

INTERGENERATIONAL GAMING CENTER

COMPLEX PROJECTS | AR3CP100

Hotel New York studio

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INTERGENERATIONAL GAMING CENTER | Vreewijk, Rotterdam
Migration of games | Connecting different age groups through gaming



Project introduction

The current problems, like the high percentage of loneliness, social isolation, and juvenile crime, which occur in the Feijenoord district will be reduced by organizing a gathering space for all age groups. The project: Intergenerational gaming center will accommodate digital games in a 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 and learn youngsters how to socialize by cooperating with others.

Research question

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

1. Summary of the research: migration of games

Boardgames

The phenomenon of using games as a tool for gathering and communication was already started physically 5000BC in pre-historic times before humans had even developed a written language (Byron, 2019). The first type of games was made of carved and painted stones and 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. The types of games were 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).

Places to play 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 spontaneous game at the square is being used as a tool to enhance social cohesion (image 2). 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.

Digital games

A public space, like arcade hall, were introduced after video games were introduced. The origin of the videogames, penny arcade machines, was invented in 1930. These arcade machines were collectively set up in a large hall, so people of all different ages could visit and play together (image 4,5). The gathering space among people in real life have developed into digital platform. The gamers could easily communicate with each other, through an online platform, even if

they were not at the same place. Introducing online games led to rapid growth of internet cafe's in Asia (image 6).

Gaming contest

The beginning of the game contests started in 776BC when the Olympic games were held in Olympia, Greece. Philosophers and teachers used this event to exchange and speak out their thoughts by sharing knowledge because a lot of people were gathering in this area. 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.

Conclusion

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.

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)

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

Digital 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

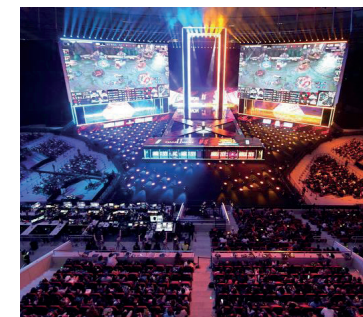


image 8: Half of the football stadium was used to accommodate gaming competition with 6000 spectators

2. Summary of the design brief

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.

Users

Elderly

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). the elderly wants 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. The lack of social and moral training can lead to Juvenile delinquency (teen, 2017). Therefore, 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.

Site

The project is located along the crossing in Vreewijk, adjacent to neighbourhood Bloemhof and Hillesluis, for the following reasons.

Distributing leisure amenities over Feijenoord district

Leisure amenities 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 (image 9). 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.

High percentage elderly living in Vreewijk

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.

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.

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

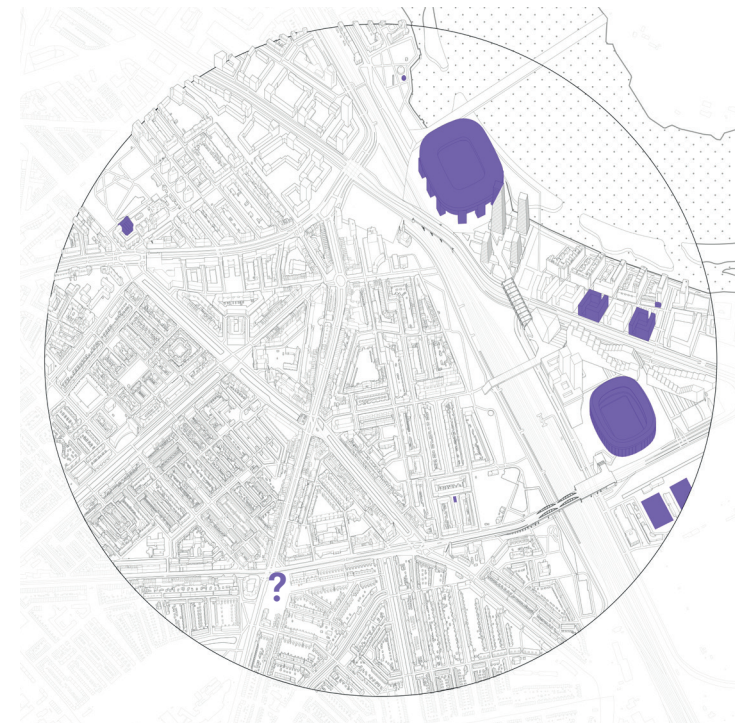


image 9: Leisure amenities are gathered in the East-side of Feijenoord

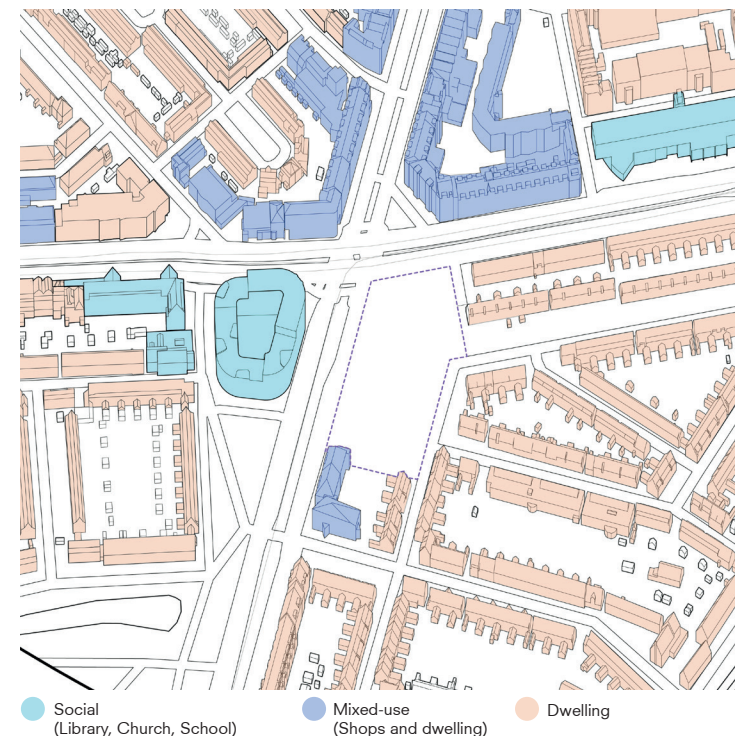


image 10: Site area

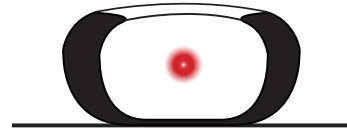
3 Concept

3.1 Volume concept

There are two main ideas that came as results of the different volume massing studies.

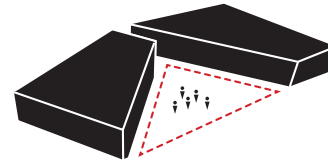
• Eye-catcher

Big volume along the crossing will be used as an eye-catcher that announces the main program of the building (arena).



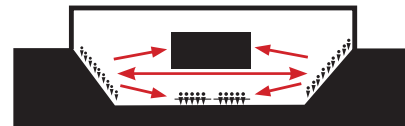
• Public square

The project needs a square in front of the building to reduce crowdedness during an event because the project is situated along the crossing. Also, it creates a place where the neighbours can hangout.



3.2 Program concept

Interaction between people is significant in the building since the project aims to connect different age groups. The following design features came out as a result of several program massing studies. These principles will contribute to the moments of interaction between people in the building.



• Scattered program

It will force people to move when programs are scattered throughout the building.



• Using negative spaces

Negative spaces could be used as a lounge where people can hang out and communicate with each other.



• Facing each other

The visitors could see each other more often when the programs are organized in this way. The visibility of the program could also enhance the observational learning process.



• Underground programs

The building will fit better in the residential area Vreewijk if it is not higher than 20m. The height of the building can be reduced when certain programs, which don't need daylight, are placed underground.



• Main program in the center

The main program, the arena, will be placed in the center of the building and this will be connected all to the ground. By doing this, the main program will be better accessible because the visitors can reach this area from different levels.



4. Overall concept

The overall concept of the building is developed with all the design principles mentioned in the previous chapter.

The eye-catcher is placed next to the crossing to draw people's attention to the project. The project will be better visible from a distance (image 11).

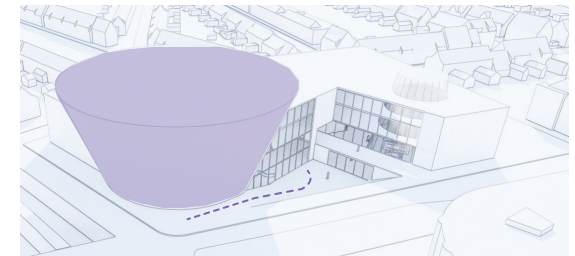


Image 11: Eye-catcher and sunken square

The shape of the building is enhancing the surrounding building. The shape of the eye-catcher goes along with the round edges of the adjacent building which is in front of the house. Whereas, the shape of the back of the house is all rectangular, like the residential buildings (image 12). The building is splitted to create a better connection between the residential area and the main street.

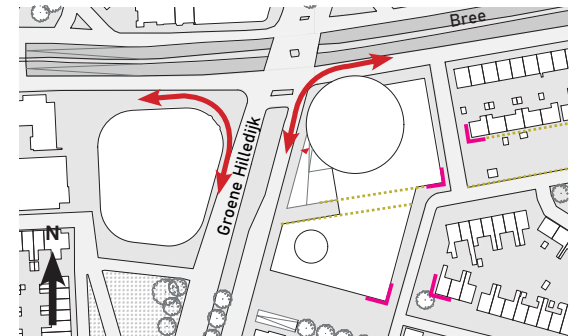


image 12: Shape of the building in the site

The eye-catcher in the shape of an inverted cone and a cone-shape, on the right volume, are the two-characteristic element of the building (image 13). In this chapter, different programs with their spatial quality will be explain with drawings and images.

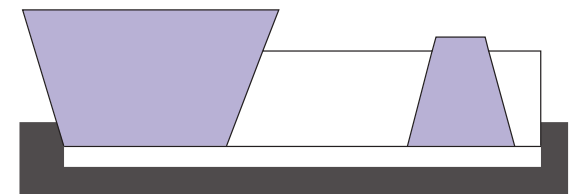


image 13: Characteristic element

Multiple programs are placed in the eye cather of the building. On the ground floor a lounge with different gaming facilities will be placed. People can also see the shape of the arena of the cone which is "floating" in the area. while standing on the ground floor. Then the visitors can walk along the curved LED screen where gaming competition are screened. *Gaming arena* is placed above the lounge with gaming platform in the middle and seats around. This place can be used as a *motion capture studio* when there is no event. The space is heigh enough to place different equipments which is needed for developing a game (image 14).

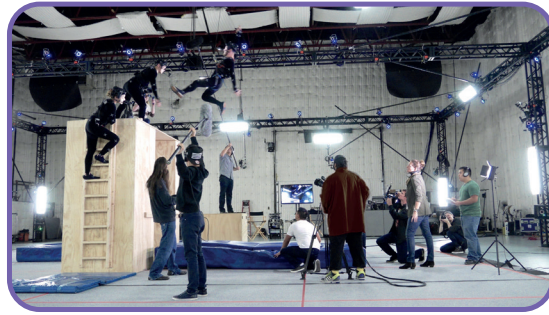


Image 14: Motion capture studio

The play testing area takes place in the other cone volume of the building. This is a program which will be organized by the gaming developers and the visitors can only enter this area after preregistration. The play testing area will be visible from the second floor to enhance the observational learning process.



Image 15: Sound studio

A *sound studio* is a place where different sound effects are produced for games (image 15). This area is placed underground at the back of the house because it doesn't need any daylight. But it is visually connected to the street level because of the double height (image 16). The pedestrians could already observe the making of a game before entering the project.



Image 16: Inside visible from the street level

The arcade hall is placed on the ground floor around the play testing area. The double height makes the space more interesting because the shape of the atrium becomes more visible (image 6). The visitors will first see the arcade hall before entering the building because this space is connected with the sunken square.

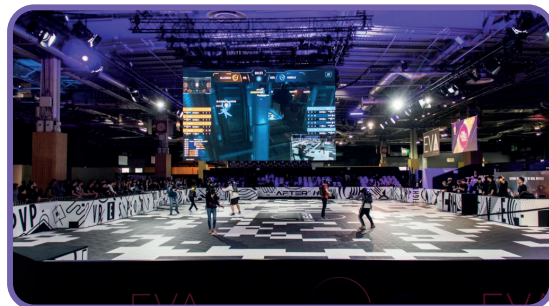


Image 17: VR game

VR Game (image 17) is also placed on the ground floor next to the sound studio. People can observe the game from a distance because it is also visually connected to the first floor.

PC Game areas are placed on different levels. Daylight in this area is not needed because the light on the screen will distract the player while gaming.

The office, workshop room, and gaming area are placed as a cluster on different levels. This will contribute to the spontaneous and visual interaction of different users in the building.

Partly perforated aluminum panels are used for the cone shaped volume which will give a dynamic visual effect. The interior has a smooth finish with wooden slats to give the building modern and warm atmosphere.

5. Structure and climate

The gaming center accommodates a lot of computers and arcade machines. So the building needs a lot of electricity. Kinetic floor tiles are used as a floor finish in the lobby and arcade hall. These tiles produced energy when people are walking. Every single step can generate approximately (8 watts) 3 joules of usable energy. That's enough to light a LED lamp for around 30 seconds. Also, solar panels are placed at a 15-degree angle on the roof.

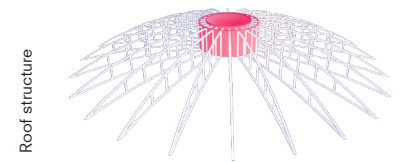
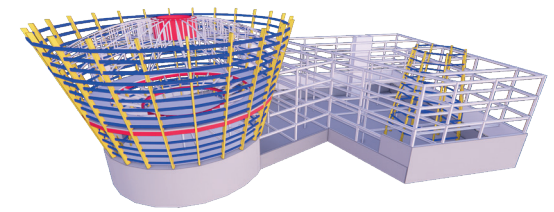
Floor heating will be integrated to regulate the indoor temperature. Also HVAC system. will be provided for extra cooling since digital devices produce a lot of heat of their own.

The horizontal fins as an envelope will be served as a sunshading which is automated. This will be regulated by the sun.

The structure of the project is in steel columns and beam. The ring beam structure of the arena platform is attached to the inclined beams to create a hanging structure.



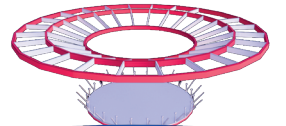
Solid cones / Transparant volume



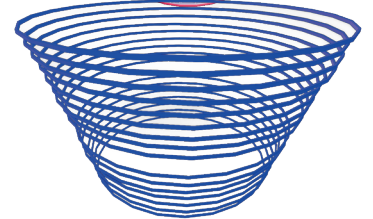
Roof structure



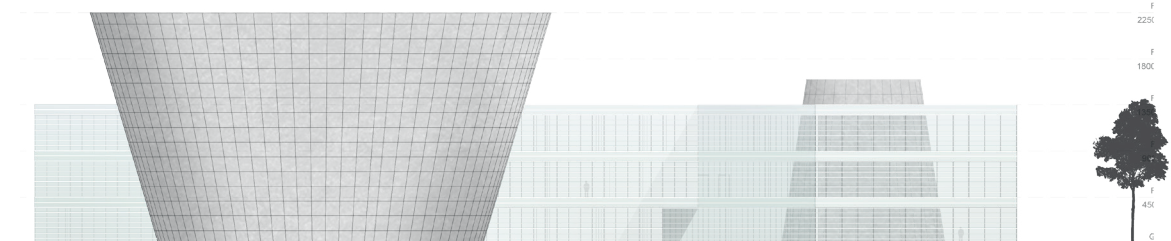
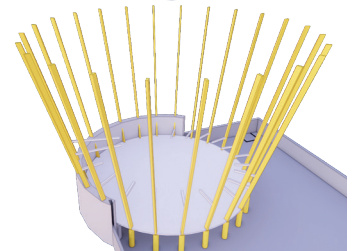
Ring beam structure



Beams



Inclined columns



The relationship between research and design

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.

During the research, I discovered that the elderly are also playing a lot of games but the gaming environment is not suitable for the elderly because of the dark atmosphere. Nowadays, the gaming centers are more focused on the younger generation as the main user. So the indoor atmosphere is dark with bright artificial lights.

The elderly, on the other hand, needs more daylight than younger generations. So the design of the intergenerational gaming center considered the elderly as one of the main users.

The relationship between graduation topic and studio topic

Studio topic is about how an idea migrates over time. I came up with the idea of an intergenerational gaming center after defining the problems and missing facility in the project location Feijenoord and the migration of games. The addressed problems of loneliness and social isolation in the neighbourhood will be solved by designing a gaming center for the residents in the neighbourhood.

Research method and approach

Architectural research approach:

- Historical (literature study) and logical argumentation

Literature studies were very important to build up the narrative of the project. The problem statement, possible solution, and reasons for the choices are all supported by the literature.

- Case studies
- Several case studies of different typologies have been analyzed to find out which spaces are needed to accommodate the program. Also, determining the square meters of the projects is based on reference studies.

Epistemes in architecture:

- Typology/ morphology

As a group, we did analyses of the site Feijenoord (demographic, transportation, building typology). Those information are mapped and explained in the group book.

- Praxeology

Different surveys and interviews about loneliness, social isolation, and the impact of games on the elderly are used to build up logical argumentation of the research.

The relationship between graduation project and the wider social, professional and scientific relevance

The development of technology has changed the way we communicate with each other. People can easily communicate, from their home, through social media or games without physical contact. However, out of the research, physical contact is still important. This project contribute to society by offering a gathering space for the residents where they can obtain and share new knowledge which will also help to prevent loneliness and social isolation across different ages.