

RESEARCH PLAN

COMPLEX PROJECTS | AR3CP100

Hotel New York studio

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Abstract

Recently, loneliness and social isolation is a significant problem across ages in different countries. This problem can increase the risk of diseases like Alzheimer's, depression, heart disease and it can even lead to suicide. Communication between individuals is needed to lessen or even prevent the problem of loneliness and social isolation. This project will accommodate "digital games" in the physical environment and use games as a tool to strengthen communication between people since games can be played by

everyone regardless of their age. It will provide a gathering space for different generations where they can communicate with each other using digital games to reduce loneliness and social isolation.

Research question

"How can we accommodate digital games in a physical environment to increase communication across different ages to reduce loneliness and social isolation?"

General notion of migration of ideas

Ideas are migrated over time and space in different ways. The initial idea can be changed during the movement because each person interprets the idea in a different way. Various interpretation of individuals leads to the development of an idea. Nowadays, thanks to social media, ideas can be migrated more easily because people do not have to be physically in contact with each other to convey their ideas. The digital platform is an easy and fast tool to communicate with each other but, on the other hand, migration of ideas through social media can be misleading. Without an extra explanation, the initial meaning of the idea can be changed in a good or even a bad way.

1. Introduction

Communication is an important topic in our daily life. As Dr. Babu described in his research about 'the importance of communication in present society', communication has become inevitable. It has been integrated into a variety of different fields within the economy such as the agricultural, education, or health sector. Therefore, communication will proceed to be a significant problem solver in society (Babu, 2018).

Also, cultural and social cohesion is an element that makes a healthy community. It can improve family health, safety, and overall well-being. It also helps to decrease poverty and racism. Therefore, the expression of culture is significant to have a better understanding of people from other countries in which will increase the social and cultural cohesion in our society (Gregersen, 2013).

The gathering spaces are significant in our society because it is a place where people from different nationalities can communicate with each other. In contrast to the physical gathering spaces we already know (e.g. markets, sport, playgrounds, restaurants, cafes, museums, community centers, religious buildings) there is also a digital platform of gathering space: gaming. The thesis is about the migration of games: How games are used as a tool for gathering to increase communication across different ages.

2. Problem statement

This chapter describes two main problems that occurs in the project location Feijenoord which are high numbers of loneliness and juvenile crime. After that, a solution is mentioned which will help to reduce these problems in the neighbourhood.

Loneliness and social cohesion

Recently, there is a growing number of loneliness across different ages around the world. Loneliness is a subjective feeling which can be experienced by the individual as an unpleasant or inadmissible lack of certain relationships. It includes situations in which the number of existing relationships is smaller than is considered desirable (Thanskanen, 2016). The mental health issue of loneliness can increase the risk of Alzheimer's disease, depression, coronary heart disease and it can be also led to suicide (Klinenberg, 2016).

Also, social isolation is a significant problem in our society. Social isolation concerns the objective characteristics of a situation and refers to lack of contact between an individual and society. Small social networks, infrequent social contacts, absence of confidante connections, living alone, and lack of participation in social activities are criteria that have been used to define social isolation (Thanskanen, 2016).

This problem is more common in big cities, like Amsterdam and Rotterdam than in rural areas in the Netherlands. The statistics of public health and care in the Netherlands show that more than 50% of the people in Rotterdam feel lonely and socially isolated (RIVM, 2016). Also, the numbers of those problems are especially higher across the river Maas to the south where the project site Feijenoord is located. The survey, done by the National Institute for Public Health, shows that people with other migration backgrounds and low education feel lonelier than people with a high educational background (RIVM, 2016). The nationalities of the residents in Feijenoord are diverse and the education level is lower compared to Rotterdam North. Those two points are one of the reasons why the percentage of loneliness is higher in this

area. Therefore, the municipality of Rotterdam has set up several goals (e.g. increasing education level, better economy, better job opportunities, decreasing criminality rate) to achieve in the future for the Feijenoord district. One of the goals is preventing loneliness and social isolation, and strengthen social cohesion in the neighbourhood.

What we already know about this problem is that it can be reduced when people communicate with each other. A research 'Factors influencing social satisfaction and loneliness' written by Perrée-Weijs in 2015 states that people are generally less prone to feeling lonely in a socially cohesive neighbourhood. They feel more attached to the neighbourhood when opportunities to communicate with others exist in a gathering space (Weijs-Perrée M, 2015).

Juvenile crime

Juvenile crime is another problem that occurs in Feijenoord. The high percentage of early school dropouts contributes to this problem because the students, who are hanging around in the neighbourhood, are looking for excitement which can lead to criminality.

Games as tool for gathering

These problems could be solved by offering a gathering space in a neighbourhood where people can communicate with each other. Back in the days, people were only able to meet physically in an area but nowadays, thanks to the development of technology, the way we gather and communicate have changed. People can easily communicate with each other, from their home, through social media or games without physical contact. Therefore, this project is going to focus on the digital environment of gathering space through games because games can be played by everyone, no matter their age. Games will be used as a tool for gathering and communication.

3. Migration of games

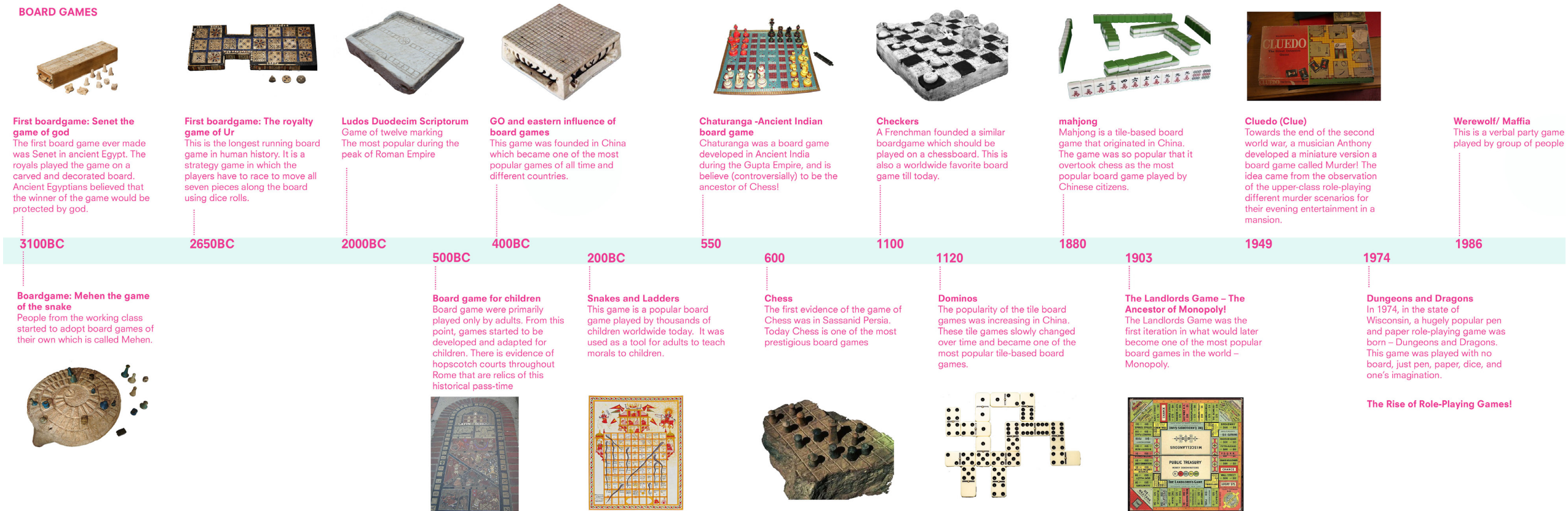
This chapter will give an explanation of how the idea of games is migrated over time and space. First of all, the migration of different types of games (board games and digital games) is researched and how this game has become a means of gathering for the residents by mentioning different gaming contests. The events of different games are visualized in a timeline. Also, the spaces where different games were initially played and how they have changed over time is described in the last paragraph.

the dice. Ancient Egypt believed that they could be protected by god by winning the game. At that time, only the royals were able to play. Due to the popularity of the games, people from the working class started to adopt the board games of their own. From this point, people started to develop and adapt to children. Evidence shows that hopscotch courts, created in Rome 500BC, is the first game for children (AttiaPeter, 2016). Other countries, like China, used the board game called Snakes and Ladders to teach morals to children (Byron, 2019). So, the boardgames are, at that time, also used as a communication tool between different generations. The types of games were also changing over time. It started from tile board game (chess, checkers, dominos, and mah-jong) which were developed into card boardgame (Uno, and Monopoly) to role-playing boardgame (Dungeons and dragons and werewolf).

3.1 Boardgames

The phenomenon of using games as a tool for gathering and communication was already started physically in 5000BC in pre-historic times before humans had even developed a written language (Byron, 2019). The archaeologist discovered carved and painted stones in a burial ground which was in the South East of Turkey. These stones represent a piece we all know in boardgames which is

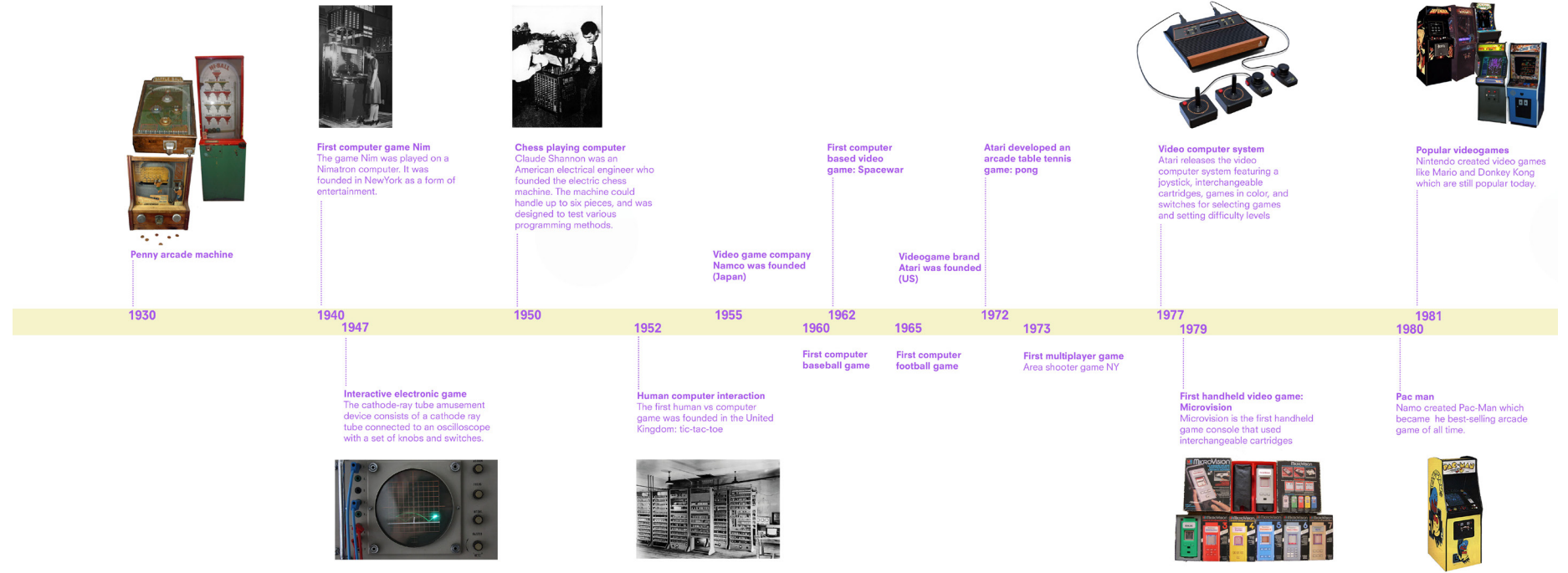
BOARD GAMES



The Rise of Role-Playing Games!

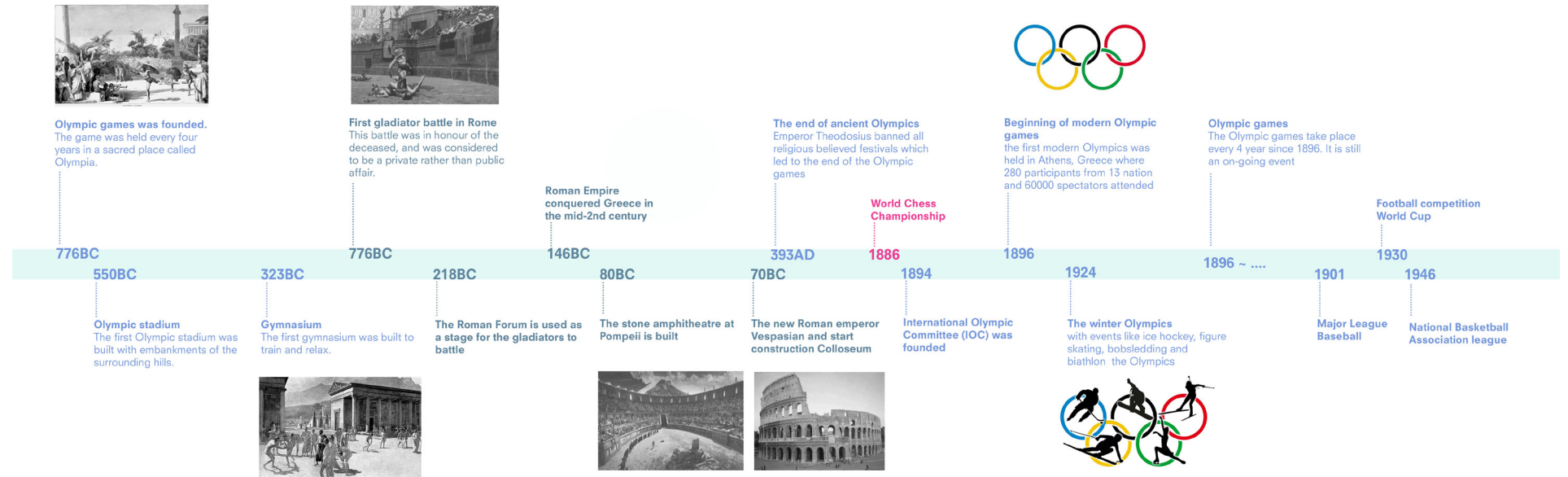
3.2 Digital games

Games as a gathering space among people in real life have developed into a digital platform. People started to use online video games as a gathering space where they communicate with each other. The origin of video games is penny arcade machines which were invented in the 1930s. These arcade machines were collectively set up in a large hall, so people of all different ages could visit and play together. The period between 1960 to 1980 is called 'the golden age for video games' because a lot of games, which are very popular till today, are founded in this period. People were also trying to turn board games or sports into videogames. The first computer system with multiple joysticks and interchangeable game cartridges was founded in 1977. From this point, it was possible to play video games at home. In 2000, the first internet-ready gaming console was created and it had an impact on communication. The gamers could easily communicate with each other, through an online platform, even if they were not at the same place.



3.3 Gaming contests

The beginning of the game contests started in 776BC when the Olympic games were held in Olympia, Greece. The game which consists of different sports (a foot race, a long jump, discus, and javelin throws, and a wrestling match) was held every four years. The Greeks used this religious festival, the Olympic games, as an opportunity to gather for a riotous party (games, n.d.). This game was also used as a gathering space for philosophers and teachers where they exchange and speak out their thoughts by intellectual learning and debate. The gladiator battle was also happening during the Rome Empire in 776BC. It was a public event which attracted a lot of spectators. They visit the place to entertain themselves by watching the battle. The competition has developed over time. From 1901, various sports (like baseball, football, basketball, etc.) had their own tournaments which are still popular till today. Also, people started to organize traditional board games into contests. Moreover, the popularity of computer gaming increased over time which led to the development of eSport since 1980 which is a competition of computer gaming. The eSport gained a lot of spectators over time and the prizes of the competitions are also increasing. The total prize money is also increasing. It started from \$132K in 1998 and this has grown to \$155.9M in 2018 (earningsEsports, 2020).



3.4 Spaces where games were played

Boardgames

Initially, board games were only played at home with families or friends, but this changed over time (image 1). Nowadays, it can be played in a public square. The life-size chess in Max Euwe square Amsterdam is a gathering space for people and it is possible to play chess with each other (image 2). The spontaneous game at the square is being used as a tool to enhance social cohesion. Over time, places where people can gather to play board games were created which is called board game café (image 3). The atmosphere of these café's looks like an ordinary café with tables, bar, and background music. The main difference is that they have a collection of board games on a shelf which can be used by the customers for free. The game brings people together on different scales (urban to the building) which increases the chance of communication between people.

Video games

The initial place to play video games was at the penny arcade machine hall in United States in 1930. The arcade machines were accommodated in a large area like an exhibition hall. Akihabara, an area near Tokyo, is well-known for electronic devices and video games. There is a building that consists of six different levels which is only used as an arcade hall (image 4). Each floor has different videogames as well as different themes that are aimed at specific age groups. By doing this, the opportunity to communicate with different age groups will be decreased which is not helpful to enhance social cohesion. The spatial layout of arcade halls didn't change overtime but only the atmosphere using artificial lights with a dark interior (image 5). Other countries were also developing a space for digital games. In South-Korea, for instance, computer gaming was popular among different ages which led to the establishment of internet cafes in 1988. It is a place with a lot of gaming computers where

people, usually, youngsters, visit to play computer games (image 6). The gathering space where people play video games changed over time after various gaming consoles were developed. It is now possible to play a digital game with friends at home using an online gaming platform.

Gaming contest

The first gaming competition Space War in 1972 was organized at Stanford University's Artificial Intelligence Laboratory with only 20 competitors (WinkieLuke, 2019). Computers were placed in a row with an area for the spectators (image 7). The popularity of eSport increased over time and a bigger arena was needed to accommodate more spectators. Therefore, the football arena was mainly used to organize big gaming competitions (image 8). In this way, the football arena can also be used during the off-season.

It is remarkable to see that the games have had an influence on spatial quality. People used to play board games at home, but nowadays it is also possible to play a board game in a public square or a building. Whereas, the digital games started as an activity in a public building which has turned into gaming at home. Also, gaming competitions brings people of different ages together like physical sport events.

Board games



image 1: Home with families and friends



image 2: Public square Life size chess in Max Euwe square, Amsterdam



image 3: Boardgame cafe Snake and Lattes in Toronto

Video games



image 4: Building in Akihabara that consists of six different levels arcade hall



image 5: The building of Game state has a big windows with artificial light that helps to attract the public's attention



image 6: There is no daylight entering the space. The artificial lights are important to create a gaming atmosphere

Gaming contest



image 7: The first gaming competition Space War in 1972 at Stanford University



image 8: Half of the football stadium was used to accommodate gaming competition with 6000 spectators

4. Application of the research on site

4.1 Accommodating digital games in the physical environment

The ambition of the project: intergenerational gaming center is to connect different age groups through gaming. Although communication in the gaming platform is an ideal tool, we need physical spaces that accommodate digital gatherings like video games. That is because communication in a physical gathering space is still important. Research shows that face-to-face meetings allow clearer communication because people can read their facial expressions and body language. It also contributes to stronger relationships. Communication through video games should improve our opportunity, not replace face-to-face communication (GriffithsAndrew, 2018)

This project will be a public building for international gaming events to attract more visitors from different countries to Feijenpoort. As well as for the local community where people who are not familiar with the digital platforms can learn new skills. The project is located in the neighbourhood Vreewijk in Feijenpoort. It is a residential area with high a percentage of elderly resides. The choice of the project site is elaborated in the design brief.

4.2 Target groups

The elderly

The first target group are the elderly in the neighbourhood. The popularity of games among the elderly is noticeable in the research about the gamers in the Netherlands. It shows that not only the younger generations but also the elderly spends their time playing games (BroekMatthijs, 2008) (chart 1). Also, recent articles which were written within 2 years, shows that people are playing more video games after retirement because the elderly used to play different forms of games like board games and arcade machines. This brings up nostalgia for the seniors for the days they played when they were young. Also, the elderly want to challenge themselves to learn new technology like video games to

stay active in their daily life (WebsterAndrew, 2017). Besides, the elderly are looking for a way to communicate with their grandchildren. According to several interviews of senior gamers, it becomes clear that games attract multiple interests among people of different ages which leads to a conversation (TsuiStephanie, 2019). Above all, it is easier for the elderly to communicate with others using video games as they have difficulties in walking. Therefore, the games are ideal to use as a communication tool between the younger generation and the elderly.

Youngsters

The project will diminish youngsters hanging around on the streets by offering a gaming facility in the neighbourhood. Youngsters who are interested in gaming or want to obtain new knowledge about technology can visit this project. In an article Juvenile Delinquency: What Makes Teens Commit Crimes? which was written in 2017 states that lack of social and moral training can lead to Juvenile delinquency (teen, 2017). The project will not only be a “fun” place to go where they can play games but also teach the youngsters how to socialize with different people by cooperating with the others.

Game developers

There are approximately 330 gaming companies in the Netherlands, generating a total of 3000 jobs. This number will increase in the future because of the popularity of the games among people. Therefore, this project will also offer a workspace for game developers where they can invent new games.

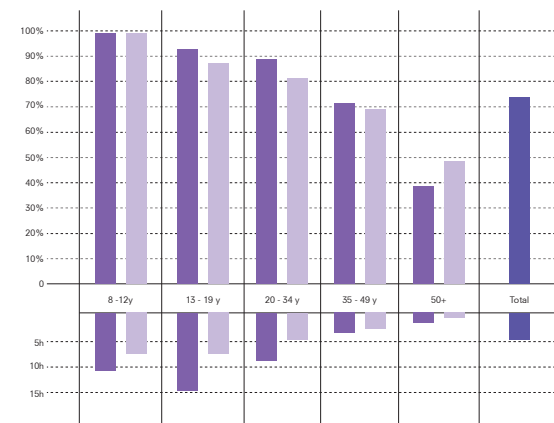


Chart 1. Percentage of gamers in the Netherlands

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1. AMBITION

1.1 Project ambition

The ambition of the project is to connect different age groups through gaming. That is because games can be played by everyone, no matter their age. It attracts common interests among people of different ages which leads to a conversation and increasing social cohesion in the neighbourhood. By accommodating digital platforms (games) in a physical environment, the project offers a gathering space in the neighbourhood where people can communicate with each other. This will contribute to reducing numbers of loneliness and social isolation as well as diminish juvenile crime.

1.2 User

The building is going to be used by different users. First of all, it will bring the elderly and youngsters, of the site Feijenpoort, together to increase social cohesion in the neighbourhood by sharing the same hobby and exchanging knowledge. The goal is also to attract people from other countries to Rotterdam south by organizing gaming events. And finally, this project will offer a workplace for game developers where they can test out new products.

1.3 Client

The client of this project is the municipality of Rotterdam. They have already set up several goals (e.g. increasing education level, better economy, better job opportunities, decreasing criminality rate) to achieve in the future for the Feijenoord district. The client wants to achieve the goal of preventing loneliness and social isolation and strengthen social cohesion in the neighbourhood by offering an intergenerational gaming center in the neighbourhood.

1.4 Urban ambition

The project will offer a gathering space for the residents in Feijenoord for people who are interested in games. It will also contribute to the economic growth of the city by attracting more visitors to Feijenoord through different programs like exhibition and gaming event/competition.

1.5 Program (social) ambition

The building is going to work in three different ways. First of all, there will be a gaming event hall to accommodate gamers and spectators. Therefore, a stage where participants of this gaming event can perform is needed as well as seats for the spectators and a studio where the event is going to be broadcasted.

Second, there will be an exhibition hall where gaming-related exhibitions can be held for visitors. A part of this space is going to be used as a testing area for game developers to test out their products. This area is part of the exhibition because space will be visible for the visitors so they can experience the process of how games are made.

Finally, it will offer a workshop room where the visitors can share and obtain knowledge.

1.6 Construction ambition

The project is going to be an eye-catcher in the residential area. Using clean and futuristic material will help to indicate the program of the building at first sight. The floorplan of the project should be flexible so it can be used over the years which contributes to the sustainability of the building.

2. SITE

2.1 Site Location

The project is located in Feijenoord which is across the river Maas in Rotterdam South. This district is well-known as a place where De Kuip stadium is located which is a home-ground of Feijenoord football team. The district consists of 8 neighbourhoods. The project will be implemented in a residential neighbourhood Vreewijk (figure1) for the following reasons.

1. Distributing leisure amenities over Feijenoord district

Leisure amenities like cinema, bowling, and gaming hall are located adjacent to the stadium near the waterfront on the east side of Feijenoord. These amenities attract visitors from other areas to the east side of Feijenoord while the other side is relatively quiet and is more focused for the residents (figure 2).

Implementing the project in Vreewijk will help to accomplish one of the project's ambitions which is increasing social cohesion in the neighbourhood. The project will offer a gathering space for the residents. They will visit the project easier if it is already in a residential area rather than in the east part of Feijenoord which is segregated by the train rail.

2. Enhance cultural activities in Feijenoord by connecting different axes of the projects

There are two different axes that go through the project location, which are commercial and cultural axes (group strategy). The commercial axis, Beijerlandse laan, connects the project location with the convergence zone (figure 3: yellow circle). While the cultural axis links the project to De Kuip stadium. By doing this, a triangle of cultural/ leisure activity is created in the site which will enhance the cultural activities within Feijenoord (figure 3).



Figure 1: Project location



Figure 2: Leisure amenities are gathered in the East-side of Feijenoord



Figure 3: Triangle of cultural/ social activity

3. Gathering of social/ cultural activities on the crossing

The project will be located on the corner of the busy crossing in Vreewijk, adjacent to neighbourhood Bloemhof and Hillesluis. The buildings around this area have a lot of social/ commercial programs like library, churches, schools, and shops (figure 4). By replacing the current residential building into an intergenerational gaming center, the crossing will become more interesting and active because of the assembly of social programs which will attract a lot of people.

4. Accessibility

Situating the project in the corner of the crossing will increase the accessibility of the project because there are tram and bus stop in front of the building (figure 5).

Car, Tram 25, Bus 75-77, Metro line F

5. High percentage elderly living in this area

The accessibility to the building is crucial since one of the users of the project are the elderly. Therefore, it is convenient to place the project in the neighbourhood Vreewijk because a large part of the residents in this area are seniors. The project is easier accessible for the elderly if it is already in their living area.

2.2 Site approach

The front of the house is facing the crossing and the project location is accessible by transportations like bus, tram, metro and car. The back of the house is approachable via the residential area (figure 5).

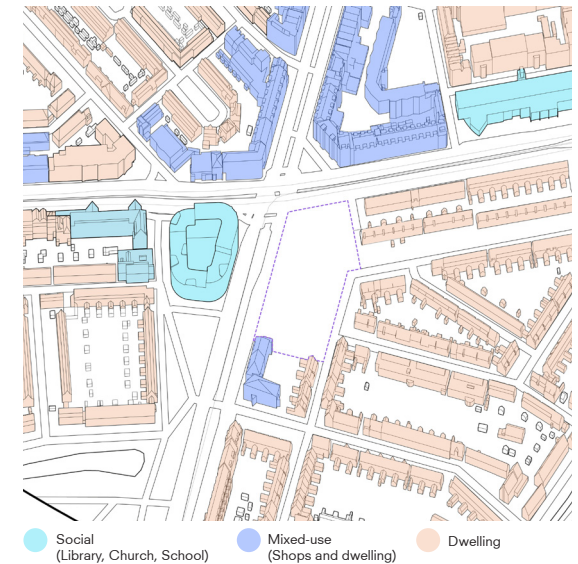


Figure 4: Site area

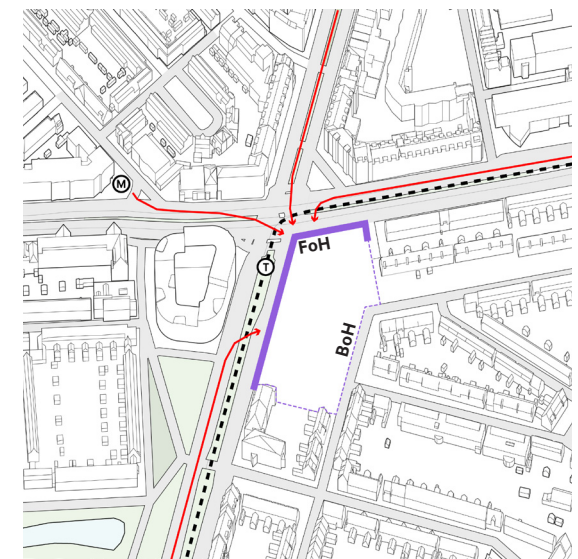


Figure 5: Accessibility | FoH | BoH

2.4 Site specification

Site area: 5070m²
 Setback: FoH 3.5m / BoH 2m
 Height limit: 15m

2.3 Urban rules

Current situation

The current site is occupied by the 3-floor high residential building (figure 8) which has to be removed to build an intergenerational gaming center. The zoning plan, established by the municipality, marked the function of the project location as a mixed-use and dwelling (figure 9). The urban rules for this location are as follows (table 1).

Adjustments

The building function of the location are adjusted. The project is going to be a mixed-use building with offices, horeca, shops, and leisure amenities.

The project will follow building requirements and specific rules which are set up by the municipality.

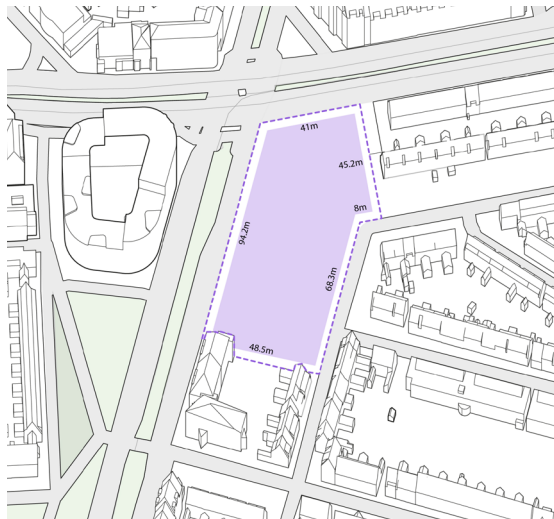


Figure 6: Site dimensions

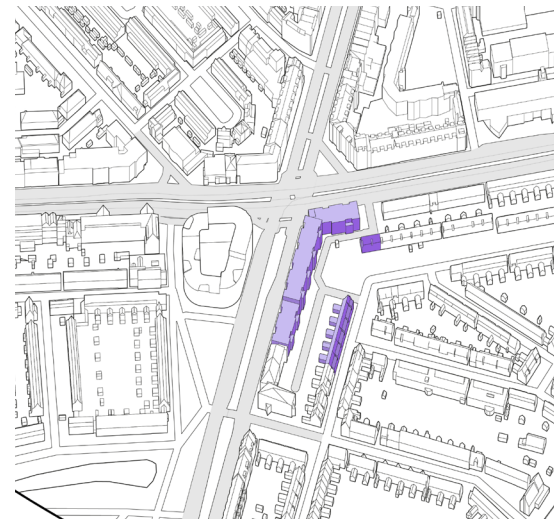


Figure 8: Current situation

	Current situation		Project: Intergenerational gaming center
	Mixed-use	Dwelling	Mixed use
Intended for these function	<ul style="list-style-type: none"> Offices on the ground floor. Dwelling 	<ul style="list-style-type: none"> Dwelling Storage, garage Garden, greenery, water 	<ul style="list-style-type: none"> Office Leisure amenities (Gaming hall, arena) Horeca Shops
Building requirements	<ul style="list-style-type: none"> The roof of the building has to be flat. Company offices may not exceed 50% of the GFA of the company up to maximum of 3000m² 	<ul style="list-style-type: none"> Fences cannot be higher than 2 meters. 	<ul style="list-style-type: none"> The roof of the building has to be flat. Company offices may not exceed 50% of the GFA of the company up to maximum of 3000m² Fences cannot be higher than 2 meters.
Specific rules	Noise-sensitive social facilities are not allowed.	30% of GFA can be used as home office but it is not allowed to put advertisement signs on the façade.	<ul style="list-style-type: none"> It is not allowed to put advertisement signs on the façade.
Building height	15m	15m	15m

Table 1. Urban rules

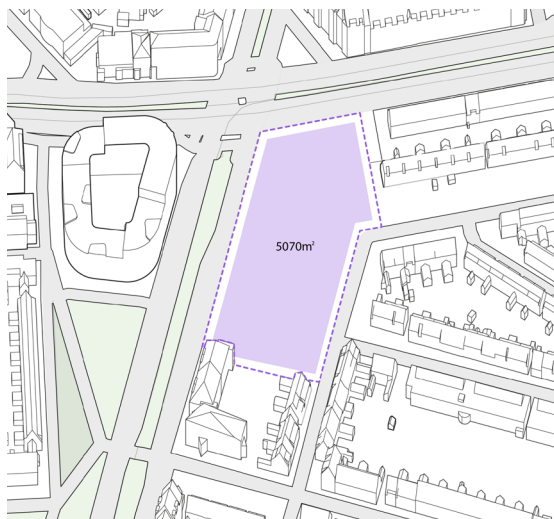


Figure 7: Site area



Figure 9: Zoning plan (intended building function)
 Brown = mixed use | Pink = dwelling

2.4 Massing possibilities

The mass studies show how the plot can be occupied. First of all the whole project location can be used (figure 10). Or a square can be created next to the building (figure 11).

The building can also be designed with different heights (figure 12). The height corresponds with the surrounded building.

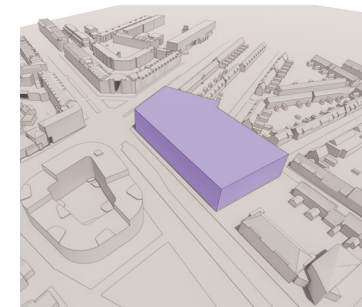


Figure 10: Using whole site location

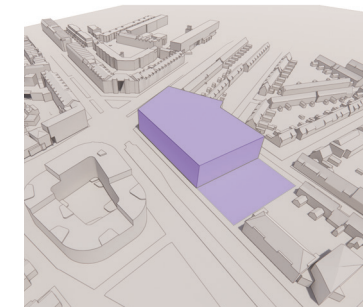


Figure 11: Public square next to the building

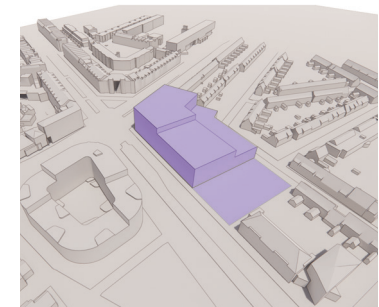


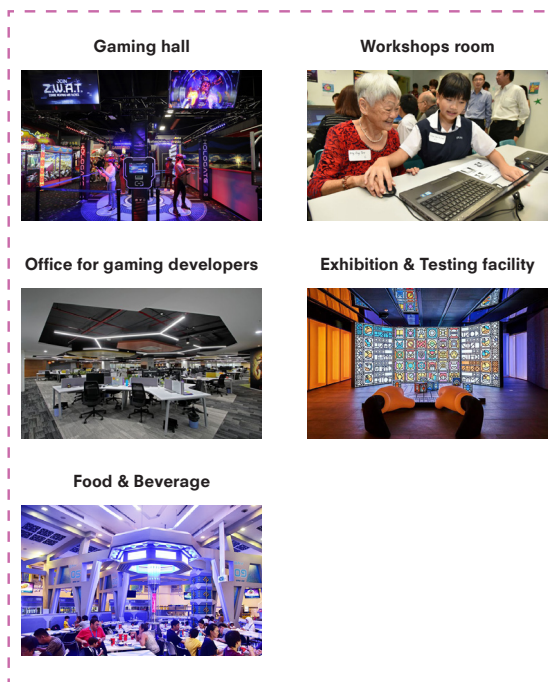
Figure 12: Different heights of the building

3. PROGRAM

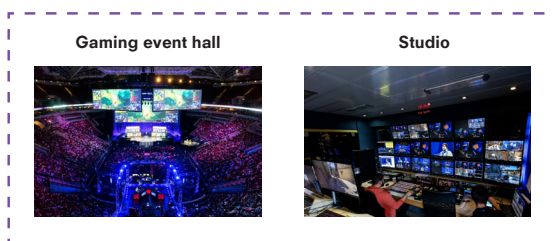
3.1 Program statement

The project intergenerational gaming center will be a public building for the local community where people, who are not familiar with the digital platforms, can learn new skills. It will also facilitate a workspace for gaming developers where they can test out their products in an exhibition/ testing facility. Also, the popularity of gaming contest eSport is increasing over the years. Therefore, this project will offer a place for national gaming events to attract spectators and tourists from other countries to Feijenpoort which will contribute to the economic growth of the city.

Daily Program for Locals and gaming developer



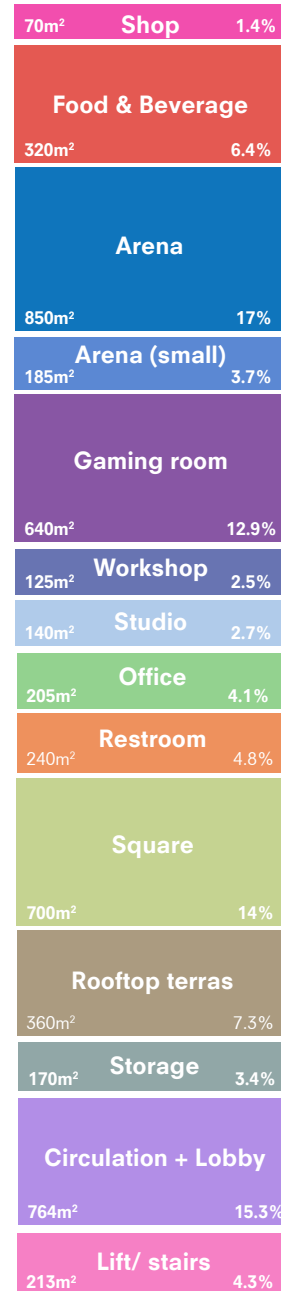
Temporary Program - national scale



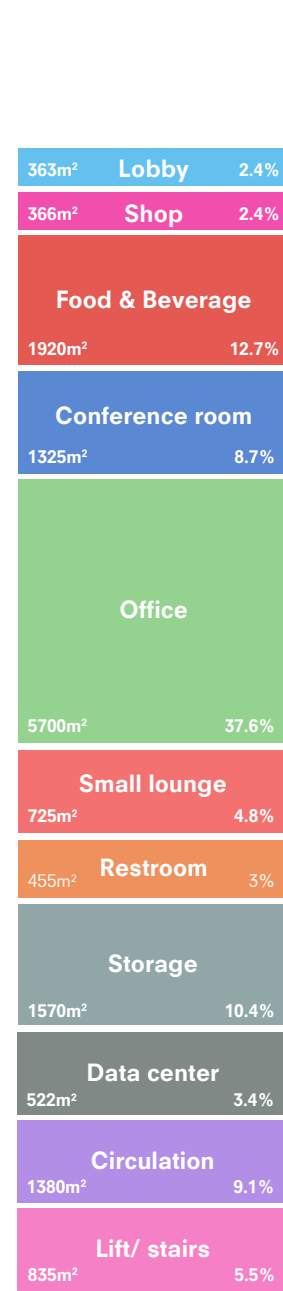
3.2 Reference research

The size of the projects is determined by several reference studies. Typologies of the gaming hall, gaming offices, and exhibition hall have been analyzed.

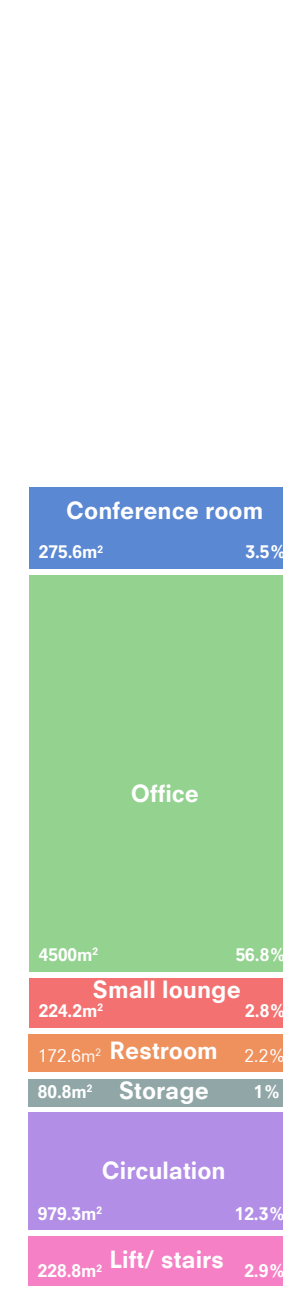
eSport Arena



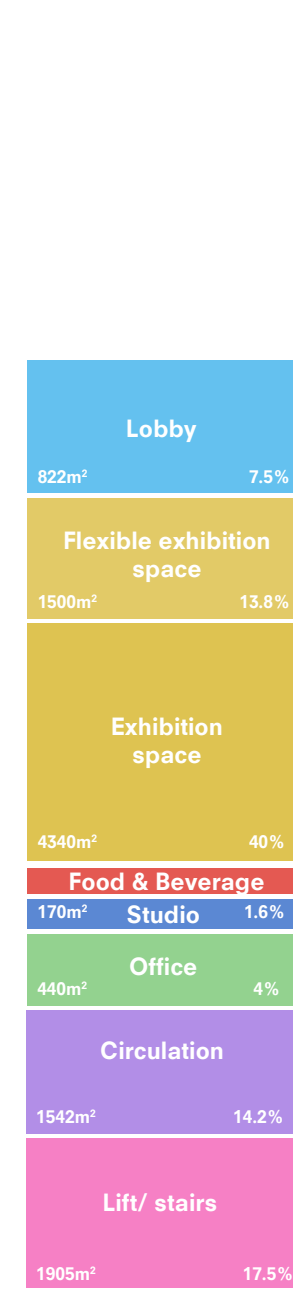
Nintendo HQ



Activision/ Blizzard HQ

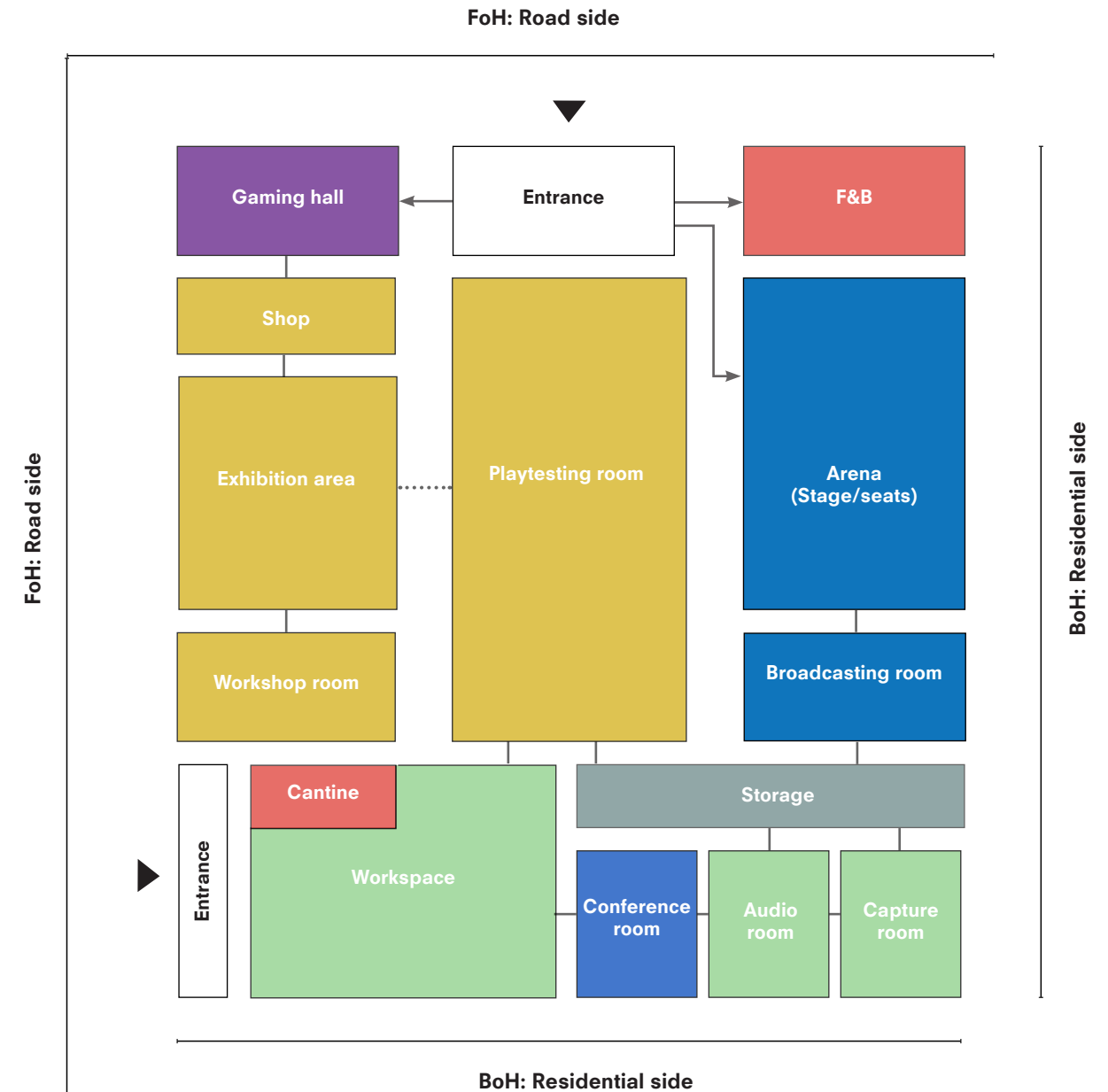
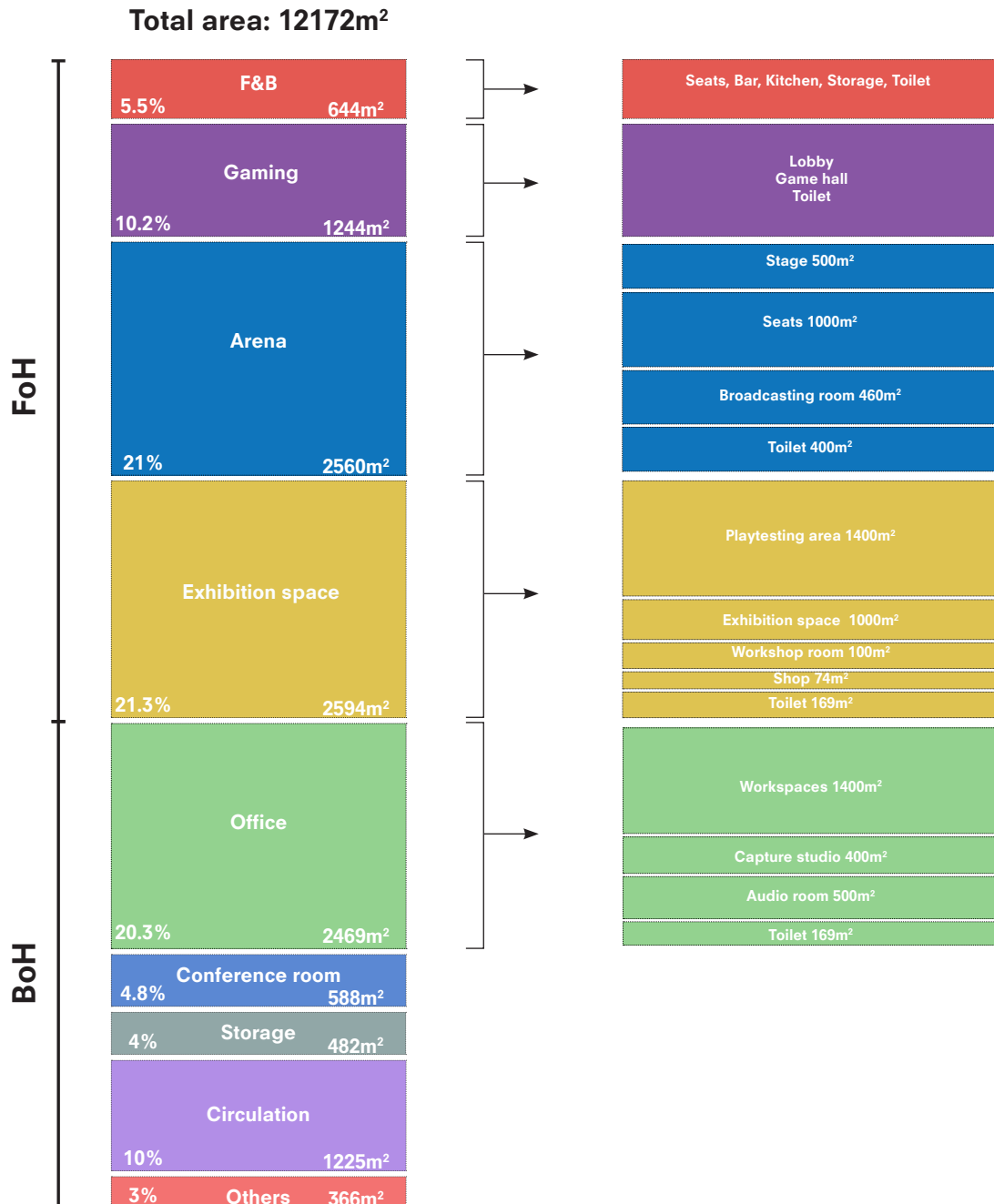


The Shed



3.3 Benchmarking of the program

The benchmarking of the programs are as follows. The biggest part of the building will be accommodated by office 20.3%, exhibition center 21.3%, and gaming arena 21%. This will be further breakdown into areas like workshop rooms, studios, shops, seats and stage. There will also be an F&B (5.5%) and Gaming hall (10.2%) to attract more visitors to the project.



3.4 Specific spatial requirements

The most important spaces of this project are the arena, gaming hall, and office. This chapter will describe the general rules of the building, according to building regulation (bouwbesluit), and spatial requirements of these facilities using neufert.

General

In chapter 2.2 of the building regulation states that the structure of the building has to be searched for a reasonable period of time when there is fire, without there being any risk of collapse. Floor, stairs, or ramp should not collapse within 90 minutes if the floor is above 5m from the ground level. Also, the distance to the exit should not be longer than 30m.

Arena seats

The seats in the area should be comfortable because a gaming match can take a couple of hours. Therefore, the product Herman is going to be used (image 2). It is provided with a large seat cushion than a regular seat which is used in the cinema. According to the product specification, the minimum distance of the seats should be 1050mm (image 2). The maximum number of seats between two aisles is usually in the range of 30–50 and the minimum escape width has to be 400 – 450 mm. The distance and the number of seats should be considered during the design process.

Wheelchair friendly arena

The area has to be wheelchair friendly because of the user (elderly). Therefore, a ramp is needed in the arena with a minimum width of 1200 – 1500mm and a space for the wheelchairs (image 3) (Gjestland, 2019).

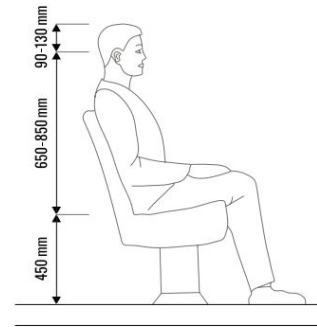


image 1: Measurements of seating person



image 2. Herman seats with the measurements

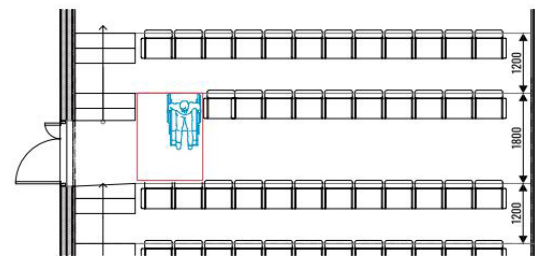


image 3: Needed space for the wheelchair

Screen view

Image 4 shows the head movement and field of view (Gjestland, 2019). The seats should be positioned in a way that the angle of the view is below 45°.

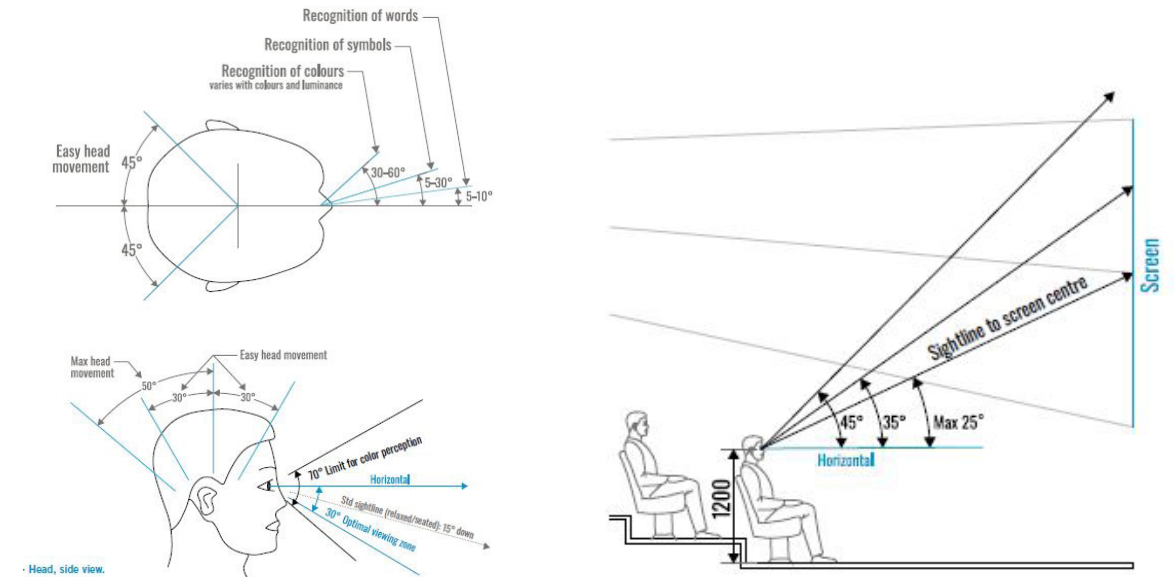


image 4: head movement and vertical viewing angle from the first row

Screen size and distance

Arena with more than 4-6 rows uses the diagram below to find the perfect distance from the screen size in an auditorium (Gjestland, 2019). This information can also be used for the arena.

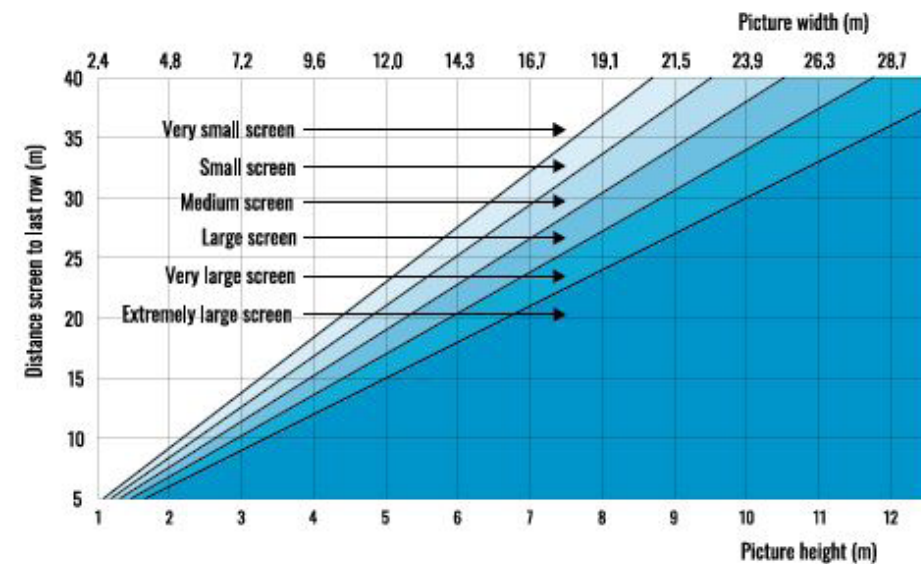


Diagram: Distance from the screen to the last row to evaluate the screen size.

GRADUATION PLAN

The following planning will be used as a guideline from P2 to P4. It is based on the schedule of the studio which was in the kick-off presentation.

Studio week	To do	Final product
1. CONCEPT: Defining design concept for the Project		
w 3.1	The project site analyses will be used to support the mass studies	Massing concept
w 3.2	Analyses of the program with studies how they could possibly linked to each other	Program concept
w 3.3	Design options	Design concept
w 3.4	Revise design options	
w 3.5	P2.5 Presentation	Design concept
2. DESIGN: Developing floorplans, spcae and section		
w 3.6	Analyses of floorplan options	Floorplans
w 3.7	Drawing floorplans	Floorplans
w 3.8	Drawing section	Section
w 3.9	Drawing section	Section
w 3.10	P3 Presentation	Drawings of floorplan and section
3. MATERIAL: Developing materialization, details, architectural engineering and climate		
W 4.1	Researching materials	Overview of chosen materials
W 4.2	The structure and technical part of the building (Climate)	3D view of the structure + Explanation of climate regulation
W 4.3	Developing Façade	Façade drawings
W 4.4	Finalizing the products	
W 4.5	P4 Presentation	Design development