave him alone again.

- *Integrating:*
    - ○ We concluded that we would create a board with minigames.
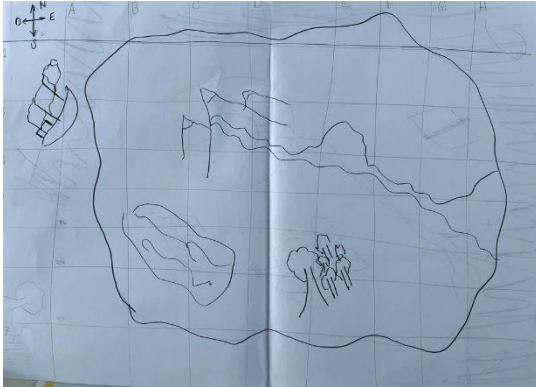


Figure 9, This version would be played by making use of the different sections to target a specific emotion. In this version, the psychologist's role would be quite important since it would analyze how players confronted each situation and would guide them towards the box targeting the skill they had to work on.

We concluded that creating mini-games targeting different emotions was too difficult. After realizing the problems we were having in our group, we noticed the importance of having a good group dynamic in order to succeed. That is why we decided to create minigames targeting teamwork and communication skills for large corporations.

## Third iteration:

During this iteration, we specified the final game by changing the game mode as well as polishing the mini-games to make them more oriented towards their purpose. The goal was to create a collaborative game.

- *Envisioning:*
    - ○ We decided that every section of the map would target a skill, we derived this idea from Figure 9.
    - ○ The game will have minigames focused on each skill, in which the players will get rewarded by winning them.
- *Integrating:*
    - ○ The captain book, was used as a way of incorporating the minigames into our project.
        - i. This led to a proper challenge creation.
    - ○ The map was integrated as a reward system.



Figure 10,Since the goal is to escape from the island, we decided that the best reward would be collecting pieces of the map that would lead them toward the escape

o A Randomizer was integrated as part of the digital aspect to help create the groups more easily.
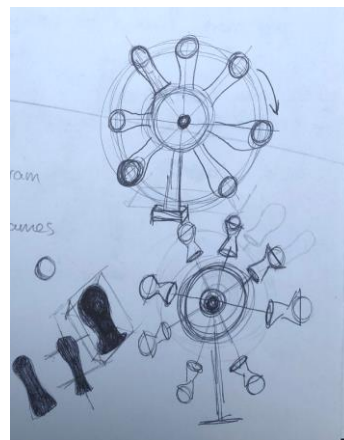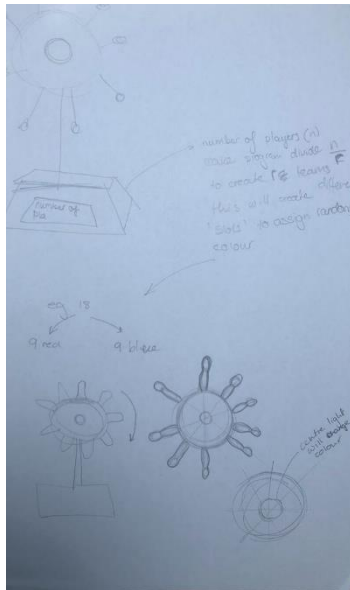


**Figure 11, initial ideas of randomization process, before introducing it to the app.**
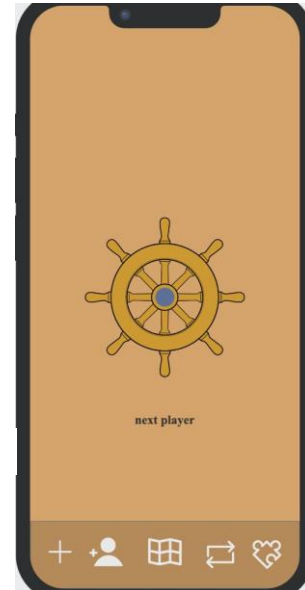


**Figure 12, attempting to digitalize randomizer, first app prototype.**

i. In figure 11, the idea was to create a physical spinning rudder that depending on the team you were on would display one color or another. It would have a screen that allowed you to specify amount of groups.

ii. In figure 12, we integrated the randomizer idea to the app due to our lack of skill to make the physical one.

- *Sensing and analysing:*
  o We did research analysing the different activities that companies use to improve the atmosphere in their workplace. For further insights on the research, go to appendix A.
  o We created the challenges by basing them on other games/activities. (Team w. E., 2023) (Team I. E., 13 Problem-Solving games for effective team building., 2022)

  For example, as seen in the research behind the mini-game "Break the code" shown in appendix B.

- *Transforming:*
  o We got feedback where we understood that the game was too wide and chaotic. This was a problem because instead of making the games more effective, we were focusing on creating more games.
  o Research on business games to improve teamwork and collaboration skills was done. (Vogel, 2018)
  o Improved and narrowed down the final version of Captain's book by eliminating unnecessary minigames.

We were really happy with the outcome. However, during this iteration, we realized the problem with big companies as they have more people who could potentially play the game, there were also more people working online than we had previously expected. (Duncan,

2023). That means that with more players, the reward system and the randomizer would be more difficult to create as a physical aspect, we thought about adding NFCs as a reward system and randomizer, together in an app.

# Fourth iteration:

During this iteration, we worked on fixing the digital aspects to make the game more accessible. The goal was to adapt the game for larger groups/businesses.

- *Integrating:*
    i.  We integrated NFC technology as a way to facilitate users to play the game and allowing us to make less pieces that were more durable by changing the material.
        1.  Integrated NFC's to optimize randomizing process. By creating servers allowing those in non collocation setting to join the same game via a code.
        2.  Integrated NFC's as reward system which would be uploaded to the app and track their progress.
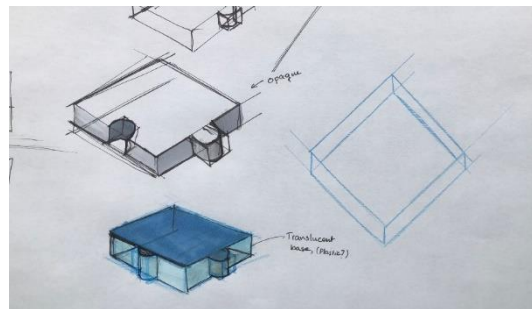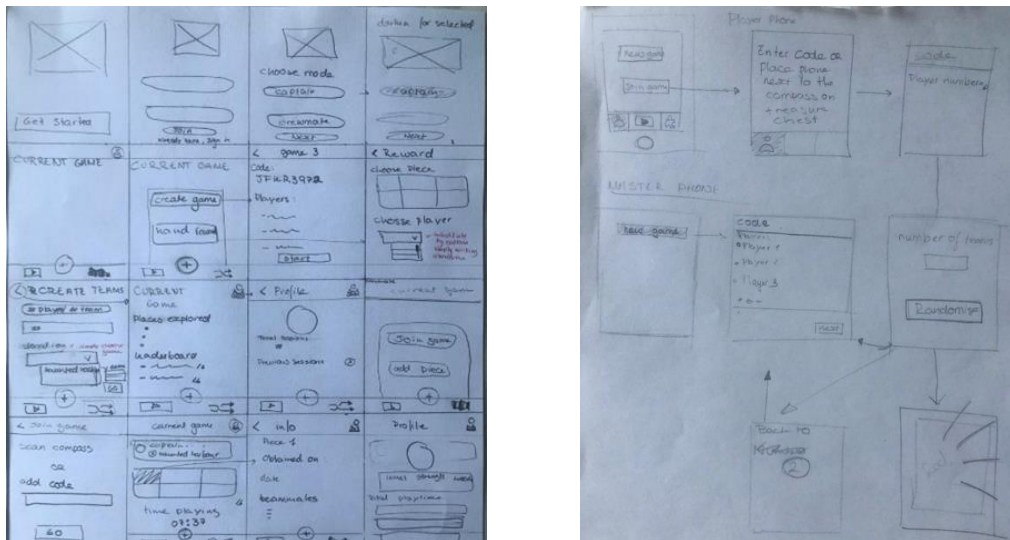


**Figure 13, developing NFCs out of the puzzle and deciding whether to make them translucid or not.**

By taping their phone on the NFC disguised as a compass, users will be able to access the same session. For further information and specifications on NFC's go to appendix C.

## ii. App creation



**Figure 14, low-fi prototype of the app, used to evaluate interaction and usability of the app. It allowed us to realize what features were important and delete the ones that were unnecessary or caused confusion towards the user. To do this, we compared the time it took the user to accomplish different tasks such as finding a certain video. Some of the key problems we found included that users did not completely understand some of the features.**
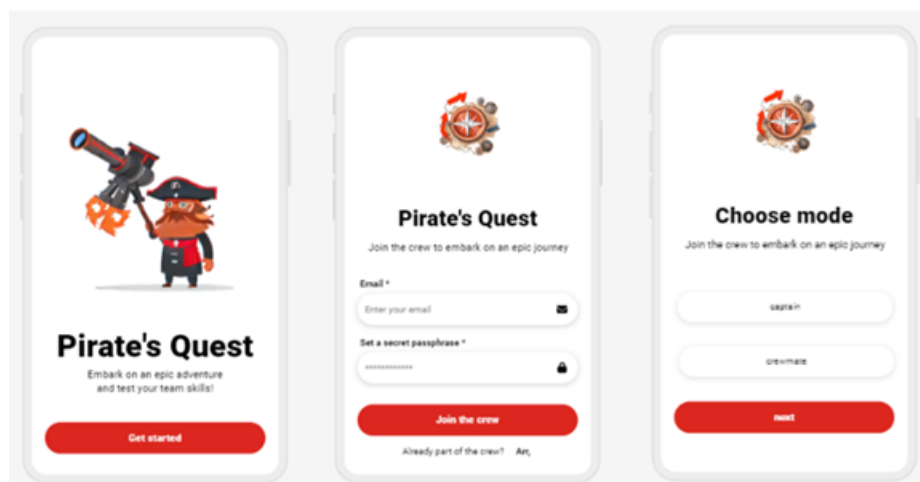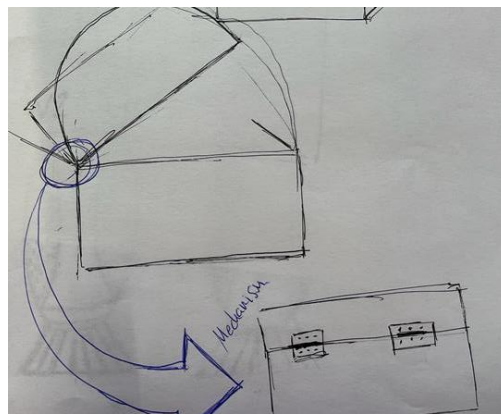


**Figure 15, the final app features two modes, improving the users experience by limiting their functions depending on their role, reducing their confusion.**
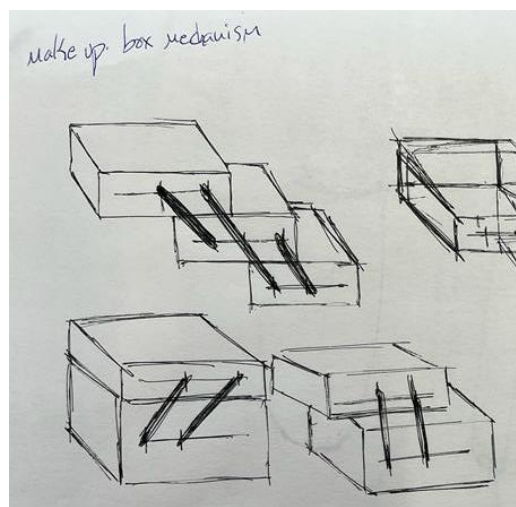
Creating the packaging.




**Figure 16, the initial mechanism was created to allow the package to completely unfold in order to make a playing board. This was rejected because our game no longer needed a board.**
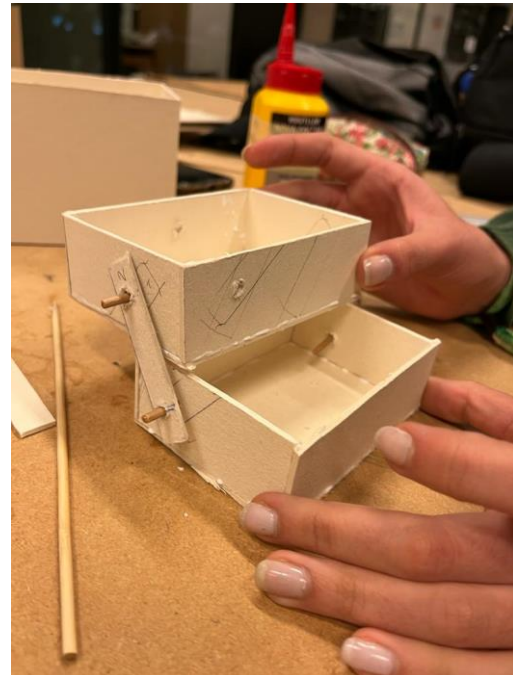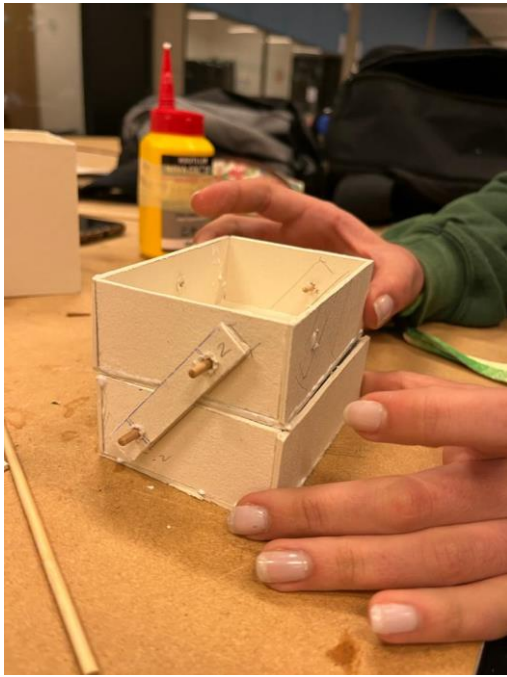


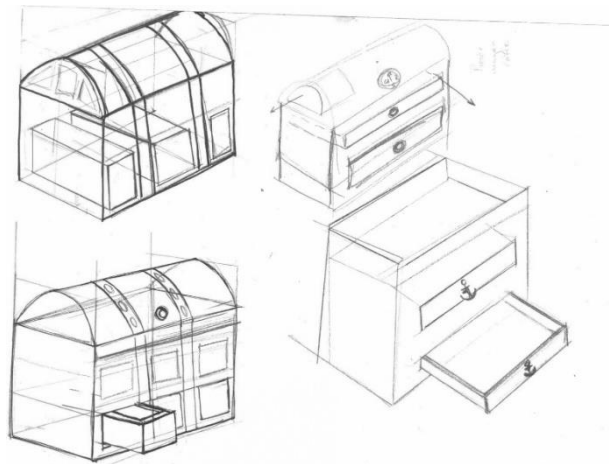**Figure 17, this is the mechanism that we used in the final design to open and close the lid.**



**Figure 18, "*make-up mechanism*". This mechanism was inspired by stacked make-up boxes. This was rejected as we didn't have time to properly consider weight.**
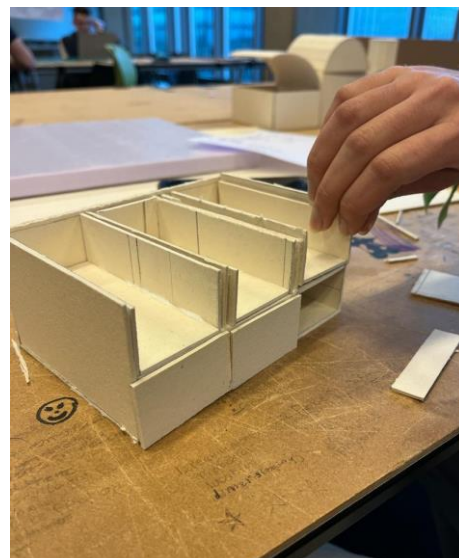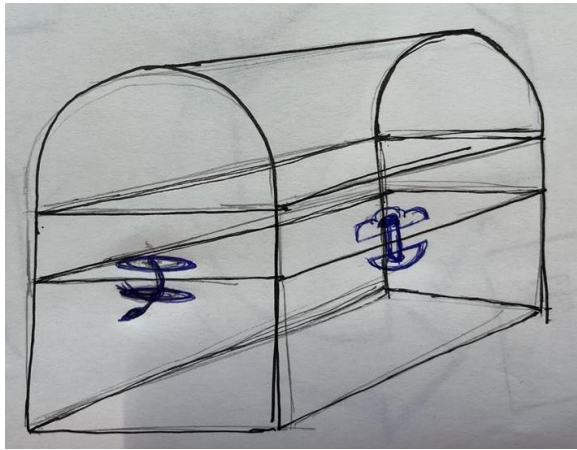
Figure 19, the prototype of the make-up mechanism.


Figure 20, using the drawers for the chest in order to compartmentalize pieces.


Figure 21, prototyping of the drawers.

Figure 22, the sketch for the clamp mechanism on the side. We adapted it and used one we found in a store.



Figure 23, A sketch taking into account the aesthetics for the box.



Figure 24, the final treasure chest.

iv. We created the actual final physical parts, such as the cards or the captains book, appendix D.



Figure 25, this was the first set of game cards for "*guess the emotion*". Rejected as game mode changed.



Figure 26, at the beginning this was the board that developed into different location cards targeting different skills.

Figure 27, this are the final cards. The bigger ones are the location cards where you can find a challenge in the backside. The rest of the cards are needed to play the different challenges. (OpenAI, 2023)



Figure 28, the Captain's book contains many features that will help the user have a better experience while using the book

During this final stage we noticed we would've liked to conduct more user testing and create more prototypes.

# FINAL DESIGN

The final product is a pirate-themed game targeted towards companies. This game attempts to help companies foster team connections and improve teamwork, legitimately improving the workspace and the company as a whole. The game is designed to be used in group sessions organized by the company, the session must be led by HR. The game achieves its goal by using minigames that are specifically targeted to improve certain skills which are valued in a team. Furthermore, the game contains a feature that randomizes teams each round, forcing players to have to work with people they had previously competed against. The players must complete enough minigames to achieve all the pieces of a map which will help them escape from a stranded island. Minigames belong to specific locations, and depending on which one you are in, they will work on a certain skill.

The packaging of the game was created in order to maintain the theme and create an experience. The packaging consists of two compartments, different in size, that will allow the user to store and organize the pieces of the games. It is modular and, therefore can be completely separated. Furthermore it is used to disguise the NFC used for joining and creating games.



**Figure 29, final packaging exterior**



**Figure 30 inside of packaging. it is subdivided into two separate drawers**

In order to play the game, there is what we have called the "Captain's book" This is the guide that explains each minigame in detail. As mentioned before each minigame has an indicator that informs the user of what collocation it can be played in. Furthermore, games are organized by location depending on what skill they target.

This game is designed to be able to be played in either collocated, non-collocation or hybrid. To do so, minigames have been adapted depending on the desired collocation. It is important to note that not all games can be played in all collocations. To know if the game is appropriate for collocation, look at the icon next to it in the captain's book.

The game is set in a stranded island, which we have decided to split into different locations. Depending on the location in which players find themselves, they will work on different skills. The locations are as follows:

- o **Haunted harbour:** contains introductory minigames in which players will get to know their coworkers
- o **Riddle reef:** targets team communication
- o Mystic marshlands: simulates empathy
- o **Laughter lagoon:** improves teamwork and cooperation
- o Bridge of fury: encourages healthy competition
- o **Surprise caves:** improves trust



Figure 31, shows different cards of the game. the big square ones are the ones containing the separate minigames. They are separated into locations

*Final app and digital aspect:*

In this game, the app is used as a way to track progress and as an aid in the randomization process. The app allows users to go over their previous sessions and see what skills they have worked on. Furthermore, the person guiding the session also has access to previous sessions, allowing them to focus the aim of future sessions in order to target problematic areas.

## Home screen:
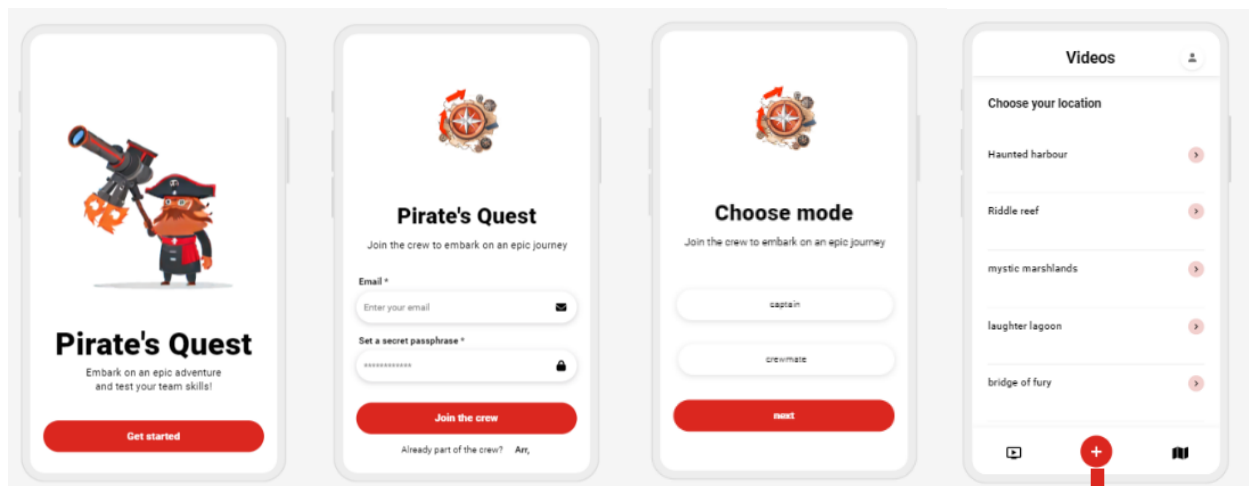


*This button allows you to different actions depending on the mode*

## Captain mode:



## Crewmate mode:



*Puzzle pieces will start to appear as soon as you add the. You can then click on them to see further details (eg, where, when and with who you*

*By pressing each section you will get more information and even progress bars.*
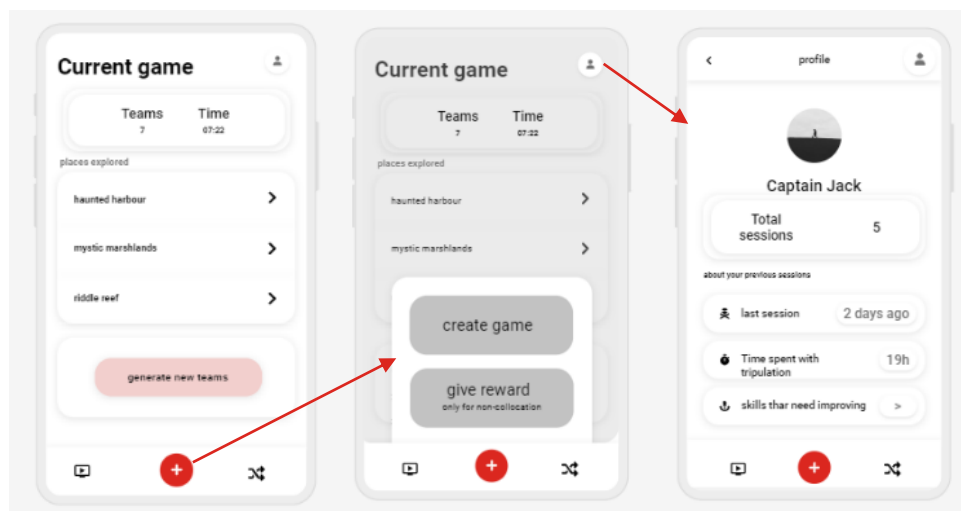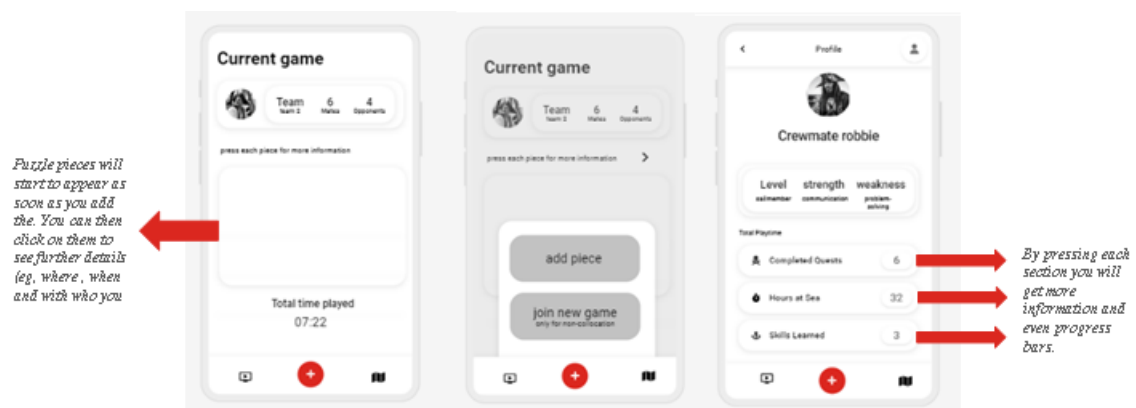
We decided to use NFCs in order to simplify the randomization process. We decided to randomize teams before each minigame in order to promote healthy competition, as well as helping users manage emotions and be able to overcome tension. This was done to simulate the experience of having to work along with someone you don't like. To do so the games create tension between contestants that might have to work together in future rounds.



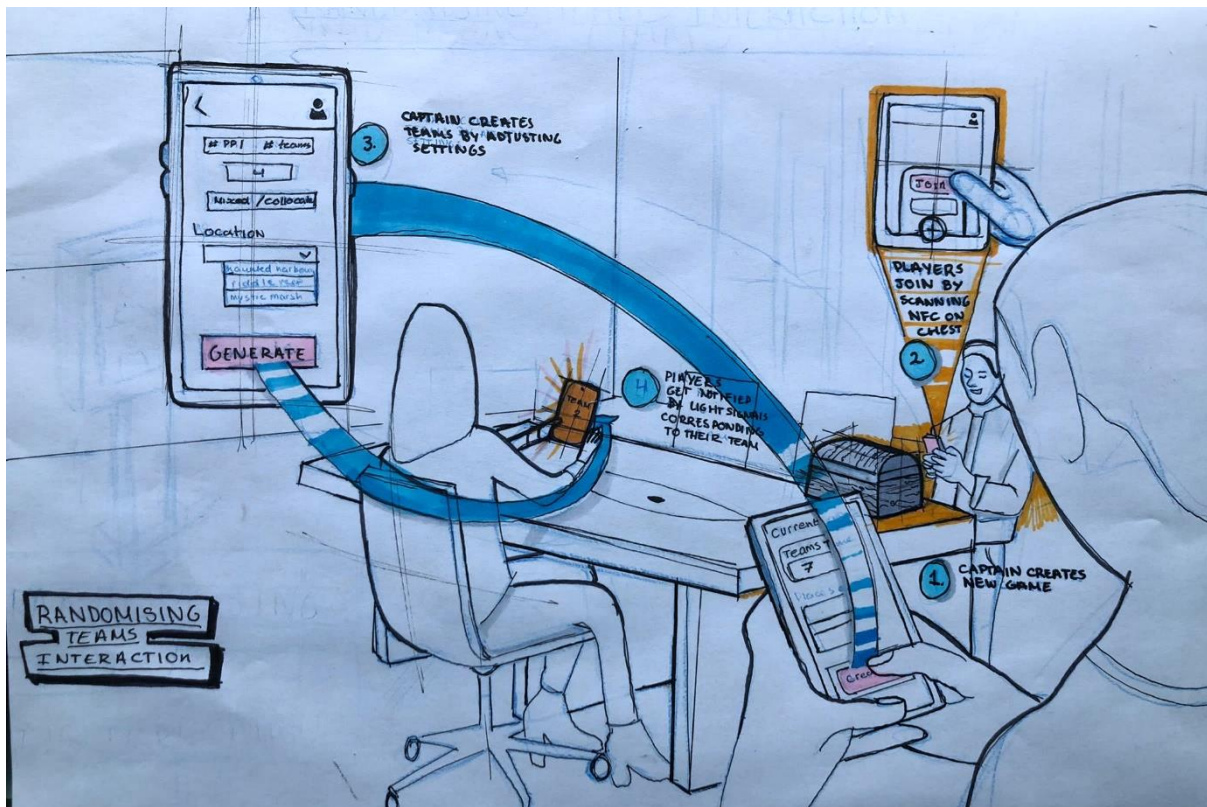Figure 32, scenario, interaction of captain and users with app in order to randomize teams.

# How to play:

It is important to note that this game requires the person guiding the session to prepare some things beforehand. We will refer to the person that guides the session (HR) as the captain, and the players as crewmates.

*Before the session starts:*

The captain must read over the captain's book, which will essentially explain everything they need to know.  To prepare the session he must use the template provided in the captain's book to plan the session. He must then do the following:

1. the captain must choose a minigame from "Haunted Harbour" as all sessions must begin with an introduction game in which players get to know each other.
2. Determine what skills the group have to focus on and choose the respective area to target them.

3. Inform the crewmates that they will have to download the game app before the session begins.

***During the session:***

*(If in various collocations create a videocall and remove games that cannot be played in non-collocation setting)*

1. Once everyone has arrived, the captain will initiate the session by reading the introduction of the captains book, this will help introduce the context of the game.

2. Captain must then initiate the game by creating a new server which crewmates must join
   a. To do so, captain must access the app, enter captain mode and press the create game'' button. Next, The captain has to approximate their phone towards the compass located in the top of the treasure chest. This will generate a server and display a code on the captains phone.

   b. Crewmates must then join the server by entering crewmate mode in the app, and pressing the 'join new game' button. They will be able to join the game by either approximating their phones to the compass or by introducing the code displayed on the captains screen.

3. Once everyone has joined the game, the captain will explain the first game. Next, teams will be randomized by pressing the button located in the lower right hand corner of the app.
   a. In order to correctly randomize the teams they must select the location, and the minigame. The app will then create the teams depending on what is needed for each minigame.
   b. Crewmates will know what team they belong to by looking at their phones.

4. Once teams are set, the first mini-game will begin.

5. Whoever wins will receive a piece of the puzzle

6. Crewmates must now upload their progress to the app, only if they received a puzzle piece
   a. To do so, they must click the 'add piece ' button. Next, they must scan the piece with the NFC reader of their phone. *If the player is playing remotely they must ask the captain to send a reward to them. To do so the captain must click the 'give reward' button and choose the person they want to send it to.*

7. Next, the captain must randomly select a person to draw 5 cards from the deck of locations previously selected. Once the games are chosen, the session will continue.

8. The captain will then explain the next minigame and randomize teams again.

9. The minigame will proceed as usual, rewards will be handed at the end of each round.

10. Teams will be randomized at the beginning of each minigame.

11. Follow steps 9 and 10 until all minigames are completed.

12. The first one to finish the puzzle will win.
    a. If no one finishes the puzzle, there are several options to conclude the session:
        i. the captain will chooses a location to draw minigames from until someone completes the puzzle
        ii. whoever has more pieces wins
        iii. they decide to continue with the session another day

13. to end the game, the captain must close the server from his phone. This will save all progress and allow them to see what the group must work on next time.

## Game manual:

In order to view full game manual go to appendix D.



THE PIRATE QUEST

**THIS BOOK IS FOR THE USE OF THE CAPTAIN.**

*By following the rules and surviving the challenges, the pirates may be able to survive this boat wreck. During this adventure, it is possible that the team may feel angry, nervous, anxious, excited, happy... all of these emotions are okay... if they don't make you forget about your goal: surviving.*

*Good luck getting out of the island.*

BY

*Group 3*

i

## Reflection on design process and outcome of project

Looking back we realize how much we spent on the envisioning and making zones of the RTDP, for future projects we will try to integrate more research as it will make the final design more effective .We are happy with the outcome, but if we had had more time to further research and further integrated the process, we believe we could have accomplished something better.

## Goal reflection

Our main design objectives during this process were centered around the following elements:

1. **Assisting people:**

   The objective of the goal of assisting people was somewhat met.  We did manage to create something that assists people and offers support.  The game is designed in a way that will help the employees to become better colleagues, by learning about cooperation and communication. On the other hand we can't assume we solved issues as we were not able to test the game in proper conditions. We do believe we somewhat met their needs as we investigated the common problems encountered and targeted our games towards solving them.

2. **Producing something aesthetically pleasing**:

   From our design, the aesthetics of the package does encourage the interaction of the users, since it brings the attention as it is not a typical boxing. However, we do think that we could have made it more appealing adding more features inside of the packaging, such as creating compartments inside that would keep the cards and the pieces organized and would also when the chest is transported to another place to keep the inside in a fix position and in some game cards the design could have been better.

3. **Changing the world:**

   The goal of changing the world is something that we did not succeed on completing it. we did help in some areas that could make small changes in the companies. However, we did not fix a problem that would result in constructive societal transformation.

4. **Creating something distinctive:**

   We did created something distinctive, a new version of the typical activities that businesses use to improve the collaboration skills among their employees, we made this more attractive and motivating in a way that they could play without feeling that they are doing a course about this. There are not a lot of physical or digital games at the moment that target this aspect.

The learning experiences that we would take to P2,  would be mainly the importance of user testing on time and involving them during the process, by doing this, the constant feedback makes it easier to go back and forth throughout the project. We would also take to P2 the importance of creating a nice environment among the team.

## Group reflection

Our team started as a 5 person group and ended up being only two of us. This was due to a series of problems we encountered along the way. We believe that the main issue of the problems was the lack of clear and honest communication between members.  As a group, some of us were more motivated to work than others, this caused a huge workload imbalance. This imbalance was created because even though our planning clearly structured

what had to be done, by whom and the date it had to be completed, most of the time it wasn't followed by all members. This caused other group members to have to do things that were additional to what they were supposed to do, as no one was completing them and we couldn't proceed with the project. Communication was challenging as many times, members would simply stop responding to the group chat. Furthermore, we would try to have meetings but some members wouldn't show up. We tried to communicate our concerns on various occasions and we didn't see a change in attitude. After we saw no change of attitude even though we asked members to show more initiative and participate, we realized we had to keep on working as a duo, as having to go after them constantly was worse than us doing the work by ourselves. Looking back, we could have been more direct in the way we expressed our concerns instead of trying to sugarcoat them to not hurt anyone. This might have reduced the amount of times we had to express concerns. In future projects, we will try and voice our concerns, but as soon as we see no initiative we will carry the work by ourselves as having to wait for others has proven to be worse in the long run as it meant we had to do some things last minute, this affected our final design negatively and prevented us from conducting tests that we would have benefited from.

## How did we meet the design brief:

### DESIGN A PHYSICAL-DIGITAL HYBRID EDUCATIONAL GAME.

**Physical:** by creating a pirate chest that contains cards, and other aspects in order to play the mini-games that are written in the captains book.

**Digital:** the game is aided by an app that will allow and facilitate the randomization of the teams by using a NFC.

**Hybrid:** in order to play , the game has various modes depending on the collocation.

**Educational:** the game will teach people to work as a team.

# REFERENCES

*13 Problem-Solving games for effective team building.*

*13 Problem-Solving Games for Effective Team-Building*

*16 Best team building problem solving activities*

*22 games for children with Autism*

*64 team building activities to bring your team together (and have fun!)*

*8 Effective Collaboration Strategies to Improve Teamwork*

*Coblis2006-2021*

How Covid Changed The Workplace: It's awhole new world out there.*Forbes*

*kit de herramienta de facilitación2018*

*Linkedin*

*lumapps*

*Medium*

*Nationwide Childrens*

*NFC-forum 2023*

*nxp semiconductors*

OpenAI2023*Bing*

*stfalcon*

# APPENDICES

## Appendix A – Research behind the challenges

It has been proven that when the employees are happy and comfortable, the effectiveness and progress of the company increase together with the innovation, motivation, creativity and quality (Herman, n.d.) .

This is why, companies utilize various strategies to enhance teamwork and cooperation among their employees. Some of this strategies are:  (Team I. E., 8 Effective Collaboration Strategies to Improve Teamwork, 2022)

- Clear communication.

- Building connections.

- Modeling collaborative behavior.

- Building trust.

- Autonomy of decision-making.

- Effective meeting management.

- Learning opportunities.

With this knowledge, we were able to distribute and create the main focuses of the games. Some of the skills that the user can find in the challenges is the problem-solving. With this type of exercises, it will make the team work together to develop a solution. This not only helps with that aspect, but it also improves on the communication, collaboration, brainstorming and decision making.

(13 Problem-Solving Games for Effective Team-Building, 2022)

## Appendix B - Using "Break the code" as an example

Creating the break the code game. During the creation of this minigame different aspects were taken into consideration such as the difficulty and accessibility of the cards.

To determine the levels of difficulty and how to create more difficult codes, we examined similar decoding games such as '*decode*',' *codename pictures*', '*Sherlock Holmes Consulting Detective*', '*Hanabi*'.

When examining this games we noticed a trend when decoding became more difficult, most of the games opted for a similar way of increasing difficulty, either by making the phrases more complex by elongating them, or by reducing the amount of letters that repeated themselves so the user didn't find a pattern. Another way they made the game more challenging was by introducing a more complex code. For our game we wanted to implement both methods, therefore we created several codes, each with a more challenging pattern. Furthermore, the captain will have the option to either give them the decoded code or give them hints (provided) so they can figure it out by themselves

## Choosing the card colours:

In what came to the actual physical design of the playing cards we took into account the colours being used, we wanted the colours to suggest the difficulty, that is why we picked shades of green, yellow, red and purple. Purple is normally associated with something mystical, sophisticated and unusual. We made sure they were identifiable by everyone by testing it on a programme (Coblis, 2006-2021) that would simulate how people with different colour blind people would see them. Furthermore, we decided to use #313131 instead of #000000 and #f5f5f5 instead of #FFFFFF as it is better for eyesight as pure black can cause eye strain leading to headaches (Heryanta, 2021) (Hossain, 2023). We decided to use a red base colour as it fit better with our theme.
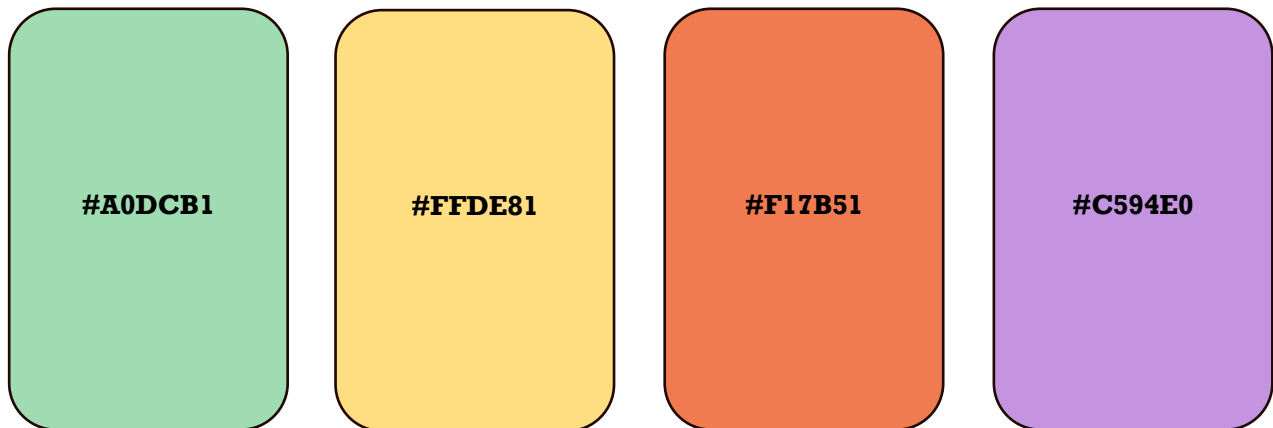
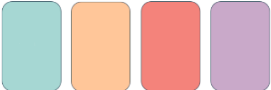Final colours for cards:
Easy= #A0DCB1

Medium= #FFDE81
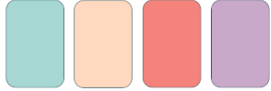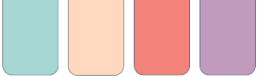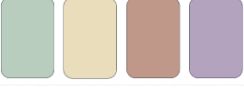
Hard= #F17B51

Extreme= #C594E0



#A0DCB1          #FFDE81          #F17B51          #C594E0

| Colors as seen by non-colorblind person | Anomalous Trichromacy: | Dichromatic view: | Monochromatic view: | Problem, and how to solve it |
|---|---|---|---|---|
| #90FC93 #FFC107 #F28860 #C8A1E3 | | | | Could be improved for those in the monochromatic view as they might have problems distinguishing 1 and 4 |
| #89D49A #FFC107 #F28660 #D41E3 | | | | This change made the difference less noticeable therefore we changed the saturation. |
| #89D49A #FFCC38 #F28660 #C595DF | | | | Not enough difference in monochromatic view |
| #89D49A #FFCC38 #F28660 #CDA4E4 | | | | Not enough difference in monochromatic view |
| #B6E4C1 #FFCC3B #F28660 #CDA4E4 | | | | Saturation way too low, now cant differentiate between three |
| #A0DCB1 #FFCC3B #F28660 | | | | You cant differentiate them very clearly |

| | | | | |
|---|---|---|---|---|
| #CDA4E4 | | | | |
| #A0DCB1 #FFDE81 #F28660 #CDA4E4 | | | | better |
| #A0DCB1 #FFDE81 #F28660 #C594E0 | | | | For this last change I would make the two last ones more differentiable |

## Appendix C – Research behind NFC's.

By using NFC technology we will facilitate the randomizer process, this will make it more dynamic and reduce time. In order to make this process work it would be as simple as users placing their phone next to the NFC tag located on the top of the treasure chest.

By creating an account, each user is assigned a unique identifier that will allow them to join games. The NFC technology on their phones will facilitate the information exchange. In order to start a game, the host would be the first one to tap their phone on the NFC, they would have to set up a new game, this would create a server. The rest of the players would then use their phones to join the server by tapping their phones on the NFC. The server would be a communication method between them as it would process the request (to join game) and update the game with the necessary information (in this case adding the user to the game) As they join the sever, their usernames would appear in the captains screen. The server would also be in charge of transmitting information back to the users, such as what team they are on.

NFC type 2 tags would be the best option for this use as they widely compatible with most NFC-embeded smartphones. One of they key applications of this type of NFC is connection handover, therefore this can facilitate the transmission and update of progress in the app. The same type of NFC tag (NTAG213) would be used to update the reward puzzle pieces in the app, each puzzle piece would have a unique NFC tag that would locate it in a certain quadrant of the digital puzzle. (NFC-forum , 2023), (public, 2015), (stfalcon, 2023)

## Appendix D – Captains Book

(next page)

# CAPTAINS BOOK

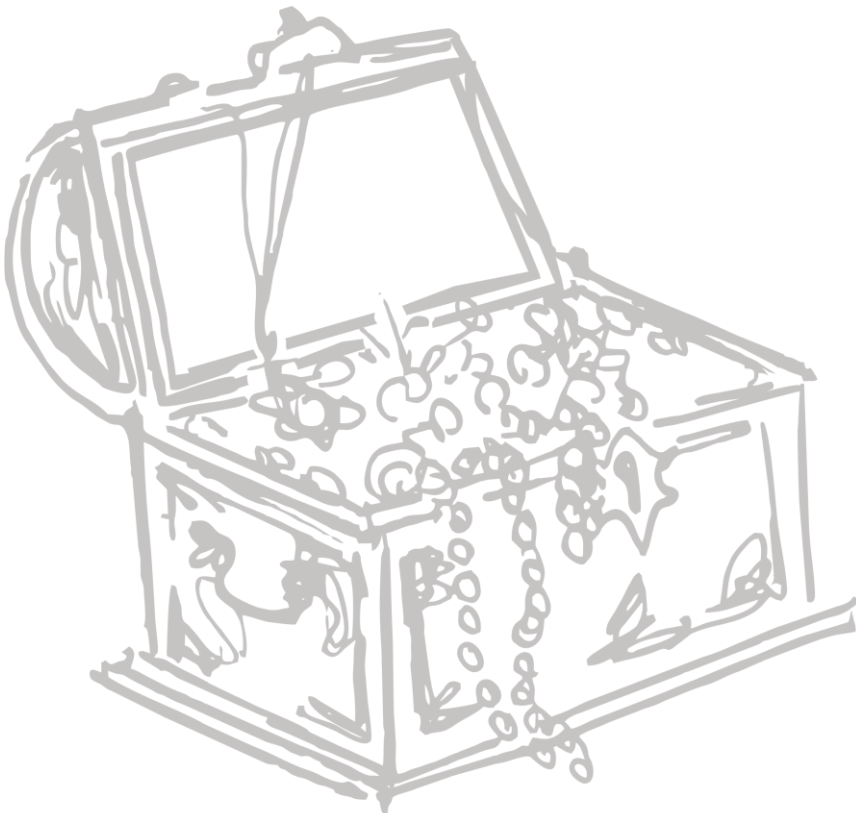**THIS BOOK IS FOR THE USE OF THE CAPTAIN.**

*By following the rules and surviving the challenges, the pirates may be able to survive this boat wreck. During this adventure, it is possible that the team may feel angry, nervous, anxious, excited, happy... all of these emotions are okay... if they don't make you forget about your goal: surviving.*

*Good luck getting out of the island.*

By

*Group 3*

# CONTENTS

# PREPARING FOR THE GAME

## Introduction

*Your boat has just crashed against a lost island. As their captain, you must guide your ship crew through the island to find the pieces of the map that will lead you to a hidden boat.*

*During this adventure, you have to visit all six main areas of the island: The Haunted Harbor will be the starting point, where the ice-break occurs. This is where your shipwreck happened. This is the point where the crew realizes that they now have to work as hard as possible to get to know and understand each other. After this, as their captain, you have to lead them through the rest of the zones (find the template to do so on page 3 of Game guide, here you can organize the session depending on what you prefer to work on before the game starts).*

*This island is not easy; each zone is connected to a skill that has to be improved. The first zone is the Haunted Harbor, as mentioned earlier. After this, you can find:*

- *The Riddle Reef, where communication is their biggest issue.*

- *Mystic Marshlands, where empathy is the only way to get out of it.*

- *Laughter Lagoon, where working as a team is a must in order to survive the monster hidden underwater.*

- *Bridge of Fury, two sides of the mountain, two teams; who will move faster to the other side? Let the best team win.*

- *Surprise Caves, you never know what is hidden in the darkest point of the island, which is why trusting your crew is necessary to see the light again.*

*During this survival adventure, an array of skills will be required, including problem-solving, quick comprehension, prioritization, compromise, role-setting, working under pressure, and numerous others.*

# How to play

To play the game, each member of the crew has to download the app: Pirate Quest. During each round, the randomizer will be used to formalize the teams. Once the teams are made, the captain will explain which mini game is going to be played at the moment.

As mentioned before, the captain should already have organized the order of the mini games before playing the game (aided by the information provided by the app on the players strengths and weaknesses).

 In this book, each mini game is written in this order:

1. The skills that will be worked during the game.

2. The setting the game is playable in:

    a. Collocation: everyone in the same room.

    b. Non-collocation: the players are located in different places, so the use of videocall is needed.

    c. Hybrid: it can be played in collocation and non-collocation mode at the same time.

3. The description of the challenge.

4. The rules.

5. Extra information depending if the challenge needs it.

After completing a challenge, the team that wins, each member will get a piece of the map. This piece is made with an NFC (scan it with the app and it will automatically upload the piece in the app)

The game will end as soon as a player gets all the pieces of the map. This means that it does not need to be a full team that wins, it can be one or multiple players.

## GOAL OF THE GAME:

The objective is to rotate teams each round, encouraging employees to collaborate with someone they competed against in the previous round. This game aims to foster communication and collaboration skills in the workplace. It's acknowledged that not everyone is easy to get along with or agree with, but it's crucial to learn how to effectively work with diverse personalities. Occasionally, emotions can complicate working relationships. Through this game, we anticipate encountering tense situations, and navigating through these scenarios is the main goal of this adventure.

## NOTES FOR THE CAPTAIN:

- For the challenge *"Build a boat"*, the captain will need to prepare prior the game, the materials needed. Some suggestions would be:

    o   Stick wood boats.

    o   Cardboard boats.

- Some games will need cards, this are included in the game. Each challenge will have a sign to let you know that the cards are needed.

- To make it faster, the versions of the game will be also shown next to the name:

    o   Collocation

    o   Non-collocation

    o   Hybrid

- In the app, there are videos to further explain the challenges in case of needed.

## HOW DOES THE APP WORK:

1. Create an account (only first time)
2. Press start playing
3. Choose mode, either Captain or crewmate (different features available for each mode)
4. Join or start a game
    a. First captain places their phone next to NFC tag located on the lid of the treasure chest, it will be disguised as a compass. This will create a new game that will appear on their phone. They must click start in order to create a new "world" then crewmates will scan the NFC with their phones allowing them to join the new game.
        i. For non-collocation, the captains app mode will display a code. Players that are playing remotely can press the red button and click on join game in order to write the code to access the game.
5. Once the game has been chosen, the captain will be able to create the teams by selecting how many teams they want to create or how many people will be part of a team. They will also have to consider what type of team (different collocations grouped together or mixed)
6. Players phones will then display a color pattern that will indicate what team they are part of.
7. Captain will proceed to explain minigame. if not understood correctly players can watch the videos on the app to properly understand the dynamics of each game.
8. Once the game is over and a winner has been established, the winner must scan their puzzle piece in order to add it to their collection.

Further app features.

Past games: the app will see what games you won during previous sessions, this will create a progress bar (seen on skills learnt) that will allow players to see what areas they have worked on the most and what they must work on. The captain will be able to see each individuals progress.

## Guiding your crew

| AREA | CHALLENGE | NOTES |
|---|---|---|
| Haunted Harbor | | |
| | | |
| | | |
| | | |
| | | |
| | | |

# HAUNTED HARBOR

## Challenge 1: "2 truths and 1 lie".

1) Helps with building connections.

2) Good to play all versions.

3) Description: Everyone thinks of 2 truths and a lie. Members of the opposite team must find which one is each. The team that gets more guesses correct, wins the piece of the map.

## Challenge 2: "The healer".

1) Helps with: communication and pattern recognition.

2) Good to play all versions. However, be aware of the pattern that is chosen so the game can be playable.

3) Description: The master selects a person and temporarily leaves the room. The rest of the players decide on a shared "disease" or pattern, such as all imitating the person to the right. Then, the 'healer' comes in again and with yes or no questions, the healer tries to find the 'disease' or pattern. Do at least 2 rounds of the game, if they really like it, do more.

4) How to play depending the version:

   a. Collocation: more than 10 people, the challenge will have two healers instead of one each round.

   b. Non-collocation: more than 14 people, divide the video call in two groups. During the discussion of what the pattern will be, the healer must be sent to another virtual room.

   c. Hybrid: each must play in the .

5) Rules:

   a. Yes or no questions only.

   b. The healer only has 3 guesses.

   c. It is forbidden to say the pattern out loud once the healer is back in the room.

   d. Players must be consistent.

# RIDDLE REEF
## Challenge 1: "Pirate's riddle quest".
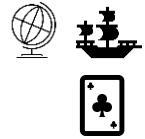
1) This game helps with problem-solving and teamwork.

2) Good to play in non-collocated or collocated situations.

3) Description: Players face a guardian who poses riddles. They must correctly answer a set number of riddles to proceed.

   The captain (you) will read the riddle, and the team that answers the highest number, wins.

4) Rules:

   a. The captain presents riddles, and players take turns answering.

   b. Players must answer a certain number (determine by captain) of riddles correctly to gain a map fragment.

   c. Incorrect answers result in penalties. They must draw a card from the penalty deck of cards.

5) Riddles:

   a. Riddle 1: I have a home and a big space, I have keys, but I have no locks, I have lots of letters, but I have no mailbox. What am I?

      i. Answer: A computer keyboard

   b. Riddle 2: I can be English, Roman, Latin or Greek. I come in different amounts, and you can mix and match me, and I can take on an almost infinite number of forms. What am I?

      i. Answer: The alphabet

   c. Riddle 3: How can you add eight 2's together so that they make up a total of 250?

      i. Answer: 222+22+2+2+2

   d. Riddle 4: I have two different cases, but I never win nor never lose and never need a lawyer.

      i. Answer: letter (upper and lower case)

   e. Riddle 5: I can be hot, I can be cold, I can run, and I can be still, I can be hard, and I can be soft. What am I?

      i. Answer: water

  f. I can be late, I can be early, I can be astronomical or atomic and my insides are incredibly complex. What am I?

    i. Answer: clock

  g. I am sometimes powerful, I am sometimes complex or deep, I can be blind, lost, or profound. What am I?

    i. Answer: love

  h. I can grow quickly, and I can die slowly, I can be a terrible pain or a comfort and joy. You never find me all by myself. What am I?

    i. A relationship

  i. I get dirty, I get clean, I can be delicate, I can be rough. People often shake me or smack me against my own kind. What am I?

    i. Answer: Hands

  j. Riddle 10: I can be crushed to pieces but only if I am given away first, I can be clogged and attacked but that's usually my own doing. No matter how many problems I have, you wouldn't dare let me go. What am I?

    i. Answer: A heart

# Challenge 2: "What is the card feeling."

1) This game helps with clear communication.

2) Good to play in all versions.

3) Description: The player has to act as the feeling described in the card that he has taken without using words, the rest of the team must find what is it.

The game consists of 4 rounds, where in each round, a new person has to depict the feeling. The team that has the most correct answers wins, if there is a draw after round 4, the captain has to select a card and the first team that finds which emotions the captain is doing, wins.

4) Rules

  a. No words.

5) Restriction cards:

  a. Slow motion: the player has to move in slow motion.

  b. Blindfolded: the player has to wear a blindfold so he can't see his teammates emotions.

       c.   Music mode: the player has to move to the sound of a random song.

       d.   Close up: The player can only use their face.

       e.   Far away: The player can't use face expressions.

       f.   No hands: The player can't use their hands.

       g.   Freeze frame: The player can only use one pose.

# Challenge 3: "Human knot".

1) This game helps with problem-solving.

2) Only to play on collocated mode.

3) Description: Start by putting all participants in a circle and have each person grab hands with two others who aren't standing directly next to them, making sure their right hand is connected to a left hand and vice versa. This will make the circle look like a tangled mees of arms.

After that, challenge the group to untangle this without letting go of anyone's hand. This should make them work together to solve the problem. They need to figure out how to free themselves. Their goal is to end up with a perfectly untangled circle.

As the game progresses, a natural leader should emerge. That's a player who'll take the reins and streamline the process.(this should be an observation you keep to yourself)

# CHALLENGE 4: "Guess the word".

1) This game helps with fast comprehension.

2) Good to play in all versions.

3) Description: The teams should be of at least 3 people; one person of each team will take a card from the deck, this card will include restriction words, the captain must make sure that the restrictions are followed. The person (team 1) has to describe the word to their teammates, if they don't guess it correctly, the other team (team 2) has a chance to win the round by guessing the team 1 card having only one guess. Once both teams have tried to guess team 1 card, team 2 will draw a new card. This game is over once one team guess 2 words.

4) Rounds:

   a. Round 1:

      i. Team 1 draws card. Once there is a winner.

      ii. Team 2 draws card. Once there is a winner.

      iii. End of the round.

   b. Round 2:

      i. Team 2 draws card. Once there is a winner.

      ii. Team 3 draws card. Once there is a winner.

      iii. End of the round.

   c. Round 3:

      i. Repeat procedure until there is a winner at the end of the round.

5) Points:

   a. Each correct guess is a point.

   b. To win, you must have at least 2 points.
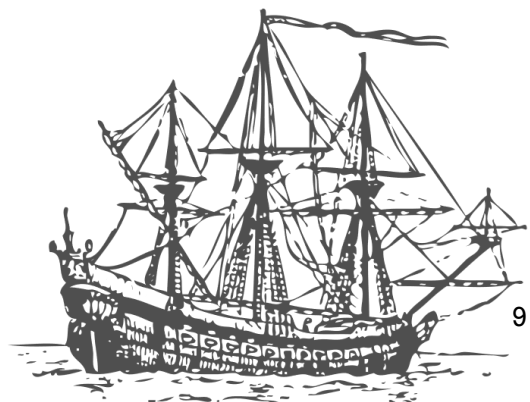
# Challenge 5: "Stranded"

1) This game helps with problem-solving, communications, prioritization and compromise.

2) Good to play in all versions.

3) Description: This game is about putting the teams in the situation of them being trapped in the room that you are playing this game. Each team has to talk and discuss about which 8 items in the room they would take. (they have 5-8 minutes to discuss this)

   Then, the teams will be told that these items are the ones they must use in order to escape. Then, each team has to come up with a solution that will help them escape by using only the materials they have used. They have a maximum of 15 minutes to discuss (you can vary the time depending on the number of players). The winner will be the team that comes first with a solution to survive that is realistic.

# Challenge 6: "Rune matching challenge"

1) This game helps with communication and problem-solving.

2) Can be played on non-collocated or collocated mode.

3) Description: Player match tiles with symbols to complete ancient runes within a time limit.

4) Rules:

   a. One person of the other team becomes the captain, the captain chooses a random code made out of 4 different pawns (can have the same color)

   b. The rest of the team guesses a code with 4 symbols and the captain draws 2 symbols next to them, a blue pawn to say, "1 symbol is right but in the wrong place" or with a green pawn to say, "1 symbol is right and in the right place" and these answers symbols are stackable so there can be 3 blue symbols and 1 green symbol.

   c. Each team has 8 guesses. The team that gets the answer first wins. If there is a tie, then a rematch is in play.

   d. You win when all the answers symbols are green so that the guessing side made is the same as the code the captain made.

# MYSTIC MARSHLANDS
## Challenge 1: "Role-play".

1) This game will help in different areas depending on the chosen scenario.

2) Good to play in all versions.

3) Description: Represent the scenario.

4) Rules:

   a. Don't break character.

5) Scenarios:

   a. **Thirsty Quest:** Teams are in a situation where they are running out of water fast. They have to choose between saving the water they have left or exploring a new area to find more. This challenge tests their ability to evaluate options, act quickly, and agree on a solution that keeps the team alive.

   b. **Choosing a Shelter:** Teams have to compare different possible shelter locations and pick the best one before it gets dark. Each location has its pros and cons (e.g., closeness to resources vs. vulnerability to weather). This situation requires strategic thinking, teamwork, and the skill to weigh and rank options effectively.

   c. **Identifying Food Sources:** Teams come across unfamiliar plants and animals. They have to figure out which ones are safe to eat without any prior knowledge. This challenge measures their ability to collect and analyse information, make smart decisions, and work together to reduce risks.

   d. **Handling a Medical Emergency:** A team member gets hurt, and medical supplies are scarce. Teams have to choose the best action, balancing immediate care needs with available resources. This challenge fosters quick thinking, empathy, and cooperation in putting the injured team member's health first.

   e. **Choosing a Route:** Given multiple paths to possible safety, teams have to decide which one offers the best chance of rescue. Each path has its difficulties (e.g., rough terrain vs. potential dangers). This situation tests their ability to assess risks, collaborate on decision-making, and think about long-term outcomes.

# LAUGHTER LAGOON

## Challenge 1: "Build a boat".

1) This game helps with collaborative behaviour, communication and role setting.

2) Only for collocation version.

3) Description: create a boat with the material provided by the captain (so provided by the one making use of this book), under the time indicated by the captain.

4) Rules:

    a. They can only use the material provided, no use of internet.

    b. Captain might want to set requisites that they must complete, for example the boat must float…
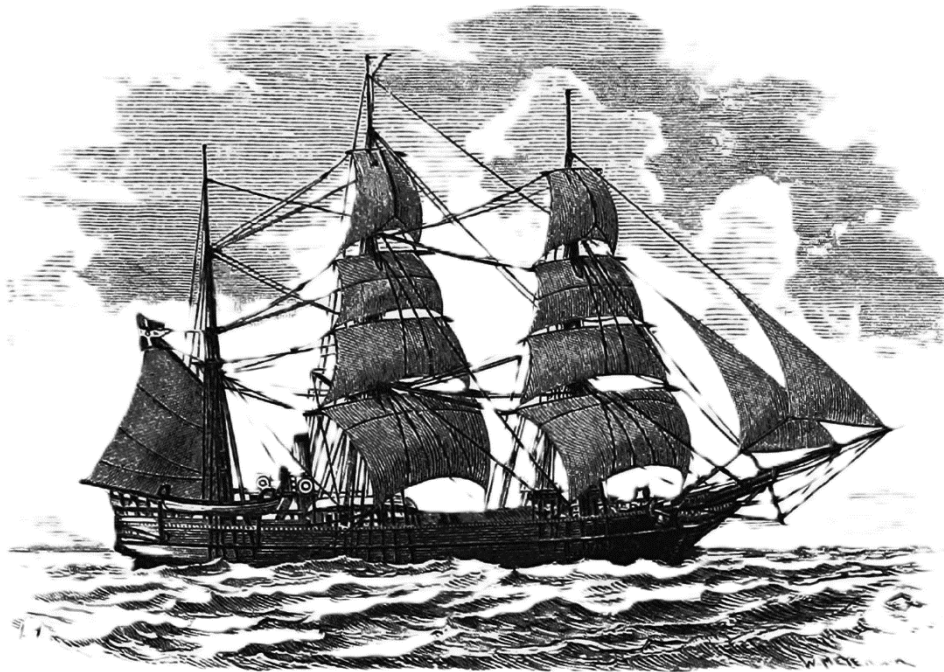
# BRIDGE OF FURY

## Challenge 1: "Find the code".

1) This game helps with problem-solving and working under pressure.

2) Good on collocated or non-collocated version.

3) Description: players are given a sheet with pirate symbols representing letters. Using the provided legend(or solving the code), they decode a message within a time limit.

4) Rules:

   a. Players decode the message by substituting symbols with corresponding letters.

   b. The first crew to decode the message correctly wins the challenge.

   c. For non-collocation, players must see hints in video provided on app

5) Codes: depending on the difficulty and type of code you want to use you will have to decode different things. For the harder mode you must also find the code which you must use.

6) How to play:

   The captain will initially have to choose whether they will give the players the code's solution, or the hints (provided below) so they can figure out the code, making the game more difficult.
   Captain draws card which selects difficulty (depends on color). And one that decides what
   alphabet (either backwards and number or shifts)
   Teams are assigned and will start the challenge by drawing a card from the corresponding deck.
   The first team to correctly figure out the code and decode the message wins.
   hints about their codes are said
   players must decode the code and solve the phrase, the first team to make it wins.
   *the difficulty can be sub divided into 2, the complex alphabet(shift letters, and vowels shift), and simple alphabet(number corresponds to alphabet and backwards). Players must choose cards within the same difficulty alphabet*
   **Codes next page:**

| Shift letters by 3 | | Vowel shift | | Number corresponds to alphabet | | Backwards | |
|---|---|---|---|---|---|---|---|
| A | Y | A | E | A | 1 | A | Z |
| B | Z | E | I | B | 2 | B | Y |
| C | A | I | O | C | 3 | C | X |
| D | B | O | U | D | 4 | D | W |
| E | C | U | A | E | 5 | E | V |
| F | D | B | C | F | 6 | F | U |
| G | E | C | D | G | 7 | G | T |
| H | F | D | F | H | 8 | H | S |
| I | G | F | G | I | 9 | I | R |
| J | H | G | H | J | 10 | J | Q |
| K | I | H | J | K | 11 | K | P |
| L | J | J | K | L | 12 | L | O |
| M | K | K | L | M | 13 | M | N |
| N | L | L | M | N | 14 | N | M |
| O | M | M | N | O | 15 | O | L |
| P | N | N | P | P | 16 | P | K |
| Q | O | P | Q | Q | 17 | Q | J |
| R | P | Q | R | R | 18 | R | I |
| S | Q | R | S | S | 19 | S | H |
| T | R | S | T | T | 20 | T | G |
| U | S | T | V | U | 21 | U | F |
| V | T | V | W | V | 22 | V | E |
| W | U | W | X | W | 23 | W | D |
| X | V | X | Y | X | 24 | X | C |
| Y | W | Y | Z | Y | 25 | Y | B |
| Z | X | Z | B | Z | 26 | Z | A |

Difficulty level: EASY

1. "Hoist the Jolly Roger!"
2. "Arrr, me hearties!"
3. "Set sail at dawn."
4. "X marks the spot."
5. "Shiver me timbers!"
6. "Yo-ho-ho and a bottle of rum."

1 **Shift letters by 3:**

1.1 FMGQR RFC HMJJW PMECP

1.2 YPPP,KC FCYPRGCQ

1.3 QCR QYGJ YR BYUL

1.4 V KYPIQ RFC QNMR

1.5 QFGTCP KC RGKZCPQ

1.6 WM-FM-FM YLB Y ZMRRJC MD PSK

2 **Backwards:**

2.1 SLRHG GSV QLOOB ILTVI

2.2 ZIII, NV SVZIGRVH

2.3 HVG HZRO ZG WZDM

2.4 C NZIPH GSV HKLG

2.5 HSREVI NV GRNYVIH

2.6 BL-SL-SL ZMW Z YLGGOV LU IFN

3 **Number corresponds to alphabet:**

3.1 ~ 8.15.9.19.20  20.8.5  10.15.12.12.25  18.15.7.5.18

3.2 ~ 1.18.18.18  13.5  8.5.1.18.20.9.5.19

3.3 ~ 19.5.20  19.1.9.12  1.20  4.1.23.14

3.4 ~ 24  13.1.18.11.19  20.8.5  19.16.15.20

3.5 ~ 19.8.9.22.5.18  13.5  20.9.13.2.5.18.19

3.6 ~ 25.15-8.15-8.15  1.14.4  1  2.15.20.20.12.5  15.6  18.21.13

4 **Vowel shift:**

4.1 JUOTV VJI KUMMZ SUHIS

4.2 ESSS, NI JIESVOIT

4.3 TIV TEOM EV FEXP

4.4 Y NESLT VJI TQUV

4.5 TJOWIS NI VONCIST

4.6 ZU-JU-JU EPF E CUVVMI UG SAN

Difficulty level: MEDIUM

1. "Dead men tell no tales."
2. "Look for the Skull Island."
3. "Swab the deck, matey!"
4. "Treasure is buried here."
5. "Parrots on me shoulder."

## 1 Shift letters by 3:

1.1 BCYB KCL RCJJ LM RYJCQ

1.2 JMMI DMP RFC QISJJ GQJYLB

1.3 QUYZ RFC BCAI, KYRCX!

1.4 RPCYQSPC GQ ZSPGCB FCPC

1.5 NYPPMRQ ML KC QFMSJBCP

## 2 Backwards:

2.1 WVZW NVM GVOO ML GZOVH

2.2 OLLP ULI GSV HPFOO RHOZMW

2.3 HDZY GSV WVXP, NZGVB!

2.4 GIVZHFIV RH YFIRVW SVHV

2.5 KZIILGH LM NV HSLFOWVI

## 3 Number corresponds to alphabet:

3.1 ~ 4.5.1.4  13.5.14  20.5.12.12  14.15  20.1.12.5.19

3.2 ~ 12.13.13.11  6.15.18  20.8.5  19.11.21.12.12  9.19.12.1.14.4

3.3 ~ 19.23.1.2  20.8.5  4.5.3.11  13.1.20.4.25!

3.4 ~ 20.18.5.1.19.21.18.5  9.19  2.21.18.9.5.4  8.5.18.5

3.5 ~ 16.1.18.18.15.20.19  15.14  13.5  19.8.15.21.12.4.5.18

## 4 Vowel shift:

4.1 FIEF NIP VIMM PU VEMIT

4.2 MUUL GUS VJI TLAMM OTMEPF

4.3 TXEC VJI FIDL, NEVIZ!

4.4 VSIETASI OT CASOIF JISI

4.5 QESSIVT UP NI TJUAMFIS

Difficulty level: HARD

1. "Rum and plunder await."
2. "Blackbeard's ghost roams."
3. "The Kraken is near."
4. "The mutiny is planned."
5. "The captain's log holds secrets."
6. "Only the brave find riches."

1 . **Shift letters by 3:**

    1.1 PSK YLB NJSLCP YUYGR

    1.2 ZJYAIZCYPB'Q EFMQR PMYKQ

    1.3 RFC IPYICL GQ LCYP

    1.4 RFC KSRGLW GQ NJYLLCB

    1.5 RFC IYNRYGL'Q JME FMJBQ QCAPCRQ

    1.6 MLJW RFC ZPYTC DGLB PGAFCQ

2 . **Backwards:**

    2.1 YFN ZMW KOFMWVI ZDZRG

    2.2 YOZXPYVZIW'H TSLHG ILZNH

    2.3 GSV PIZPVM RH MVZI

    2.4 GSV NFGRMB RH KOZMMVGW

    2.5 GSV XZKGZRN'H OLT SLOWH HVXIVGH

    2.6 LMOB GSV YIZEV URMW IRXSVH

3 . **Number corresponds to alphabet:**

    3.1 ~ 18.21.13  1.14.4  16.12.21.4.5.18  1.23.1.9.21

    3.2 ~ 2.12.1.3.11.2.5.1.18.4'19  7.8.15.19.20  18.15.1.13.19

    3.3 ~ 20.8.5  11.18.1.11.5.14  9.19  14.5.1.18

    3.4 ~ 20.8.5  13.21.20.9.14.25  9.19  16.12.1.14.14.5.4

    3.5 ~ 20.8.5  3.1.16.20.1.9.14'19  12.15.7  8.15.12.4.19  19.5.3.18.5.20.19

    3.6 ~ 15.14.12.25  20.8.5  2.18.1.22.5  6.9.14.4  18.9.3.8.5.19

4 . **Vowel shift:**

    4.1 SAN EPF QMAPFIQ EXEOV

    4.2 CMEDLCIESF'T HJUTV SUENT

    4.3 VJI LSELIP OT PIES

    4.4 VJI NAVOPZ RH QMEPPIF

    4.5 VJI DEQVEOP'T MUH JUMFT TIDSIVT

    4.6 UPMZ VJI CSEWI GOPF SODJIT

**HINTS( give in order to solve code):**

(you can give other hints, these are the ones we recommend you hand out)

**Shift letters by three:**

      A=Y

      U=S

      Z=X


**Vowel shift:**

      A=E

      U=A

      G=H

      W=X


**Number corresponds to letter:**

      J=10

      R=181

      M=13


**Backwards:**

      C=X

      K=P

      M=N

# SURPRISE CAVES
## Challenge 1: "Finding Blackbeard".

1) This game helps with communication, debate and conduct.

2) Good on collocated or non-collocated version.

    a. For the non-collocated version, all the cameras MUST be on.

3) Description: Story where they need to find who is Blackbeard (impostor), this game is about talking and reflecting on people's facial expression.

4) Rules:

    a. No one can open their eyes.

    b. Follow the Captains rules: (the captain has to tell the following story while the game is happening)

        i. Crew members go to sleep.
            1. Everyone closes their eyes.
        ii. Masters decide who is Blackbeard
        iii. Blackbeard wakes up.
        iv. Blackbeard points to who he wants to throw overboard. (That player can no longer speak)
            1. Non-collocation: writes in a paper instead of pointing.
        v. Blackbeard goes to sleep.
        vi. All wake up.
        vii. Master says who was thrown out of the boat. (That player can no longer speak)
        viii. The rest must argument between each other and give reasons for their opinions in order to collectively decide who Blackbeard is.
        ix. Keep playing until they find who Blackbeard is or when Blackbeard wins.
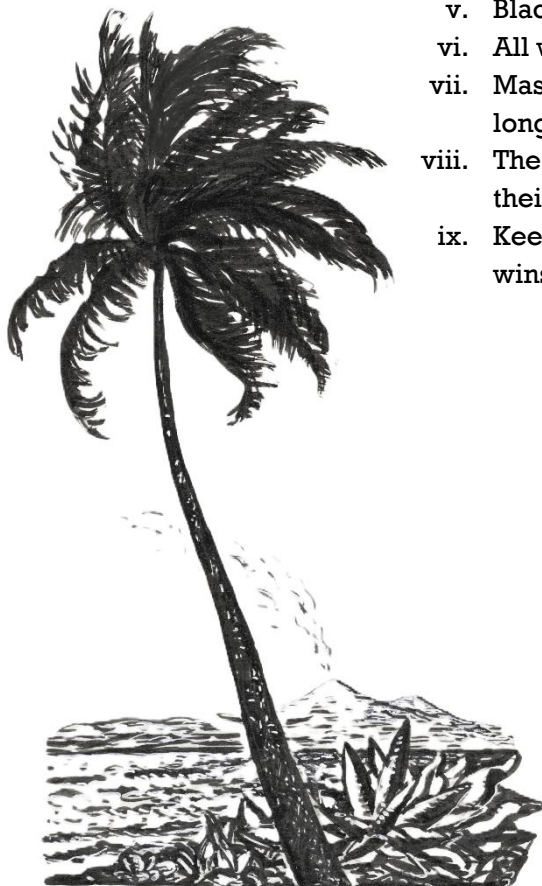
# Challenge 2: "Ghostly Whispers".

1) This game will help with team trust.

2) Good for collocated version.

3) Description: one player, blindfolded, is guided by whispered directions from their crewmates to navigate a haunted maze and find a hidden object.

   First, decide who in the team is going to be the blindfolded. Once this is done, all the blindfolders should leave the room letting the rest of the teams create the maze or the path that the blindfolded has to follow. When this is done, blindfold the selected and let them in the room.

   Finally, let the race start.

4) Rules:

   a. Crewmates outside the maze whisper directions to the blindfolded player.

   b. The blindfolded player must follow the directions to locate the hidden object within a time limit.