FPT UNIVERSITY
CAPSTONE PROJECT

CO - PLAY

Application Design To Find and Connect Boardgame Player

Supervisor: Bui Van Phat

Member: Vu Tuan Hung

Nguyen Sy Nguyen

Hoang Tuan Anh

GPD491- G11

December 2019

CO-PLAY

CO-PLAY was created with the goal of create a board game communication, helping new player can join and play boardgame, make boardgame player communicate and community improve.

CONTENT

1. Project Proposal

1.1 Problem Defination

- 1.1.1 Name of Project
- 1.1.2 Problem Abstraction

1.2 Project Overview

- 1.2.1 Define Problem
- 1.2.2 Research
  - 1.2.2.1 Market Overview
  - 1.2.2.2 Technologies
  - 1.2.2.3 Competitors
  - 1.2.2.4 Survey Result
  - 1.2.2.5 Specify Requirement

2. Design Proposal

2.1 Building the First Sitemap

- 2.1.1 User Journey Map
- 2.1.2 First Sitemap

2.2 User Requirement Specification

- 2.2.1 Target User
- 2.2.2 User Empathy Mapping
- 2.2.3 Persona

2.3 Building First Prototype

- 2.3.1 User Flow
- 2.3.2 Paper Prototype

3. Pre Design

3.1 Usability Testing Paper Prototype

3.2 Second Sitemap

3.3 Low-Fi Prototype

3.4 Usability Testing Low-Fi Prototype

3.5 User Interface Design

- 3.5.1 Design Inception Worksheet
- 3.5.2 Moodboard
- 3.5.3 Style Guide
- 3.5.4 Logo
- 3.5.5 Mid-Fi Design Prototype

4. Design Finalization

4.1 Design Overview

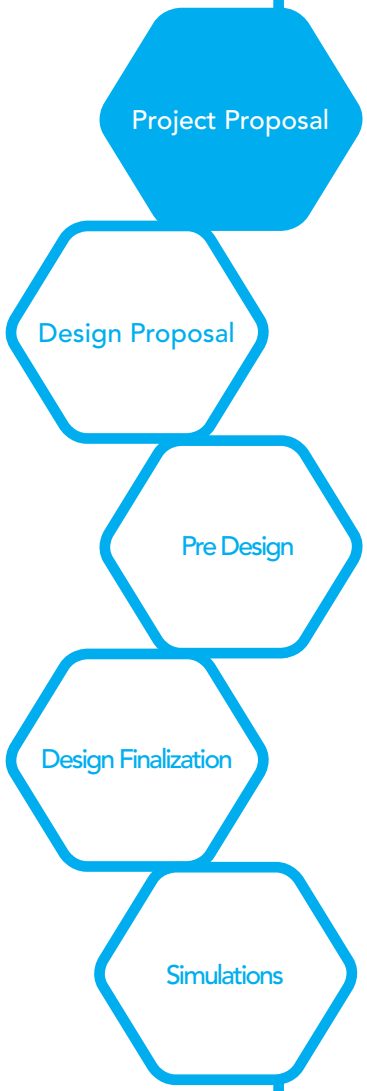
4.2 Design Finalization

5. Simulations

1. Project Proposal

1.1.1 Name of Project

CO - PLAY was created with the goal of create a boardgame communication, helping new player can join and play boardgame, make boardgame player communicate and community improve. CO - PLAY bring to user a page which can searching or find other people to play. Boardgame comunication is a potential enviroment to improve, so we develop this application.



1.1.2 Problem Abstraction

Since great concerns over Video games' pros and cons, especially a bias towards its negative influences, Board Game takes priority of its attractive proposition on market for such beneficial features as intellectual stimulation, healthy entertaining idea, and offline social networking, saying that, Board game, sticking at top-listed choices made among players, gradually pulls out giant entrepreneurs' money of investing into its potential market. However, major obstacles faced up mark with the challenge of making Board Game easily access to community for its advantageous influences soaking over tremendous amount of players; as a result, demands for developing and expanding Board Game community were gradually growing. Catching on this, our team, at in-depth analysis of Board Game players' behavior, proposes a practical solution for tackling one of the most essential requirements on Board Game community development; thus, our project on reference of mobile app design idea named "CO-PLAY" functioned as a tool designed to associate Board Game players on practically engaging into community. "CO-PLAY – An application to find and connect board game players" promisingly solve considerable problems of challenge on advancing Board Game conquering to Game market in general.

1.2.1 Define the Problem

1.2.1.1 Player problems

- The board games community is not strong enough

- Lack of tool finding players

- Information and instruction about games is almost in English (Hard to understand for new players)

- Hard to find a suitable place to play board games together

- Hard to find a suitable board game for group

- Players don't have the game they wanted to play

1.2.1.2 Board games Café problems

- Lack of official advertising channel

1.2.1.3 Players needs

- Find enough players to start a game

- Meet up new friends

- Know how to play more new games

- A channel to communicate with other player

1.2.1.4 Board games Café needs

- A channel to advertise and communicate with players

1.2.2 Research

1.2.2.1 Market Overview

1 Boardgamegeek.com

- With the increase in the consumption of mainstream consumer leisure products is boosting the adoption of these items by end-users in Europe, North America, and APAC regions.

- The global board games market is anticipated to reach values of more than $12 billion by 2023, growing at a CAGR of over 9% during 2017-2023.

Source:

https://www.reportlinker.com/p05482343/Board-Games-Market-Global-Outlook-and-Forecast.html

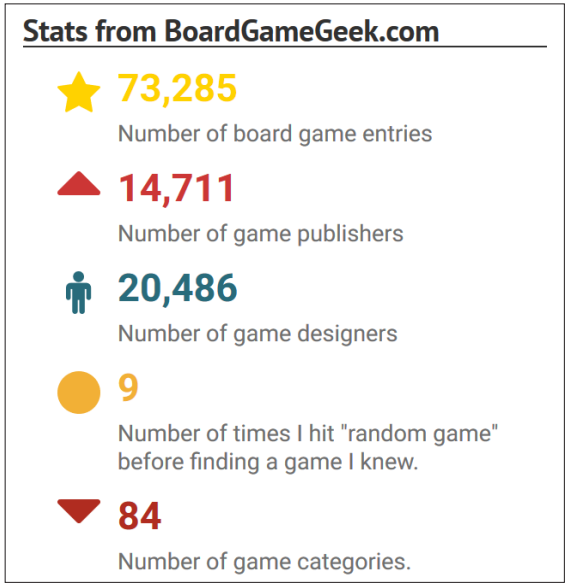
2 Polygon.com

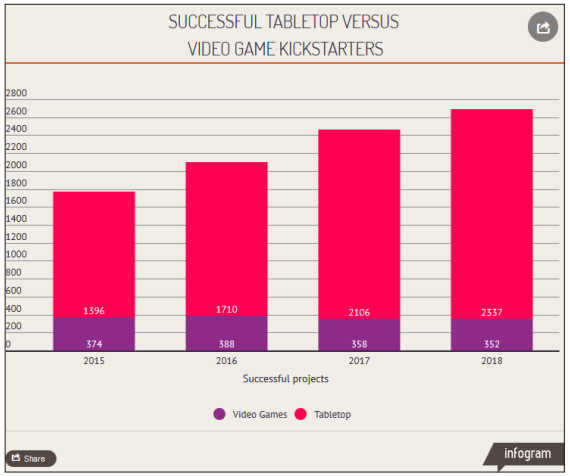
- The number of successful board game project increased about 20% per year

- Otherwise, the number of successful video games decrease 1% per year

Source:

https://www.polygon.com/2018/1/2/16842204/tabletop-games-are-exploding-on-kickstarter-video-games-are-flat





1.2.2 Research

3 Trend.google.com

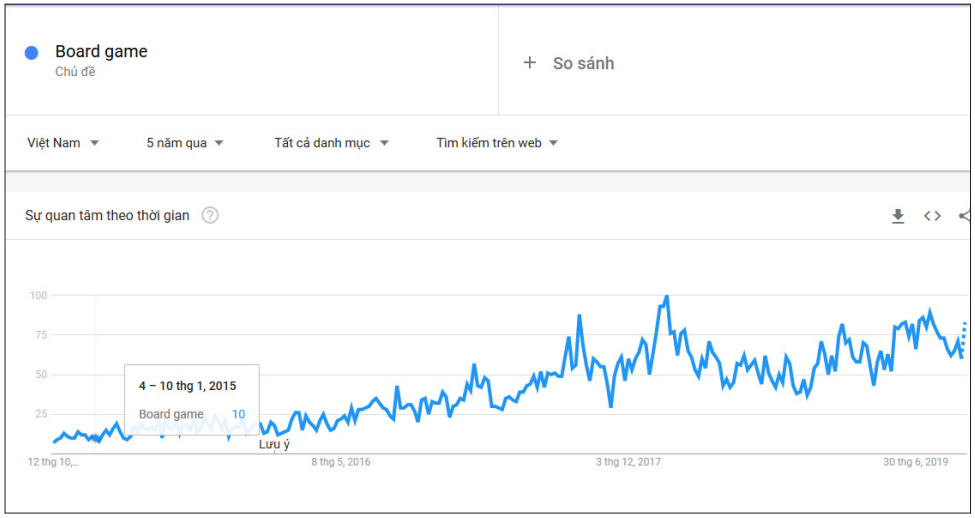
- The growing number of games café worldwide is helping companies attract a large number of consumers is the global board games market. These game bars and cafes are witnessing a remarkable success and gained immense popularity across the globe over the past few years

- For instance, in the US, over 5,000 board games cafes were opened alone in 2016

- Highest trend on Feb, 2018 when Boardgamevn started an event for playing board game at the Ho Guom walking street.

Source:

https://trends.google.com.vn/trends/explore?-date=today%205-y&geo=VN&q=%2Fm%2F015ll



4 Printninja.com

- So we should make a channel for players to communicate with others.

Source:

https://printninja.com/blog/board-game-market-insights-whitepaper

> *"71% of respondents say they hear about new games through word-of-mouth."*

1.2.2 Research

5 Boardgame.vn

- As we can see, the total number access to this website is 552,025 people in 2 months, with the age of people access is about 18 - 25.

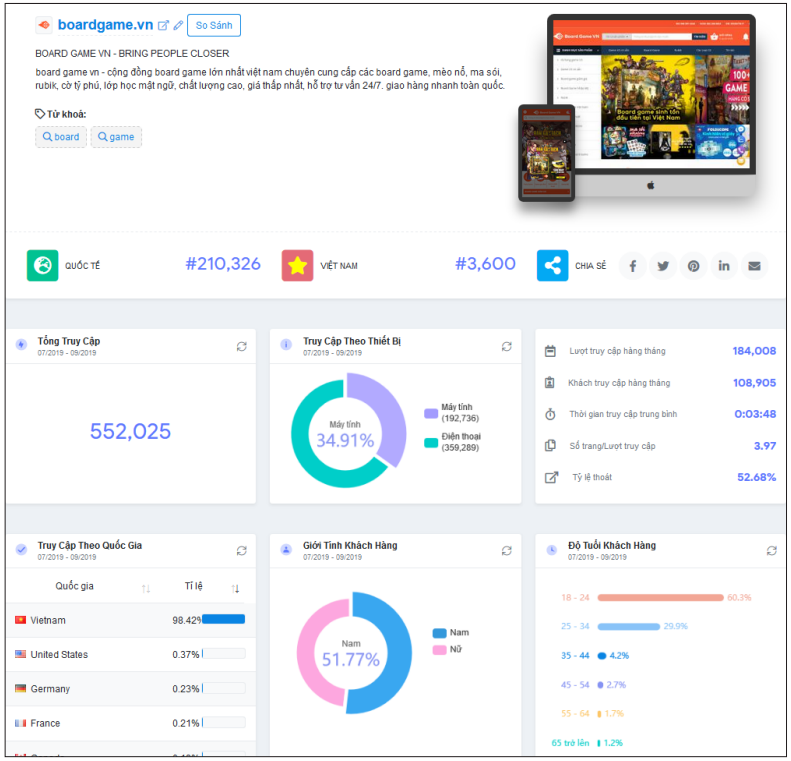
- Almost people using smartphone to access the website, that we can improve application on mobile phone.

- On social facebook website, there are total 351.880 count on 18/12/2019, that prove Vietnam boardgame communication are grown up.

Source:

https://fff.com.vn/ket-qua-phan-tich-website/boardgame.vn/?fbclid=IwAR1S8x9QqX1Dd76ch-fErQ-MuI66bakuhz9dYpAqqkZqspXBpmM0n0c-6g1wg

https://www.facebook.com/boardgamevn/



1.2.2 Research

1.2.2.2 Technology

1 Firebase

- Cloud Messaging: A free solution for messaging in multi-platform

- Firebase Authentication: Help the app can access through data on the cloud.

- Firebase Real-time Database: Real-time sync the SQL Database on the cloud.

- Firebase Storage: Help backup and recover the data of users (Image, video, messages…)

- Firebase Crash Reporting: Help diagnose and repair troubles in app.

2 GPS(Global Positioning System)

- The GPS concept is based on time and the known position of GPS specialized satellites. GPS help the app locate users' position and café's position to suggest suitable place for users.

1.2.2 Research

1.2.2.3 Competitors

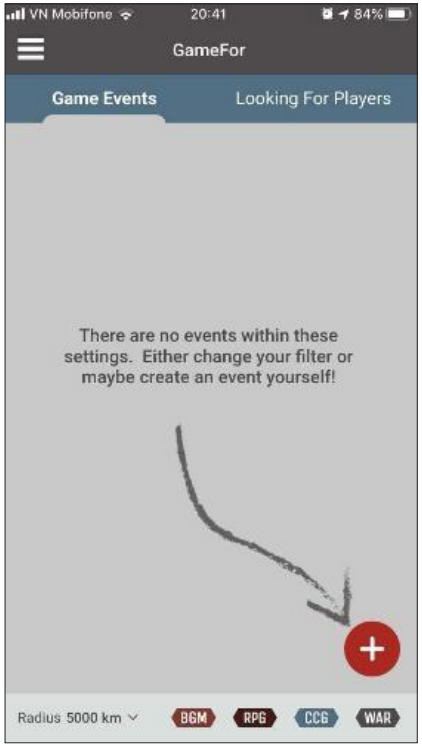
1 GameFor

Pros

- Event reminder
- Application instruction
- Include searching for game store

Cons

- Self-editing address
- Boring interface design
- GPS imprecisely
- No information about board games
- No review function



1.2.2 Research

2 Everboard

Pros

- Creating meeting function - Easy for user

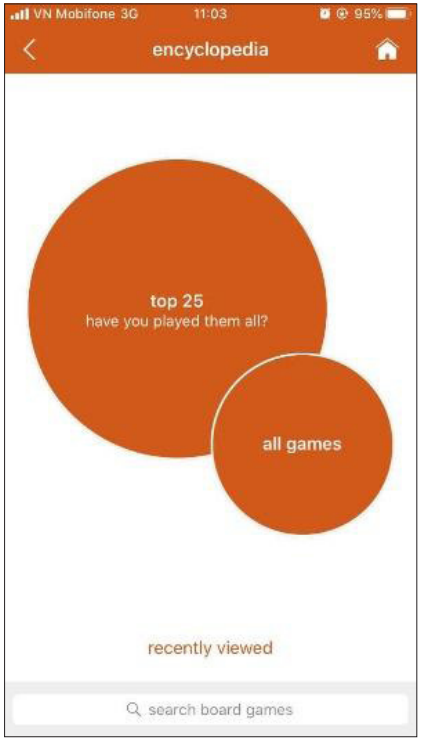
- Review players, games

- Display board game collection as a book shelf

Cons

- Some function get bug (review, address)

- Only available on IOS



1.2.2 Research

3 GameTree

Pros

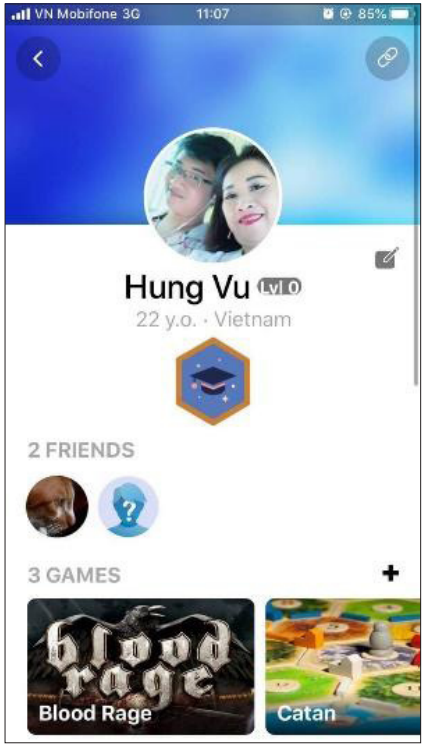
- Multi-platform

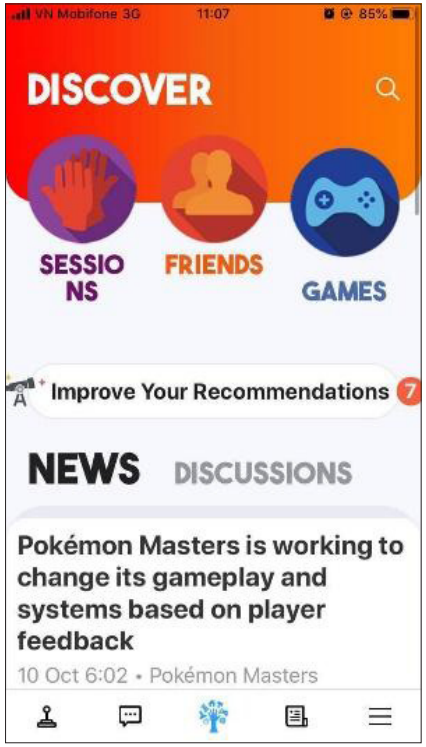
- Gamer test

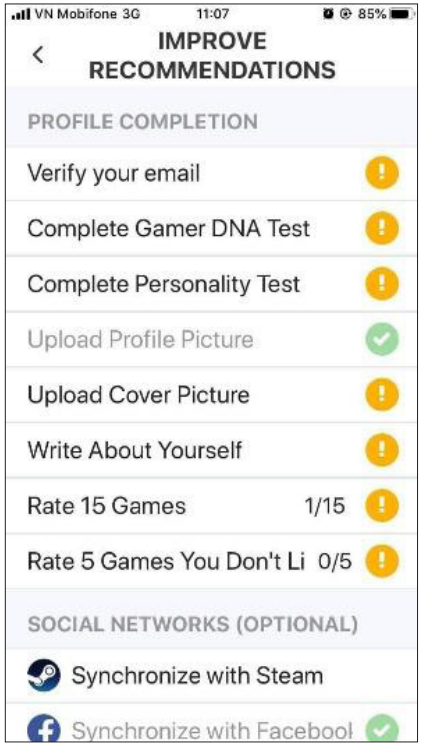
Cons

- Too many functions (hard to use)

- No instruction







1.2.2 Research

Comparison table of competitors

Pros	- Event reminder - Application instruction - Include searching for game store	- Creating meeting function - Easy for user - Review players, games - Display board game collection as a book shelf	- Multi-platform - Gamer test
Cons	- Self-editing address - Boring interface design - GPS imprecisely - No information about board games - No review function	- Some function get bug (review, address) - Only available on IOS	- Too many functions (hard to use) - No instruction

Conclusion

Pros

- Combine find board game store with find players
- Create event, meeting
- Review players and board game store
- Game shelf to show board game

Cons

- Only sign in by registering email. Didn't connect with other social network
- GPS require exact address but players can't view the address on map. (Hard to set up location)
- Don't have information and instruction detailed about games

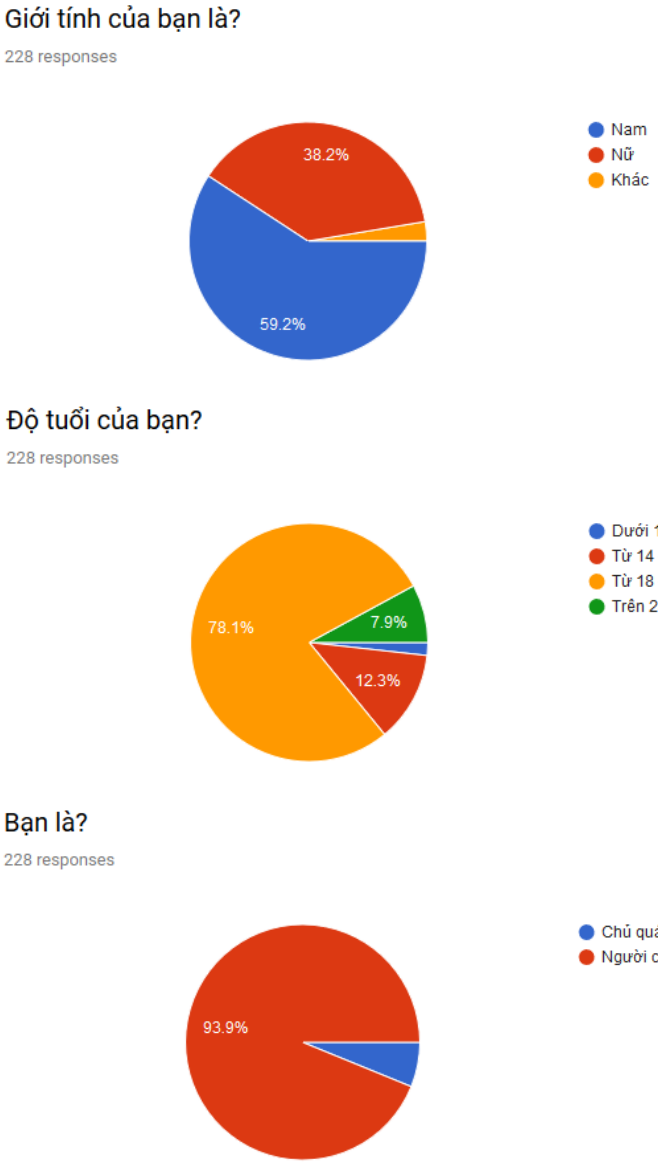
1.2.2 Research

1.2.2.4 Survey Result (232 responses)

Do survey is a part of research overview to develop application. So we do a survey to Vietnam Boardgame commucation for research. The main platform we do the survey is on facebook - the biggest social network on the world.

1 Demographic

First of all, we survey other people to know about basic infomation, the result make us know about age, gender percent,and how long they play board game. As we can see, board game player have large percent than board game store, the age between 18 to 25. It prove people care about boardgame mostly teenage.



Project Proposal

Design Proposal

Pre Design

Design Finalization

Simulations

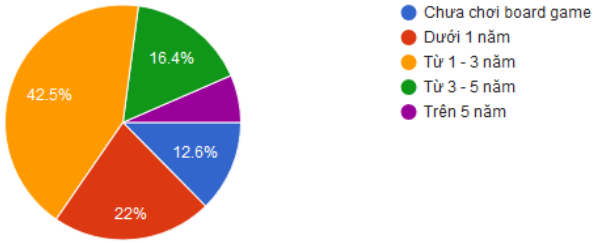
1.2.2 Research

2 Boardgame Player

The next survey we find out how many times they play board game, they need what and hard to do something when start a boardgame day. The main thing people need when start a board game day is enough people to start. Beside they care about board game quality in boardgame store.

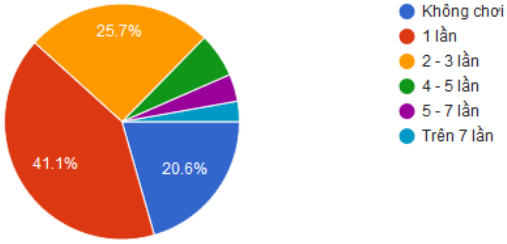
Bạn đã chơi board game được bao lâu rồi?

214 responses



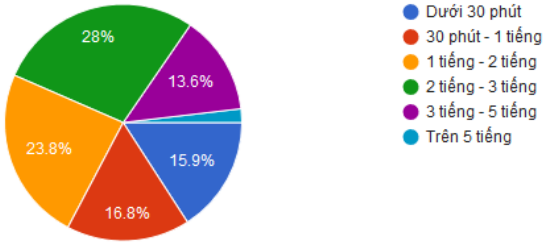
Tần suất chơi board game trong 1 tuần của bạn là bao nhiêu?

214 responses



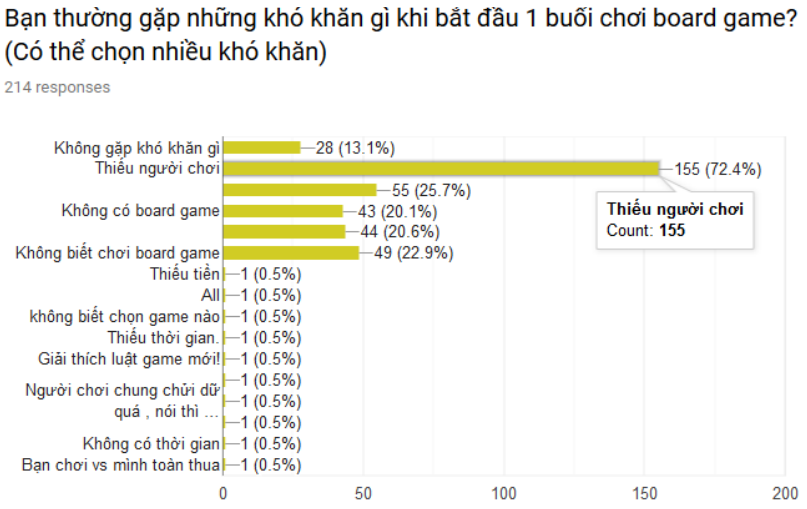
Thời gian trung bình bạn dành cho mỗi lần chơi board game là bao lâu?

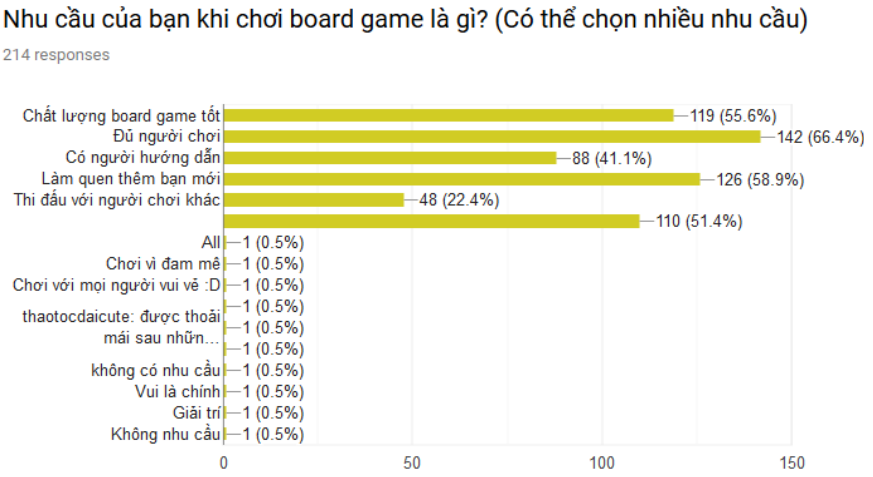
214 responses



1.2.2 Research

As the result of survey, we can see which player need and their problem. The main problem of player is not have enough people to start a game (count 155 responses). Beside that is they don't have boardgame or don't know how to play a new game. And player need is the quality of boardgame, enough player to start a game and have an Instructor.





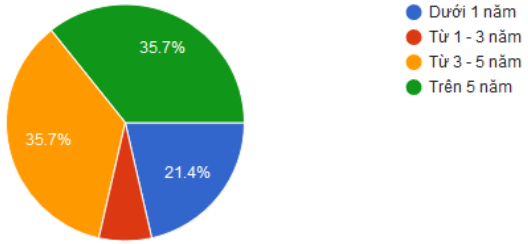
1.2.2 Research

3 Board games & Café Owner

There are 2 problem that board game store have. 1 and the main reason is now there don't have offical chanel to advertise their store, and the 2nd reason is people doesn't book before come store. That make hard for boardgame store.

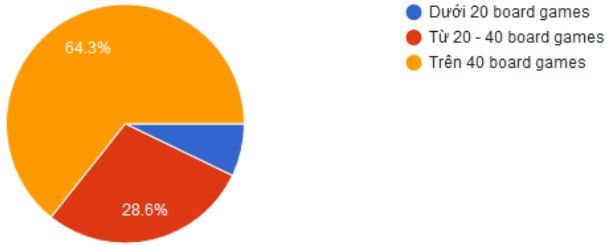
Quán Café & Board game của anh/chị đã hoạt động được bao lâu?

14 responses



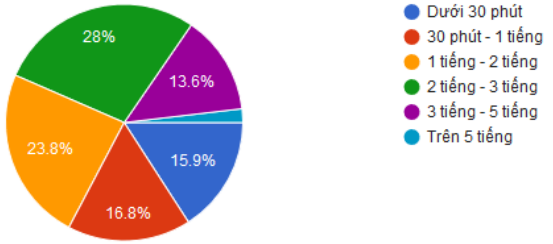
Số lượng board game quán của anh chị có khoảng bao nhiêu?

14 responses



Thời gian trung bình bạn dành cho mỗi lần chơi board game là bao lâu?

214 responses

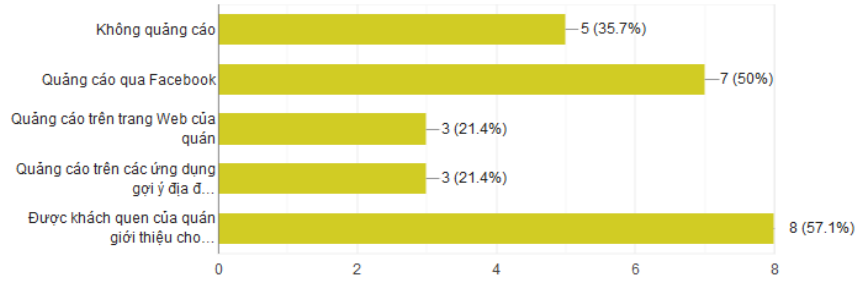


1.2.2 Research

The problem of boardgame cafe owner is advertise for their boardgame. Popular social network like facebook is the main advertisement channel for almost all boardgame coffee. There are no main channel for boardgame commucation. So we are trying to create a social network for this commucation.

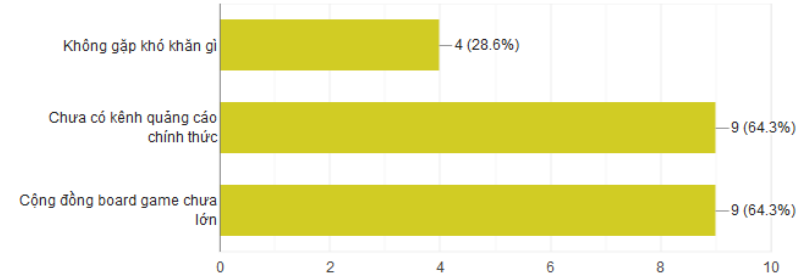
Anh/Chị sử dụng phương tiện hay hình thức nào để quảng cáo quán của mình? (Có thể chọn nhiều hình thức)

14 responses



Anh/chị gặp những khó khăn gì khi quảng cáo hay thu hút người chơi tới quán của mình? (Có thể chọn nhiều khó khăn)

14 responses



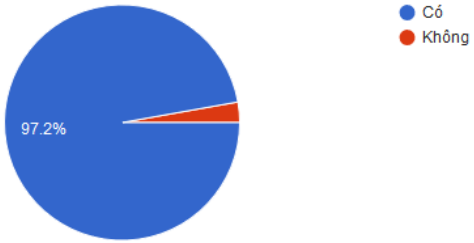
1.2.2 Research

4 Using smartphone habits

Almost people do survey use smart phone, that an advantage for us to make an application can solve this. And people know about board game in facebook, social network and friend. That make hard for newbie can find out board game.

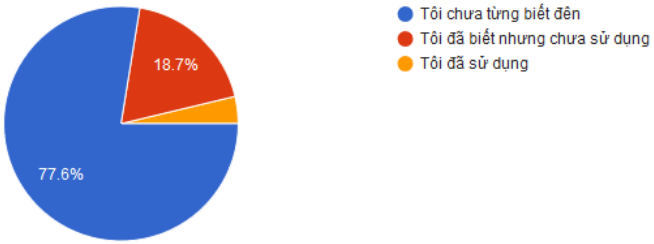
Bạn có sử dụng smartphone không?

214 responses



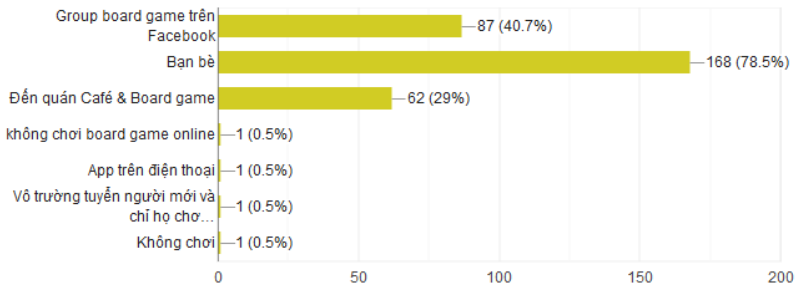
Bạn đã bao giờ biết đến các ứng dụng tìm kiếm người chơi board game (GameFor, Everboard,...) chưa?

214 responses



Bạn thường tìm kiếm người chơi board game qua hình thức nào? (Có thể chọn nhiều hình thức)

214 responses



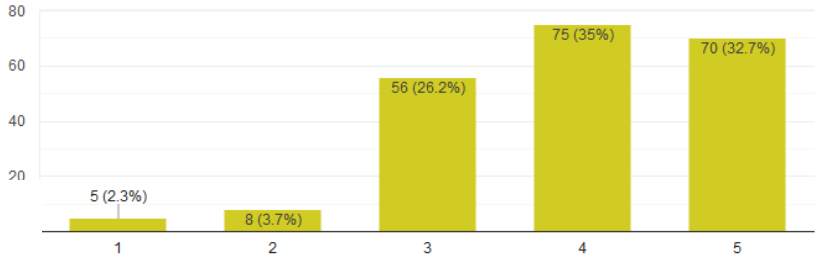
1.2.2 Research

5 About our Application

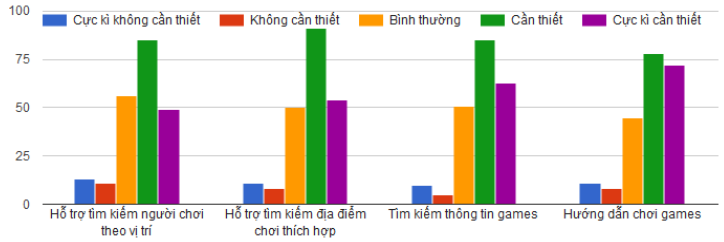
About our idea of boardgame application, almost responses agree and support that. Some people hope that they can develop 1 application to make boardgame communication bigger and bigger. We develop this application to resolve player problem.

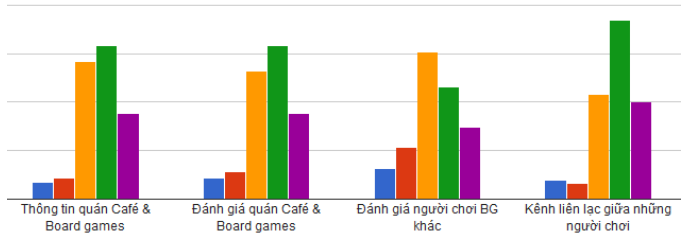
Nếu có một ứng dụng tìm kiếm và kết nối dành cho người chơi board game, bạn có quan tâm và sẵn sàng trải nghiệm không?

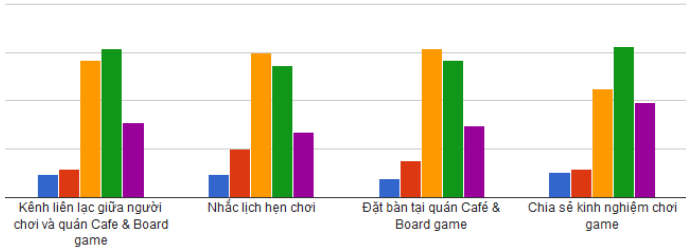
214 responses



Chúng tôi đang phát triển ứng dụng giúp bạn khắc phục những khó khăn và đáp ứng nhu cầu chơi board game của bạn, bạn đánh giá như thế nào về các tính năng dưới đây?







1.2.2 Research

1.2.2.5 Specify requirement

1 Solutions

- Function finding players via GPS

- Provide information and instruction about board game in native language

- Create a group chat between players

- Recommend board games for players

- Suggest the place which have the board games players want to play

- Suggest suitable place for group of players

2 Challenge

- The board game community in Vietnam is still in small size

- Hard to collect the board game statistic in Vietnam

Project Proposal

Design Proposal

Pre Design

Design Finalization

Simulations

2 Design Proposal

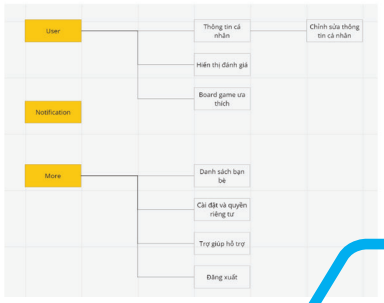
2.1.1 Use Journey Map

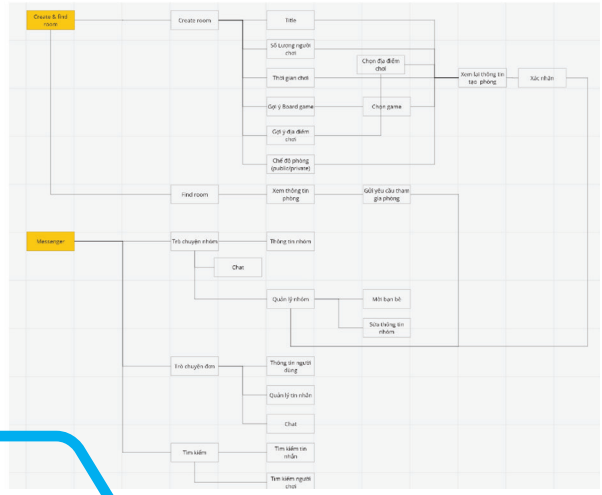
To find out how to operate out application system, we do interview and survey to find out the characteristics of users, then find the pain points in interview result. From that we make an User Journey Map.

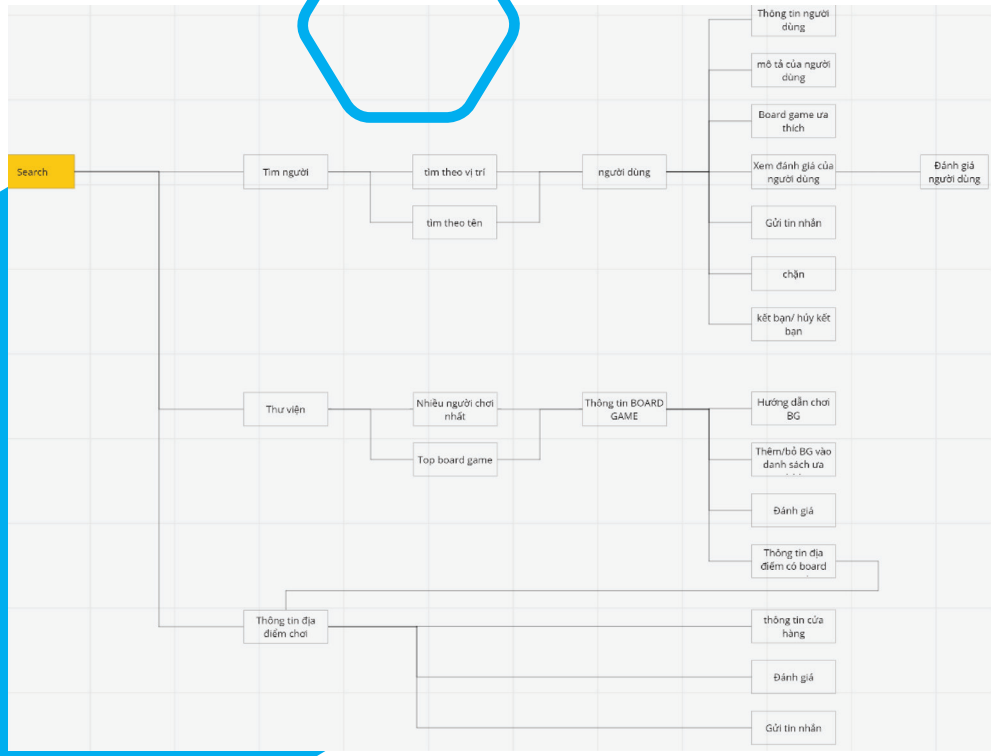
From the result of survey, we do an User Journey Map to find out carefully the user, focus on 1 day user find and play board game.

2.1.2 First Sitemap

With an application goal that will be clear during use, we rely on the user story mapping done earlier to build the first sitemap.







2.2.1 Target User

Based on the initial market research and what we have from survey, we can figure out various traits from our product's target audience..

We found a kind of User base on survey we do:

- **Age:** 18 - 25 years old

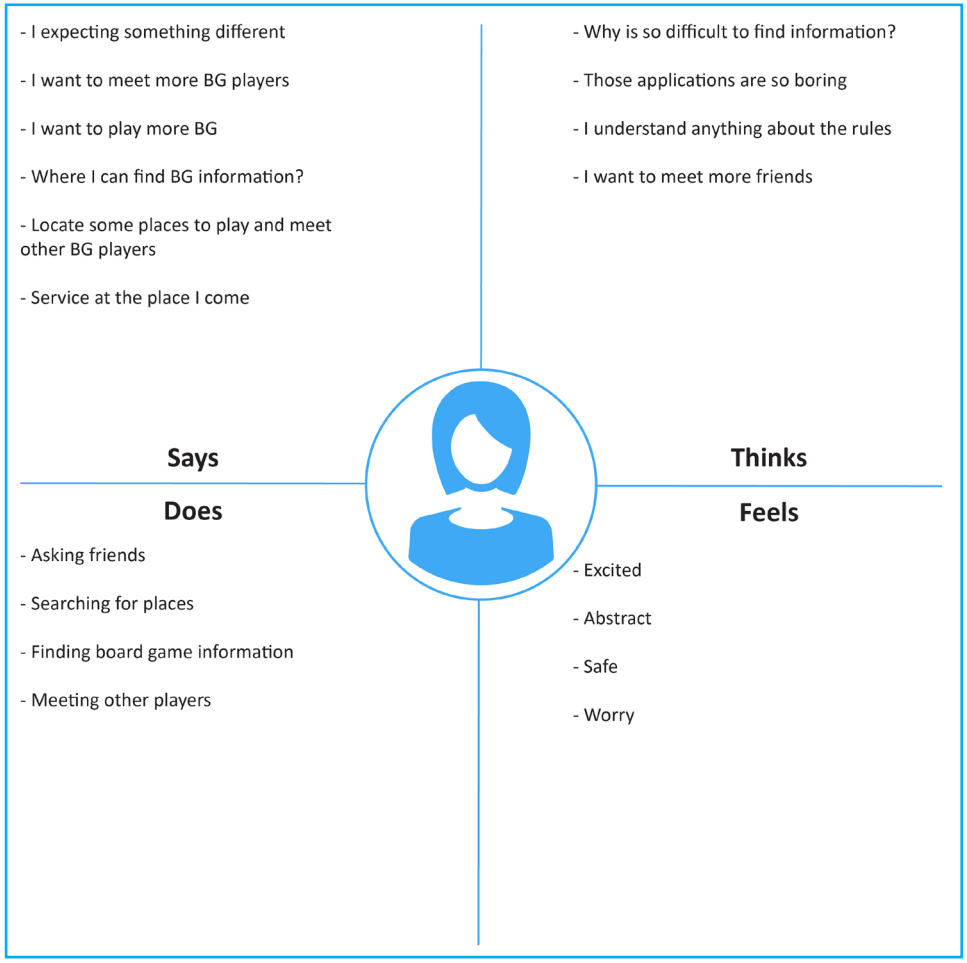
- **Job:** Students, Post graduate students

- **Habits:**

  - Use smartphone usually
  - Love to play board games
  - Have played board games from 1 to 3 years
  - Play board games 1 – 2 times per week (1 – 3 hours per time)
  - Have 1 – 2 board games

2.2.2 User Empathy Mapping

We create empathy mapping to provide insight to understand into users and external impact on their needs and decisions.



Pain

- Complex game Instruction.
- Unsatisfied searching tool

Gain

- Connecting community
- Easier way to find information

2.2.3 Persona

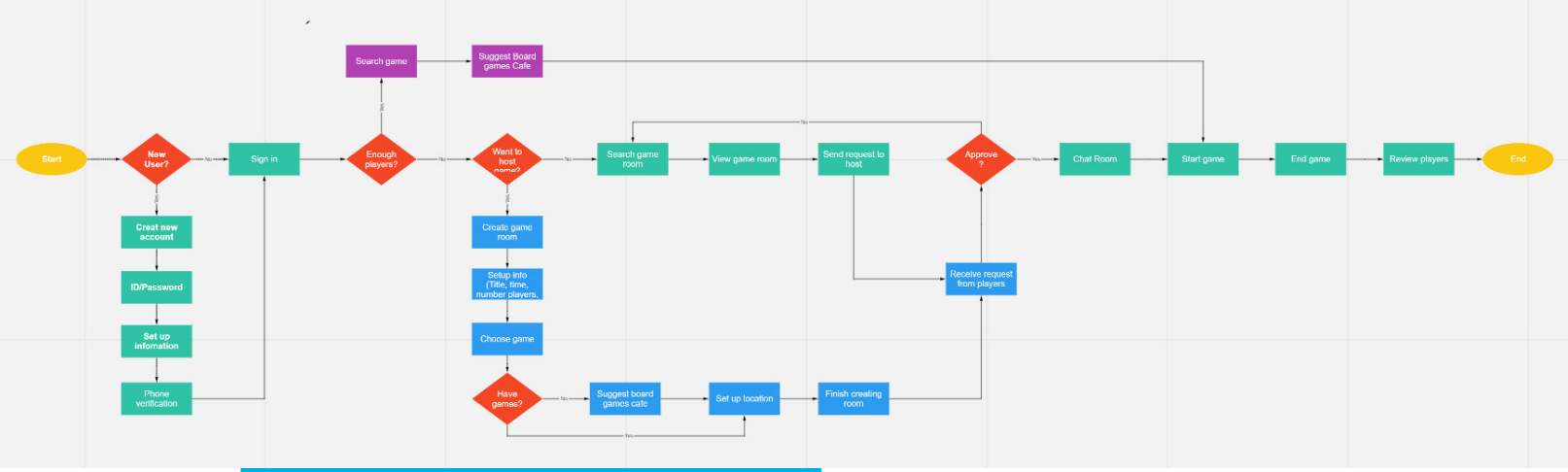
Do Long Quan

- **Age:** 24 years old
- **Sex:** Male
- **Job:** Developer
- **Experience:** 2 years
- **Habits:**
    - Use smart phone (6 hours per day)
    - Love playing board game with friends
    - Favorite color: Dark tone
    - Simple is the best
- **Difficulties:**
    - There are some board games very complicated, need a lot of time to learn the instruction. But there are a few people have the patient to learn a new game
    - If playing with new negative players, the whole game will be affected
    - Finding other players in a near area
- **Needs:**
    - An application to find board game players in area.
    - Have a function review other players.
    - Filter board game and suggest board game
    - Make a strong board game community

2.3.1 User Flow

Main User flow: Make Room, Find Room, Find Board game and store Information

We make User Flow mapping and use it to make decision and direction to design our application. In User flow mapping, we make 3 ways of application: Make Room, Find Room and Find board game and store infomation.



2.3.1 User Flow

- Create Room

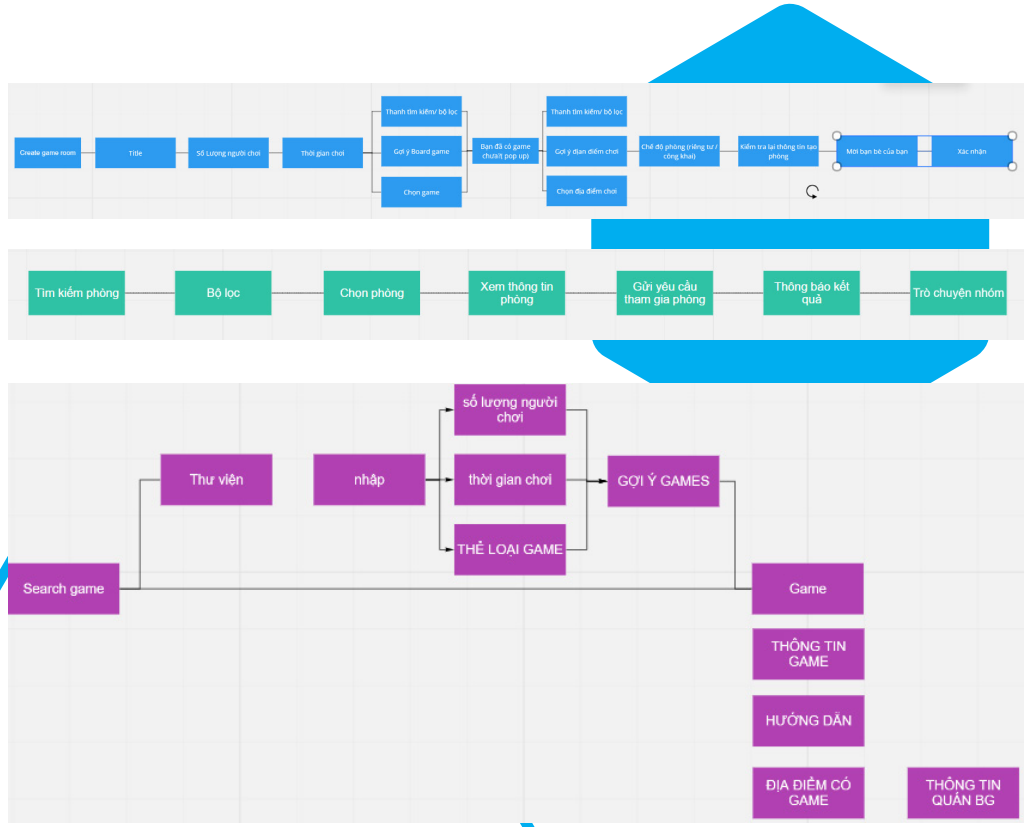
Create room and wait other user join to make a game. We must fill information of the room.

- Find Room

Find room to join with other player.

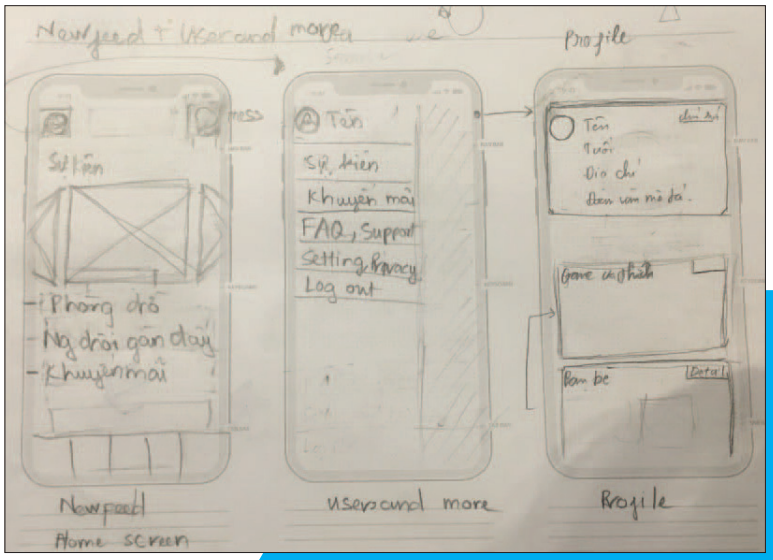
- Find Board Game and Store Information

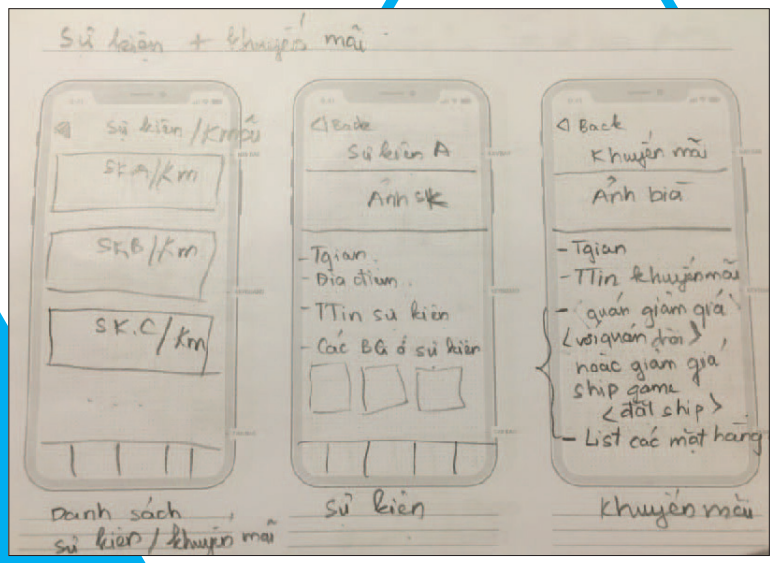
Information is important. So this flow make sure user can find information of boardgame like rules, ingredient, catalogues,...

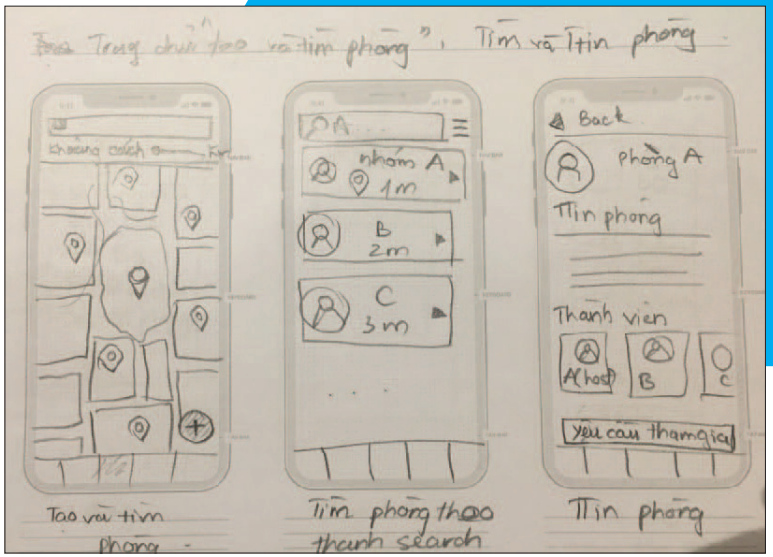


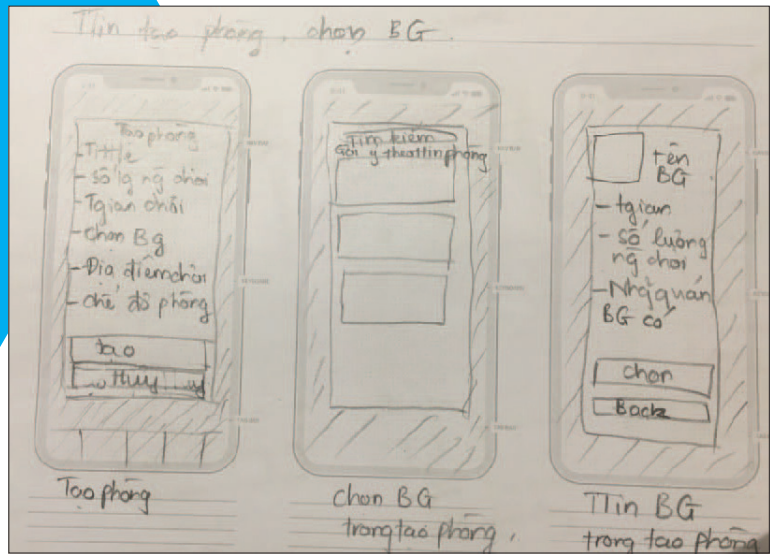
2.3.2 Paper Protype

We sketching paper prototype, bring 3 flow from User flow mapping to show all function of application. First design is simple, so user can use and test the main function.

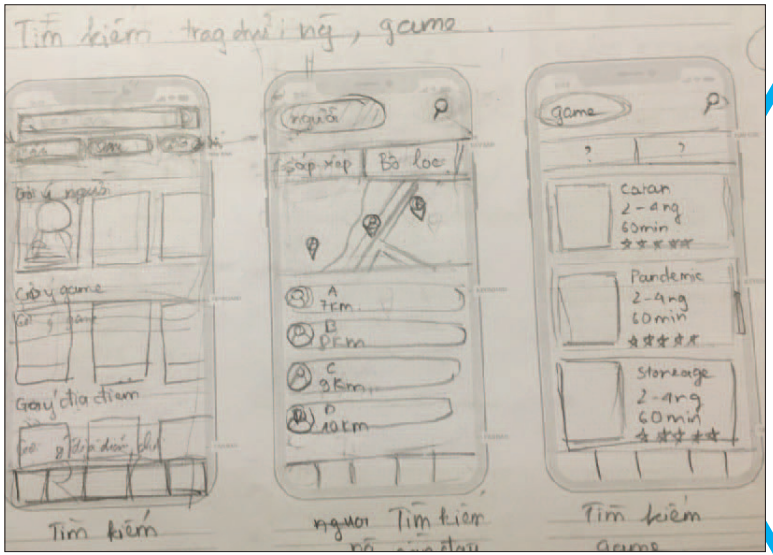


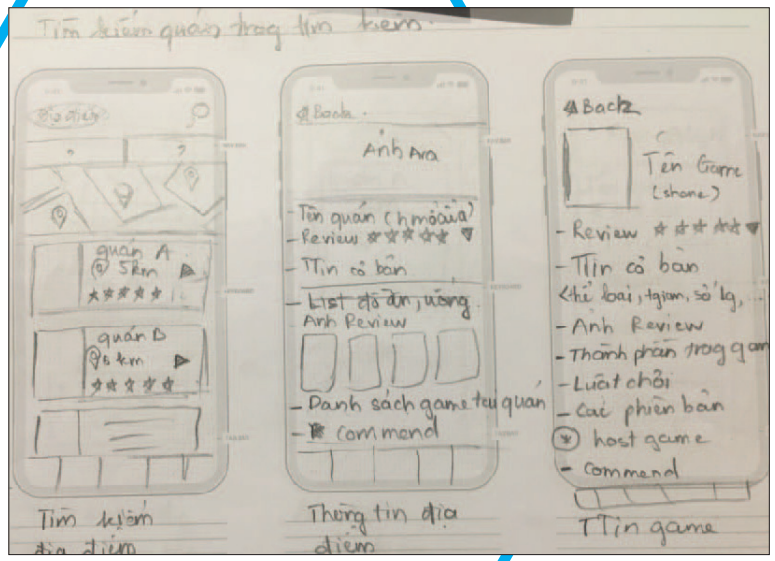


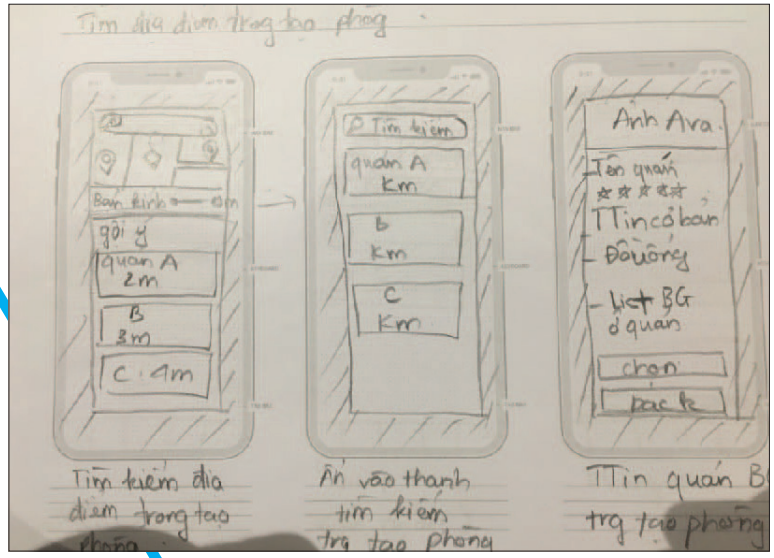


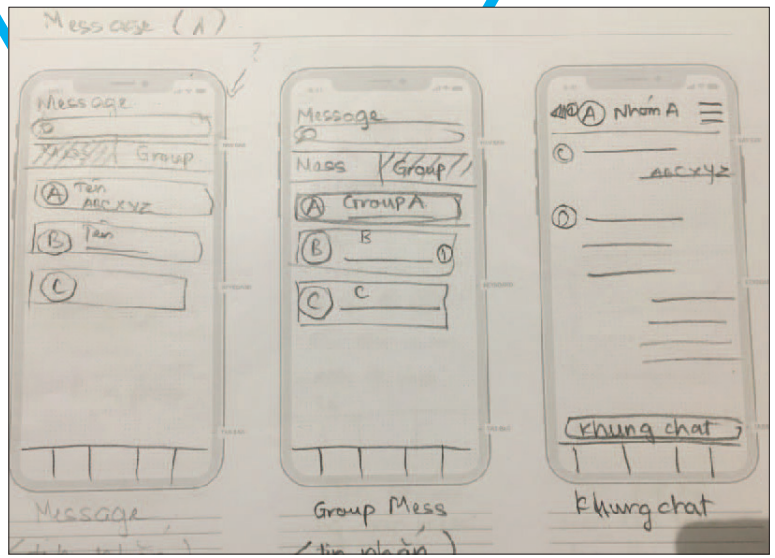


2.3.2 Paper Protype









3 Pre Design

3.1 Usability Testing Paper Prototype

When we finish the paper prototype, we proceed test with 3-4 people to take some result. During the test, our team assigned a person ask and orther take some photo. After the test, we take some feedback from tester about design and function.

Test about Design:

- Too much map technology on screen map.

- Need some button in Information screen to make user easy find where the people, store or boardgame information.

Test about Function:

- In Profile User screen, need a function can show friend list of User.

- When make room in Create Room screen, there are so many pop-up screen, not make sense and the area in screen is limited.

- When find room in Find Room screen, find with auto location function in mapping make user hard to use, too much thing in screen.

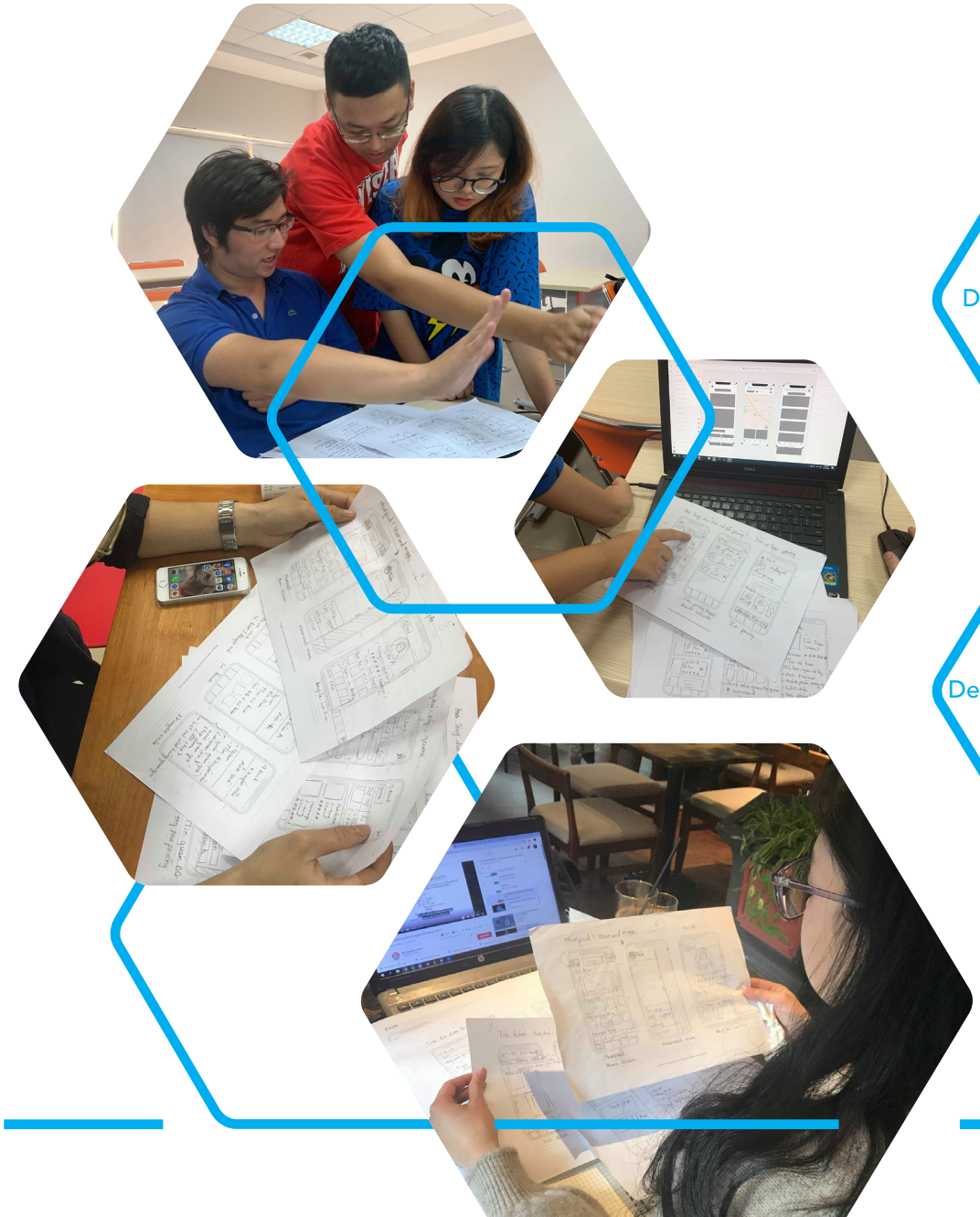
- Easy to find function, but find and create room is new for some people, so it take a little time for them to understand how it work and what is mean.

Solution:

- Add the Friend list on Profile User screen map.

- Remove mapping technology on some find people and find store screen.

-In create room screen, we make game choose and place choose to individual page. Beside, the confirm of this choose page will keep.

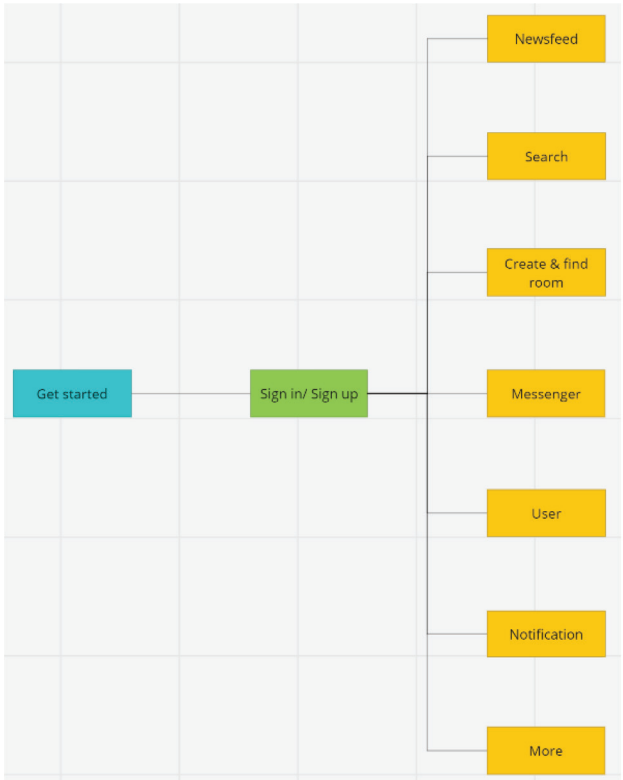


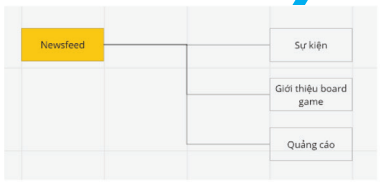
3.2 Second Sitemap

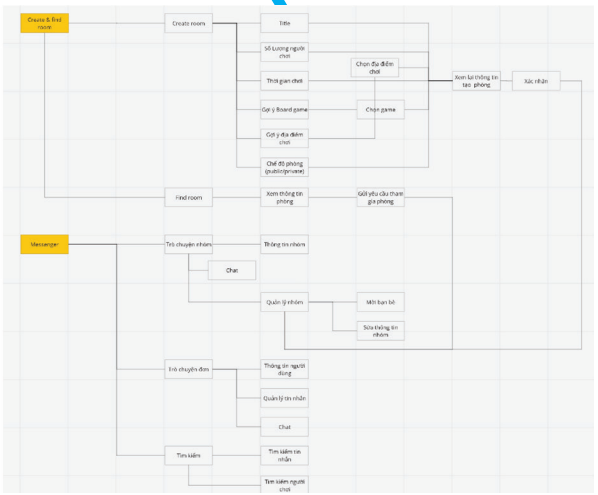
After we test the first paper prototype, we going to change some little function in sitemap.

The **red box** is the thing we remove.

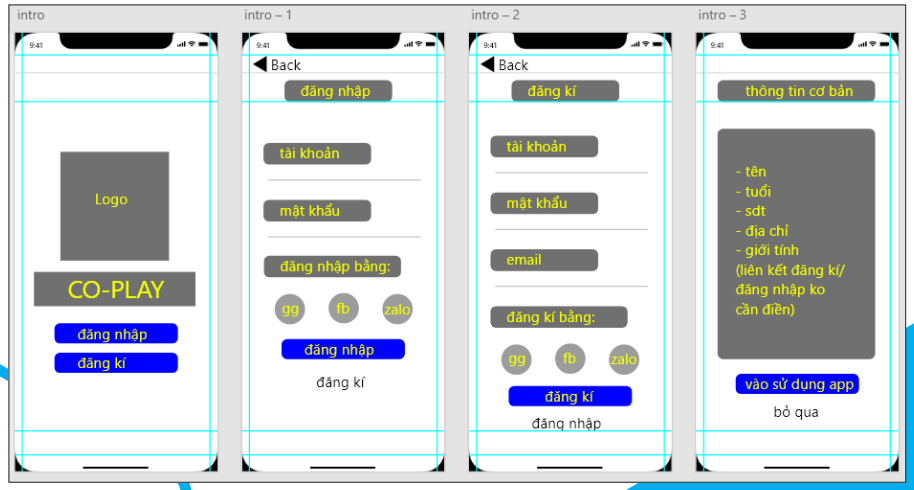
The **green box** is the thing we add to the sitemap.

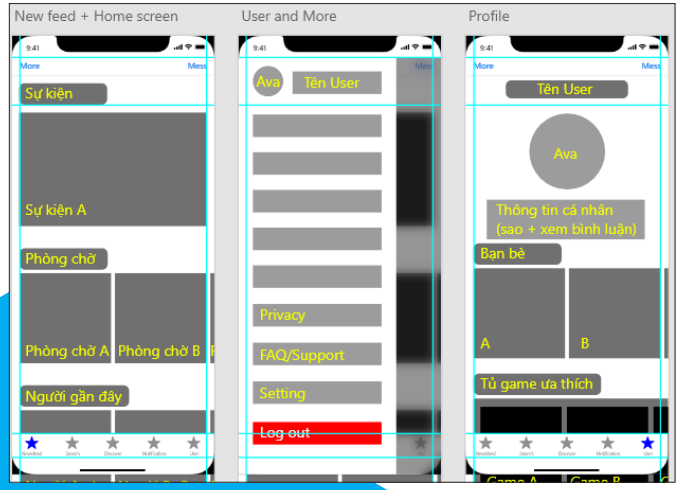




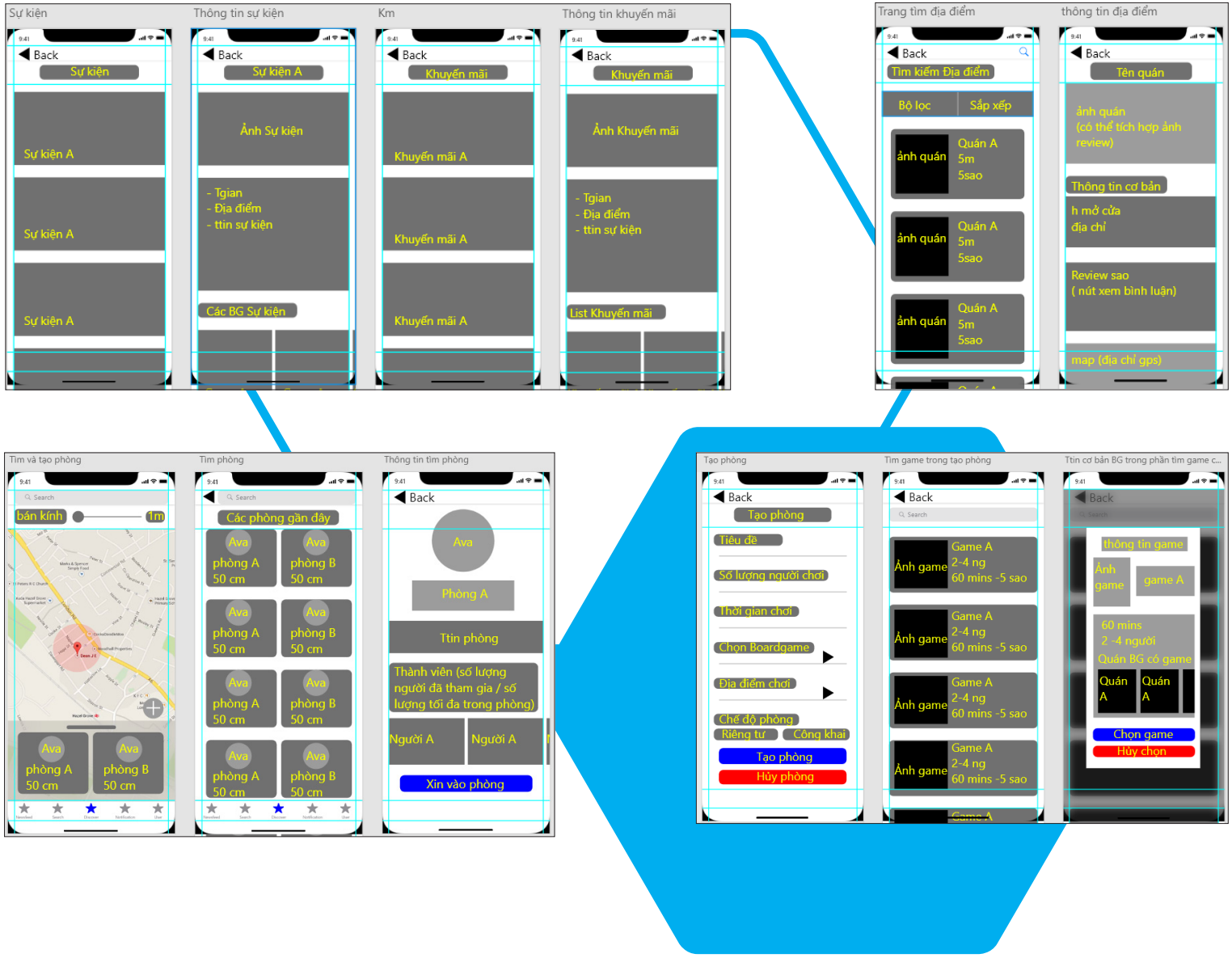


3.3 Low-Fi Prototype





3.3 Low-Fi Prototype



Project Proposal

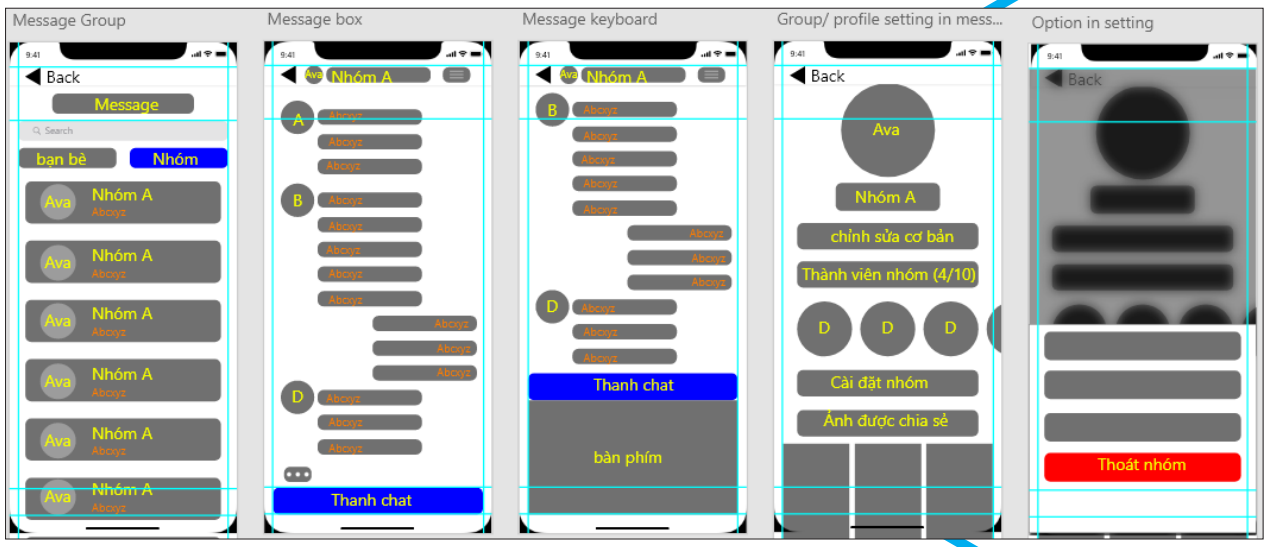
Design Proposal

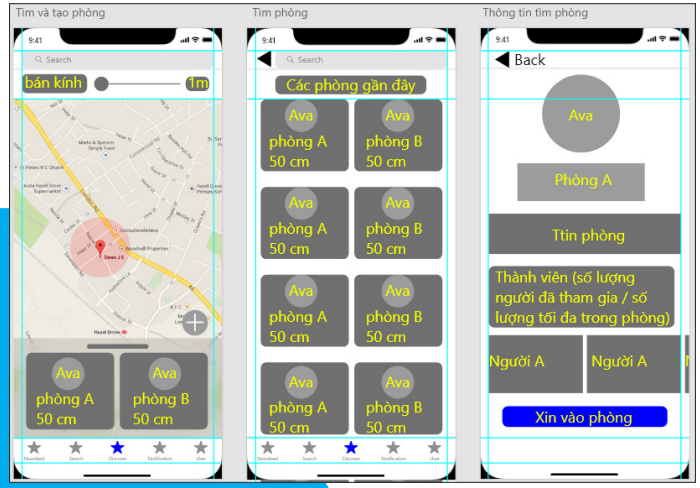
Pre Design

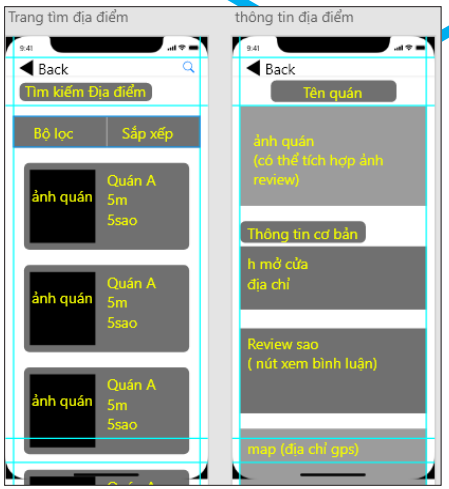
Design Finalization

Simulations

3.3 Low-Fi Prototype







3.4 Usability Testing Low-Fi Prototype

After take feedback from paper prototype tested, we fix something and bring it to digital perform, specific Low-Fi prototype. During the test, our team assigned a person ask and orther take some photo. We take some feedback from tester.

Test about Design:

- Because of Low-Fi prototype so Tester complain the design is too bad. No color make tester don't want to test.

Test about Function:

In Information screen, 3 main buttons in screen are hard to use, click to 1 of 3 buttons but can't click to other in 1 action, must back to main screen so it waste to much time.

- The detail information of store or board game is so untidy, tester want some topic must show first when they click to see information like board game in store, or review about store and games.

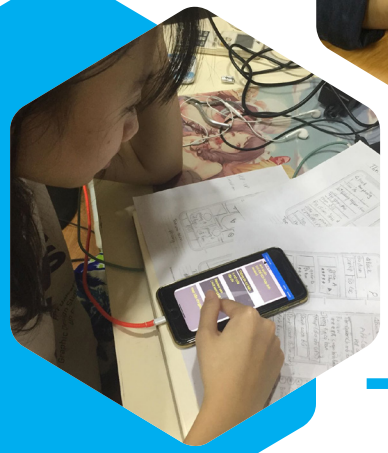
- Action in application is good, easy to use, but 1 little things is about create and find room function, it's new for user and take a little time to understant it.

Solution:

- Improve design from Low-Fi to Mid-Fi for tester easier to test.

- Fix animation of 3 main buttons in Information screen so canfind information in 1 action.

- Change the position of topic in detail Information screen, so User can see the main topic first.



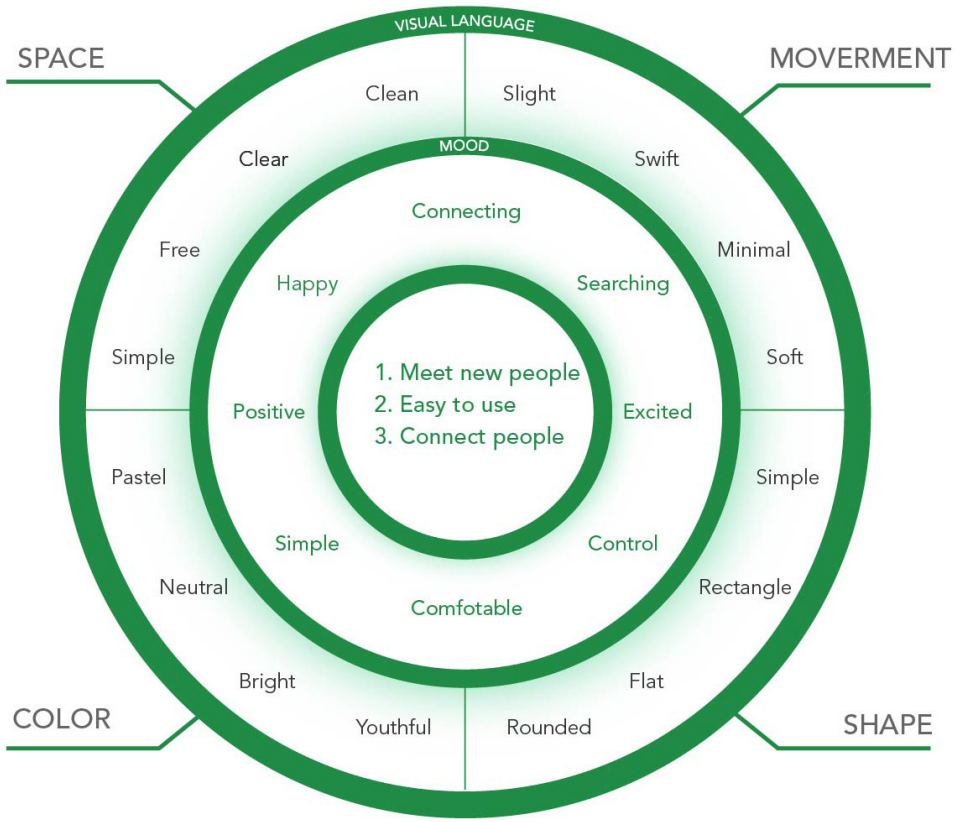
3.5 User Interface Design

3.5.1 Design Inception Worksheet

Languages are made up of different types of words that can be assembled together to create a new message.

Visual Language is like any other language. The words of visual language can be grouped into colour, space, shape and movement. This is the important step in design process.

At this stage, we rely on the persona to provide adjectives for the **Mood circle** and then symthesize them in the **Visual Language circle**.



3.5 User Interface Design

3.5.2 Moodboard

Need to pay attention to choosing the right color, font, not only bring youthful, dynamic but also colorful, impressive, unique and make the product has its own personality.

3.5 User Interface Design

3.5.3 Style Guide

1 Color Pallete

Primary Color

#3FA9F5

Secondary Color

#00CC96 #FD676D #FFD943

Support Color

#9CCDFF #333333 #66666 #E5E5E5 #F4F4F4 #FFFFF

2 Typography

Aa
Avenir

Title	Avenir Medium 20pt	Page title
	Avenir Roman 20pt	Card title
	Avenir Roman 18pt	Profile list title
Body	Avenir Medium 18pt	Button name
	Avenir Roman 16pt	Mail content
	Avenir Roman14pt	Subtitle

3 UI Element

Buttons

Edit frofile

Register now

Toggles

Game Players Places

Menu Bar:

Events Nearby Player Waiting Room News

4 Iconography

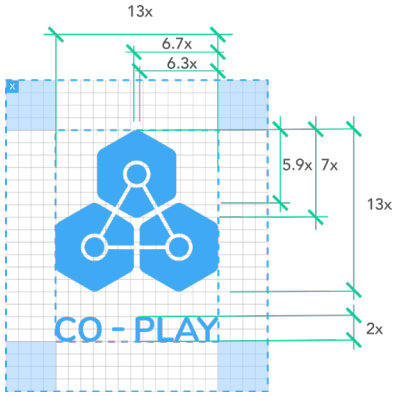
Project Proposal
Design Proposal
Pre Design
Design Finalization
Simulations

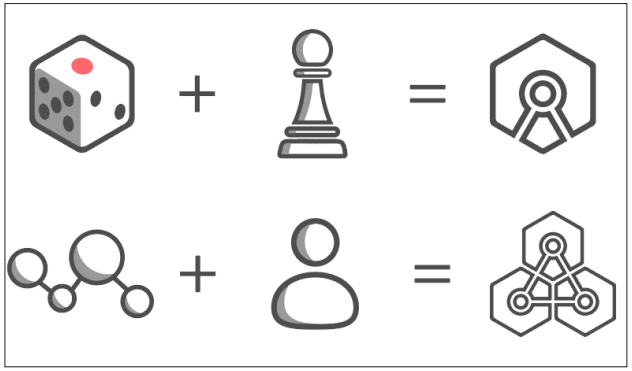
3.5 User Interface Design

3.5.4 Logo

The Logo of our application take 3 basic color from style guide, then we make different color logo in every different background. It make people have other visual of our logo and application.

For our idea, we focus on board game main symbol: a dice and a chessman. Combite that with our target: connect boardgame player to make community, we have a logo. The meaning of logo is: connect other boardgame player to make boardgame community bigger and bigger.

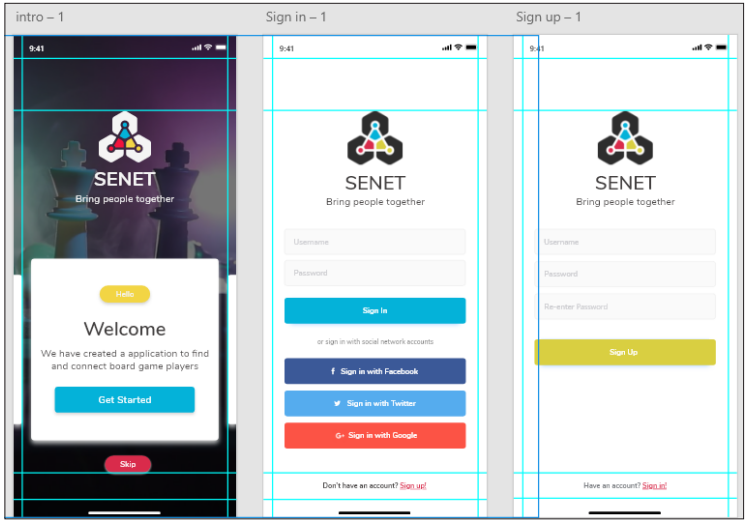


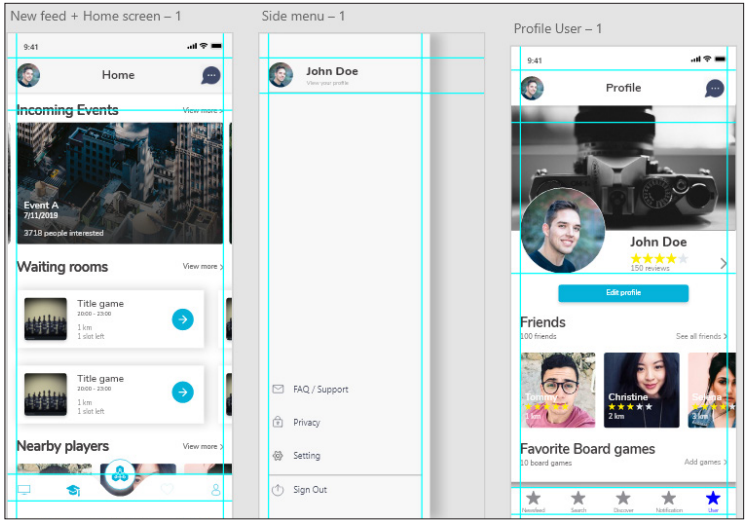


3.5 User Interface Design

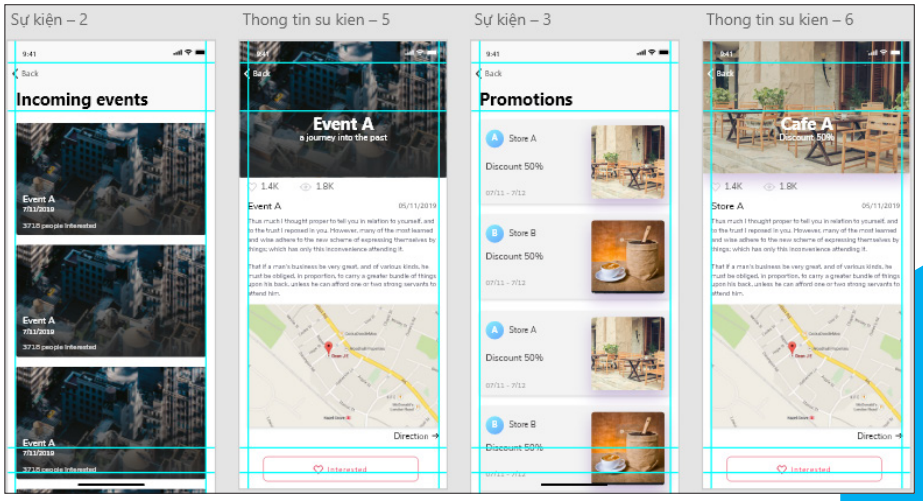
3.5.5 Mid-Fi Design Prototype (Digital version on Computer)

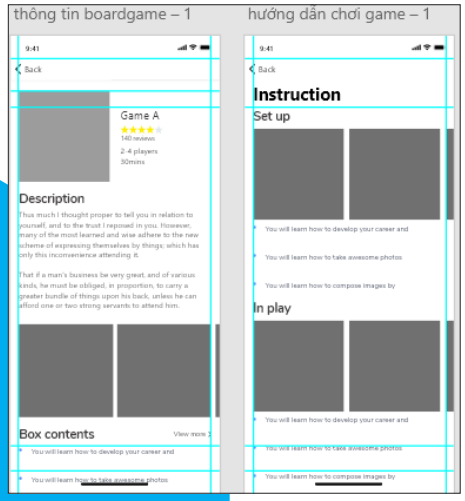
When we have all material to make a digital version prototype on computer, we going to design interface of application base on Low-Fi prototype and change from feedback then we test it on User.

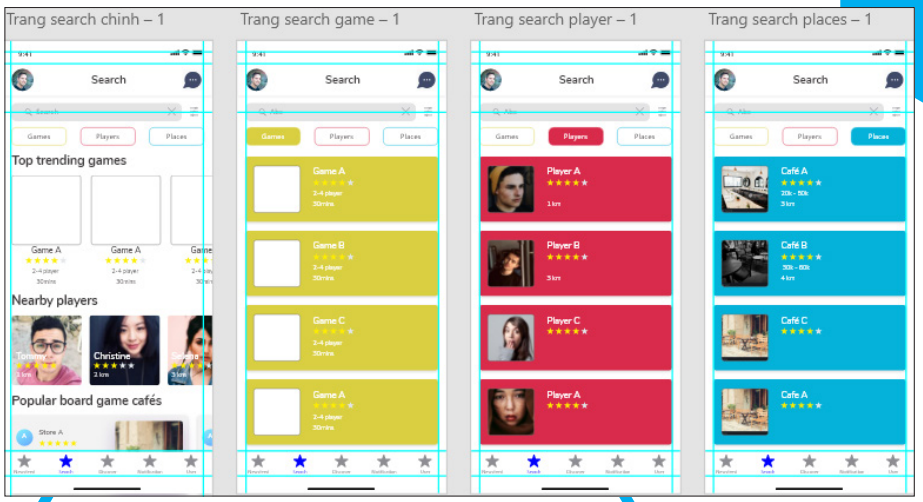


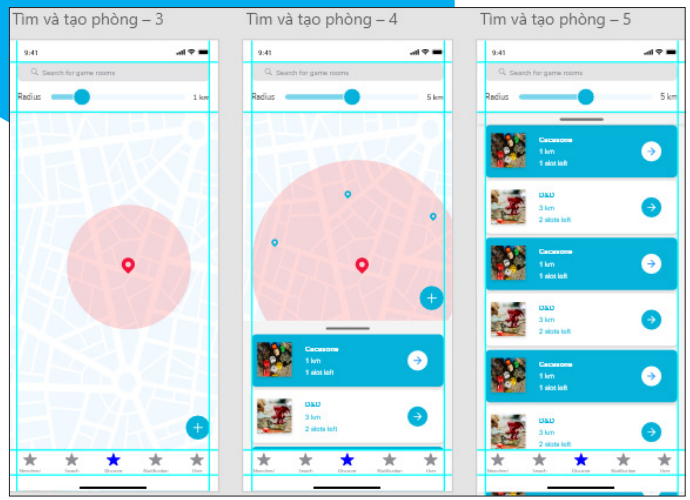


3.5 User Interface Design









Project Proposal

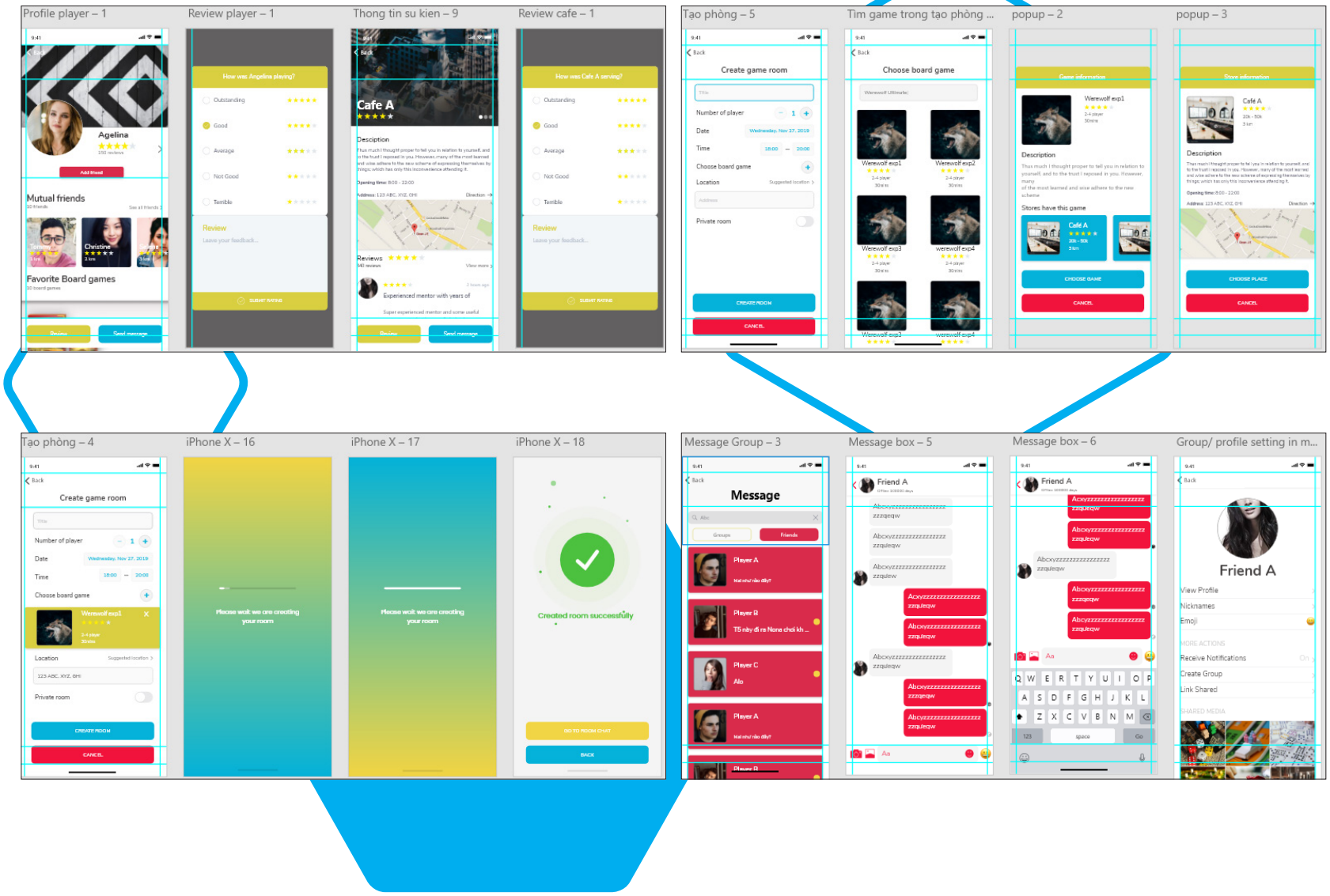
Design Proposal

Pre Design

Design Finalization

Simulations

3.5 User Interface Design



Project Proposal

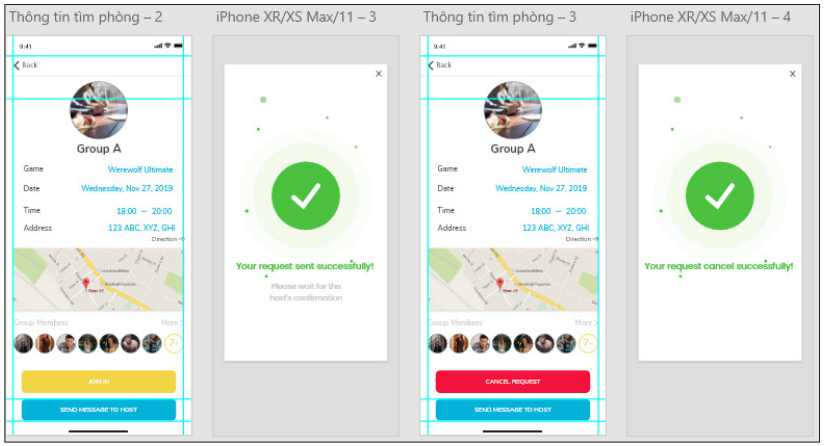
Design Proposal

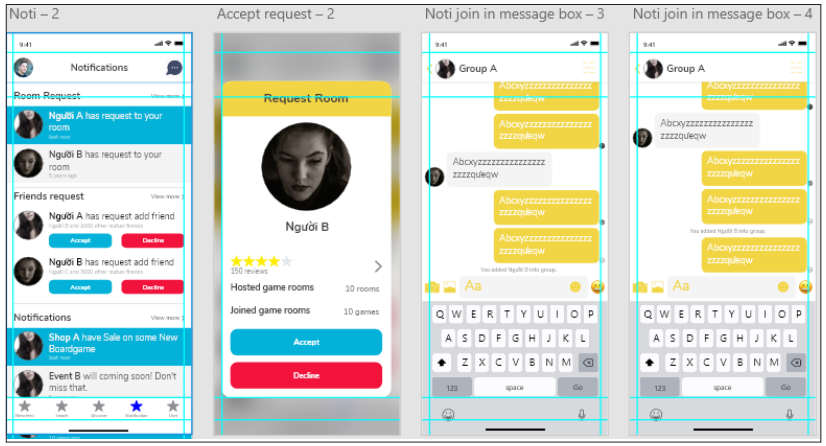
Pre Design

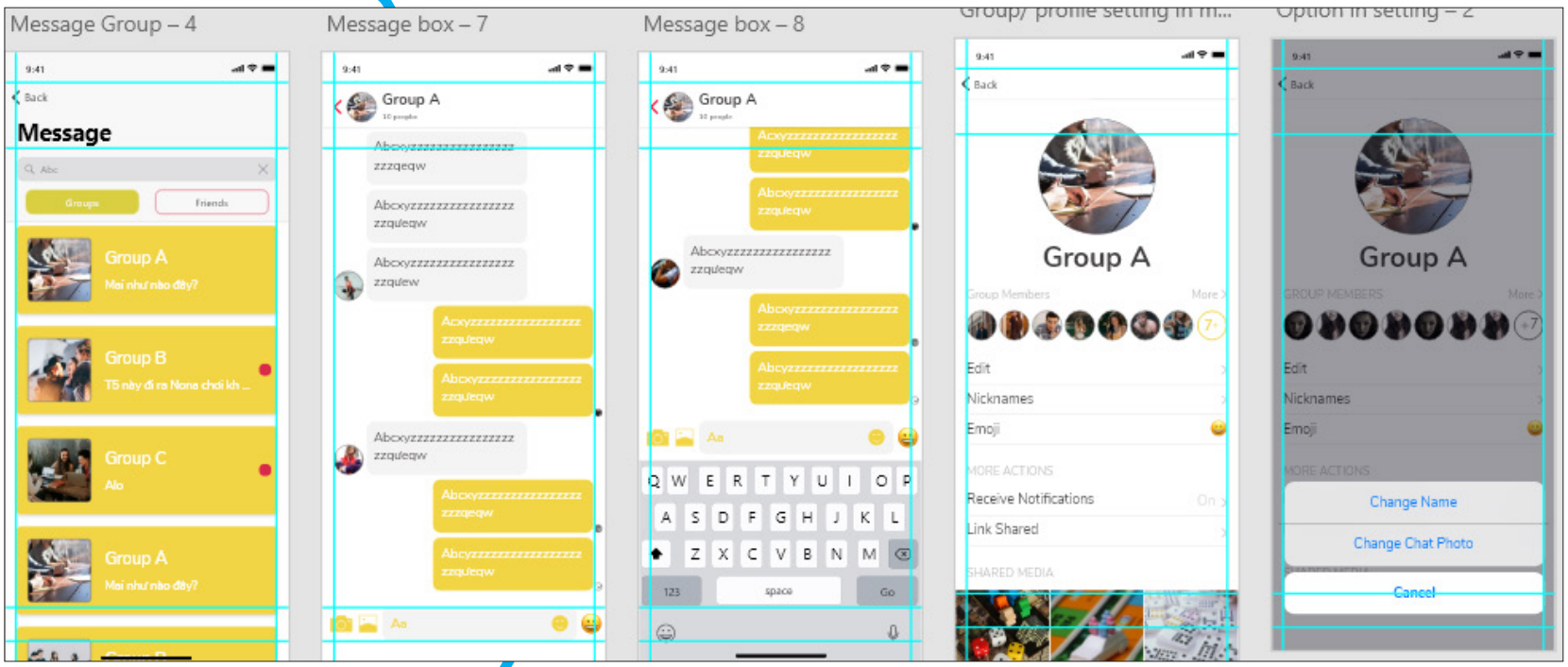
Design Finalization

Simulations

3.5 User Interface Design







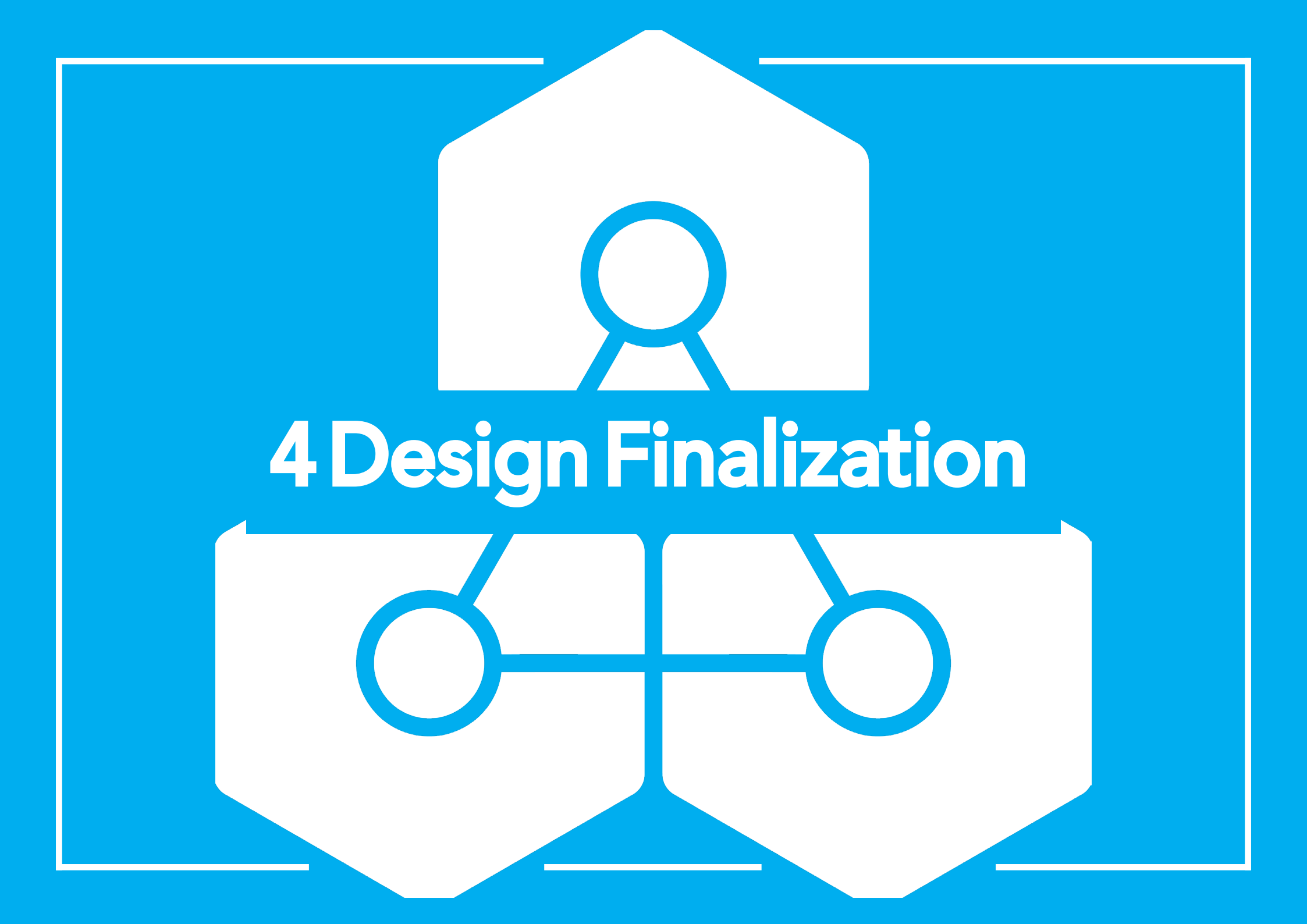
Project Proposal

Design Proposal

Pre Design

Design Finalization

Simulations


4 Design Finalization

4.1 Usability Testing

We bring the Mid-Fi to Tester so they can do the test on our prototype in XD application or on computer simulator. Feedback from tester is important for us now, so I take it very carefully and other take some photo.

Test about Design:

- Should use 1 main color to make application easy to look.

- Need some icon to make user can use the application easier.

- Some button is hard to see. Example: back button.

Test about Function:

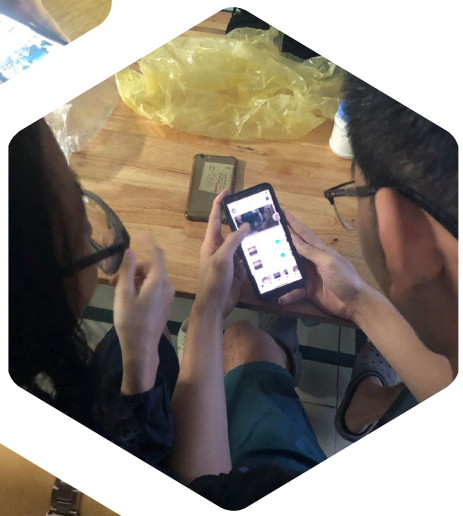
- On Home screen, the information in this screen is too much, so some tester waste time to find what they need on this screen.

Solution:

- Choose 1 color for application.

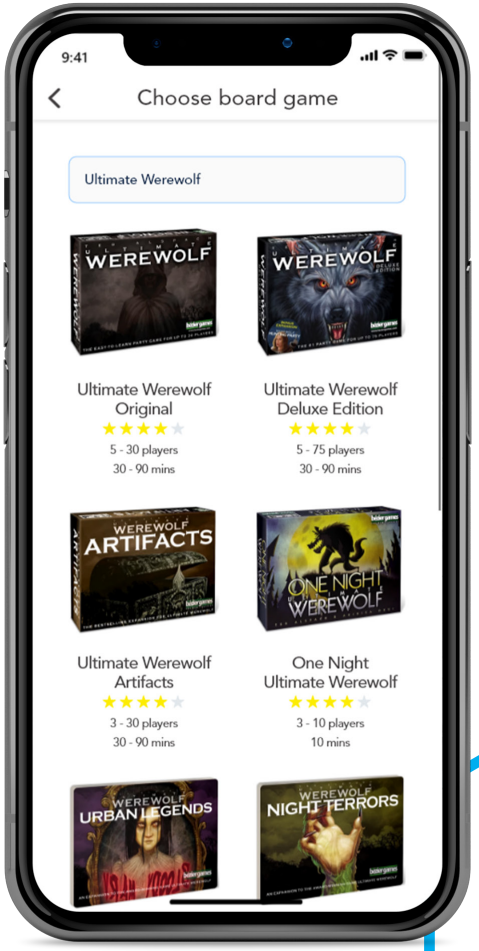
- Make an Icon set for applicaton.

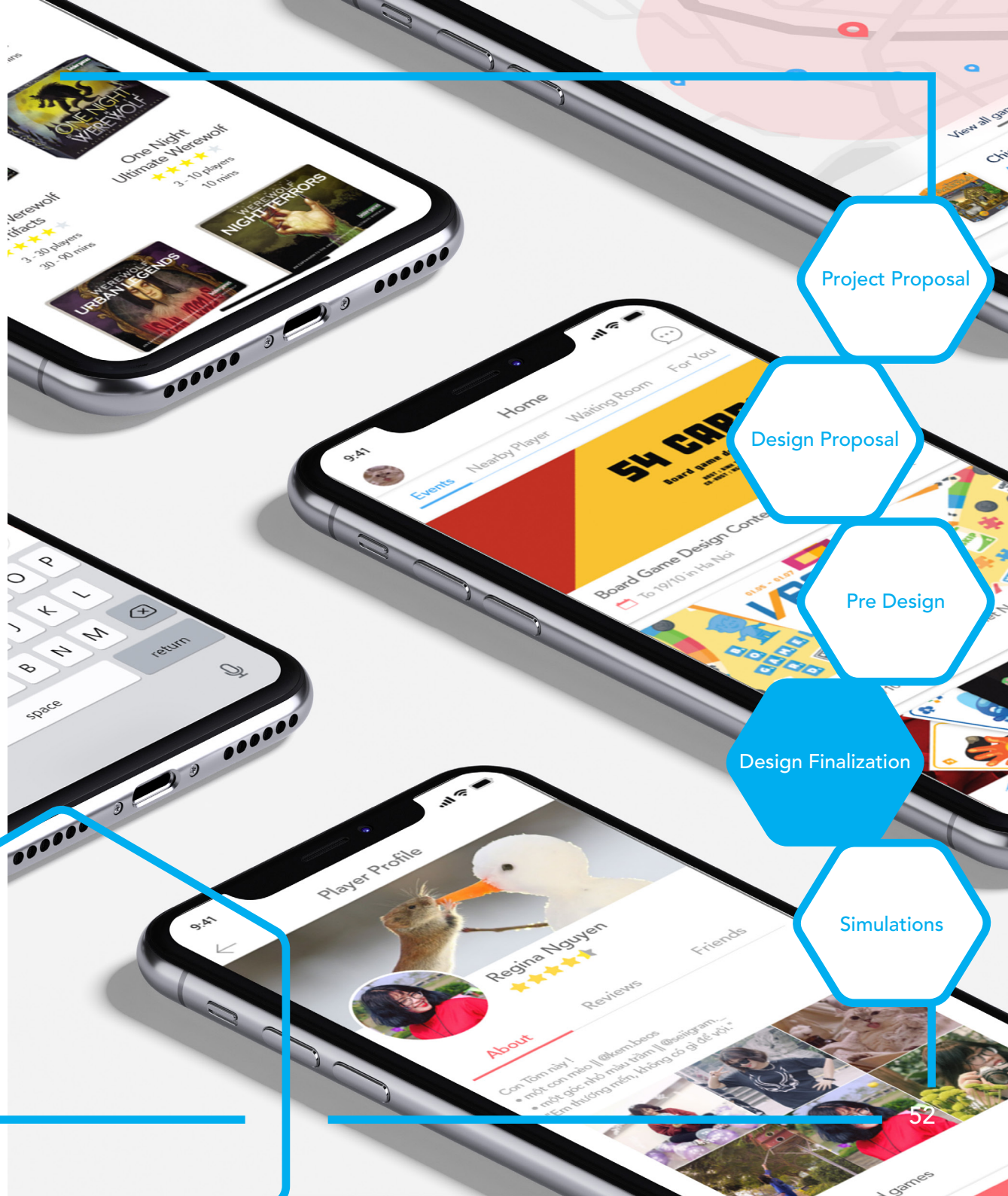
- Change the tittle list in Home screen from list to top button, it make User can use easier.



4.2 Design Finalization

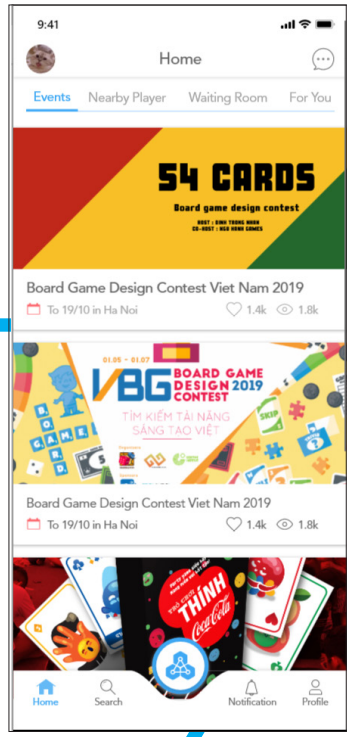
We bring the Mid-Fi to Tester so they can do the test on our prototype in XD application or on computer simulator. Feedback from tester is important for us now, so I take it very carefully and other take some photo.

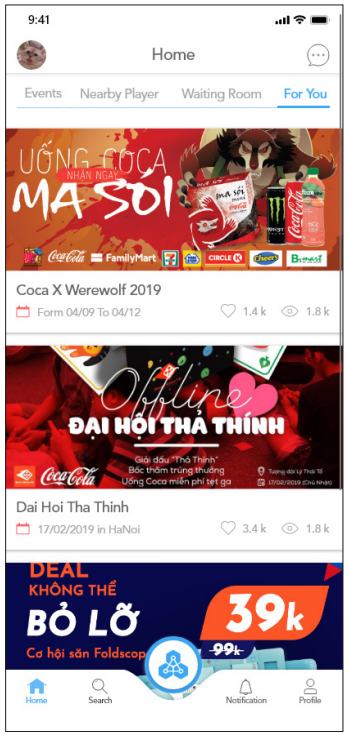


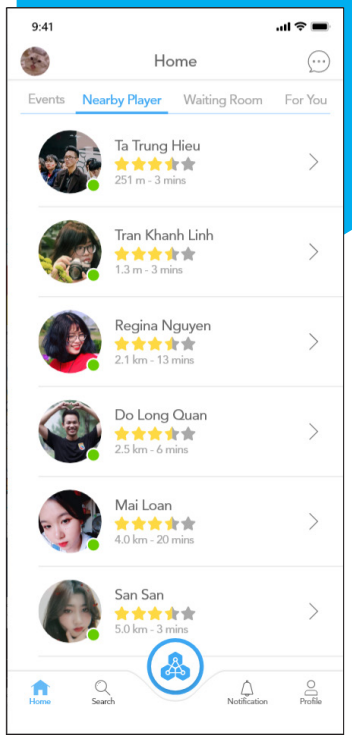


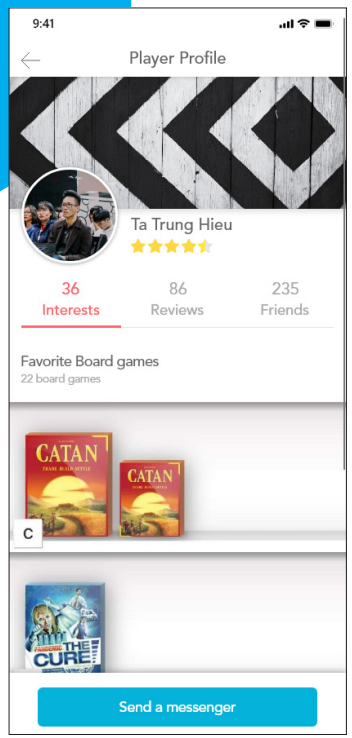
4.2 Design Finalization

1 Home Screem and Profile





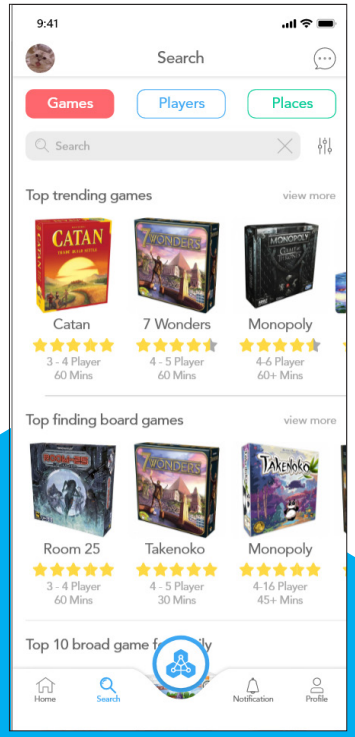


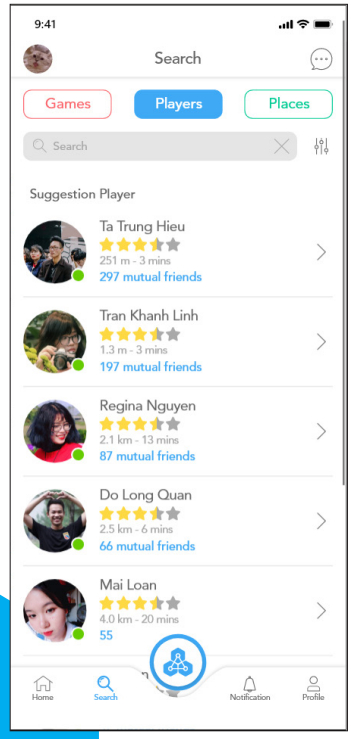


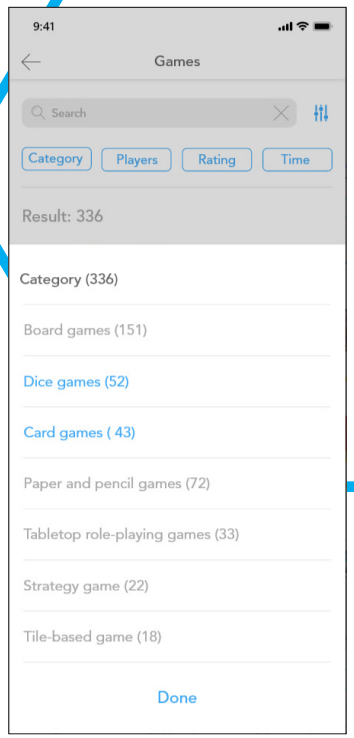
Project Proposal
Design Proposal
Pre Design
Design Finalization
Simulations

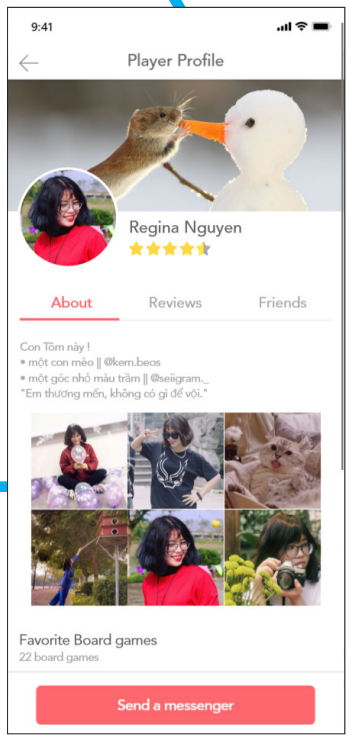
4.2 Design Finalization

2 Information Screen









Project Proposal

Design Proposal

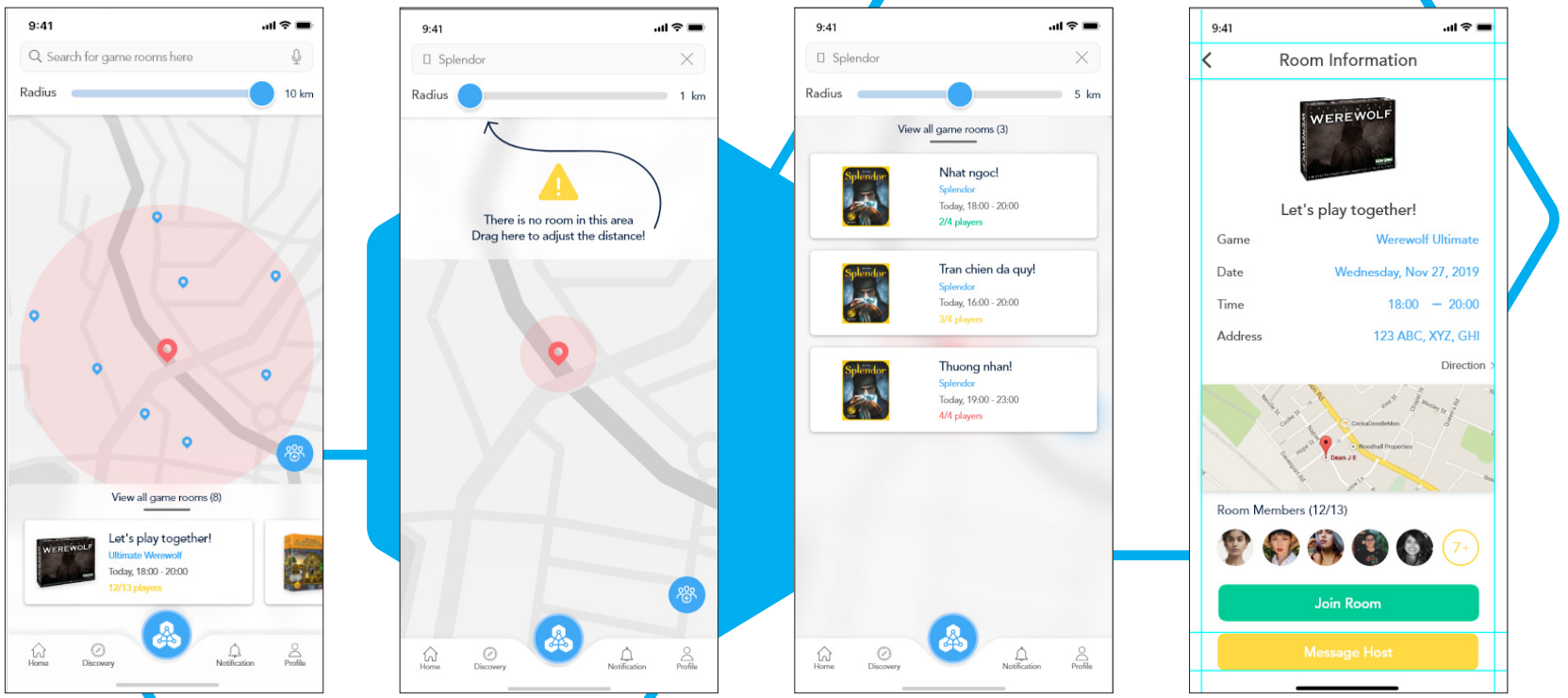
Pre Design

Design Finalization

Simulations

4.2 Design Finalization

3 Find Room Screen



Project Proposal

Design Proposal

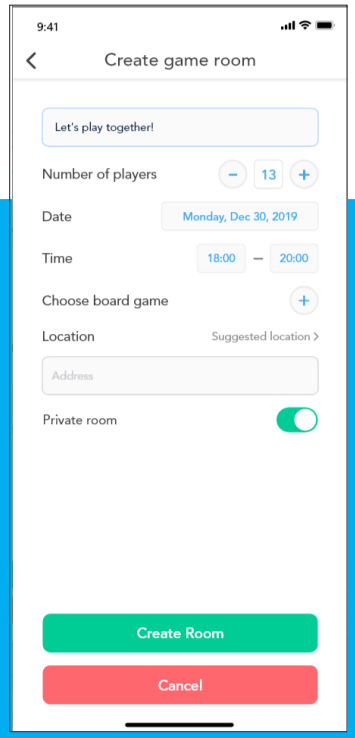
Pre Design

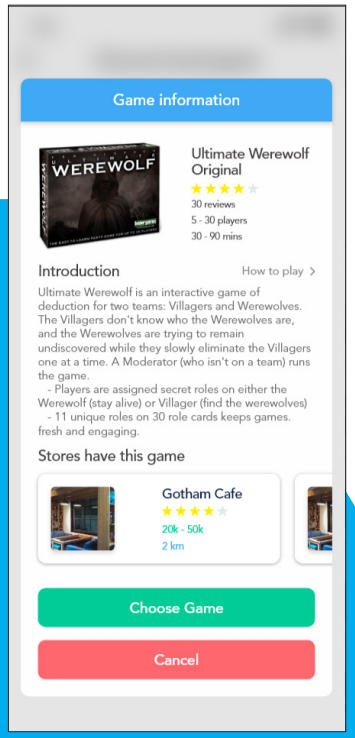
Design Finalization

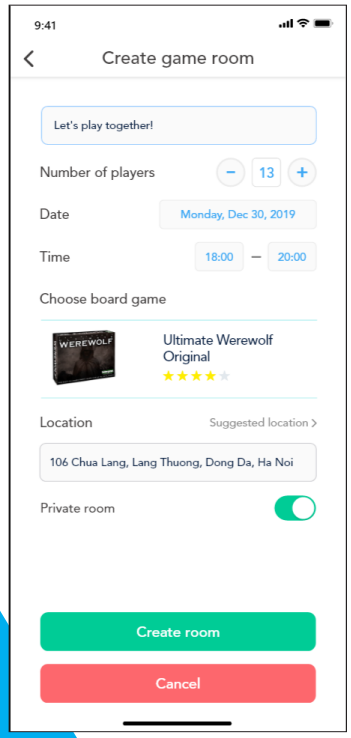
Simulations

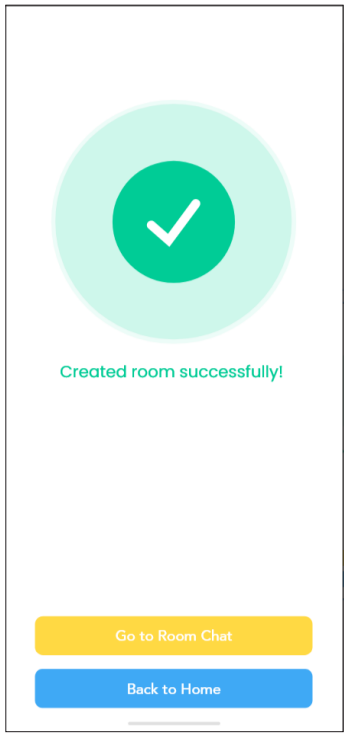
4.2 Design Finalization

4 Create Room Screen



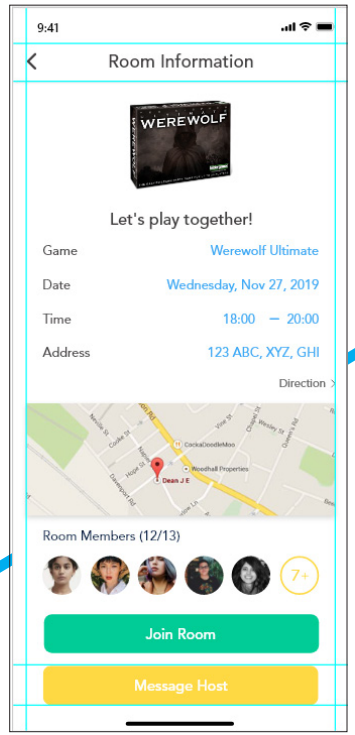


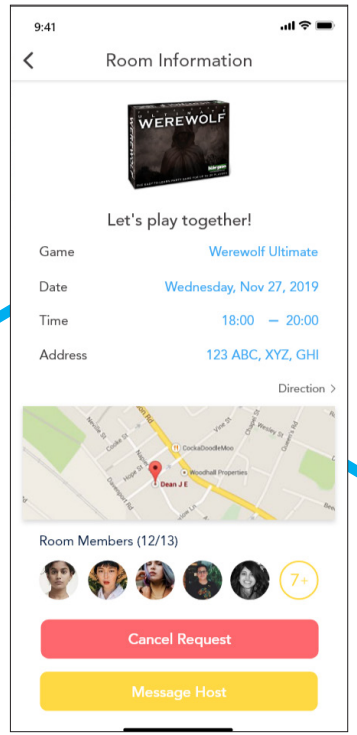


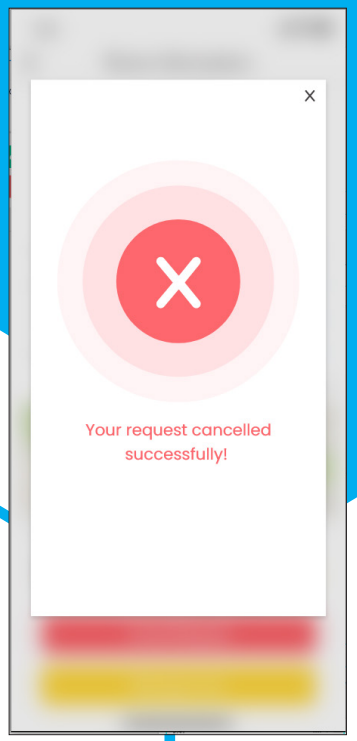


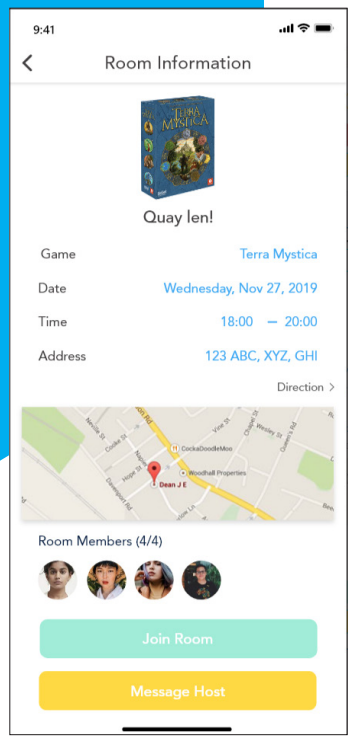
4.2 Design Finalization

5 Join Room Screen



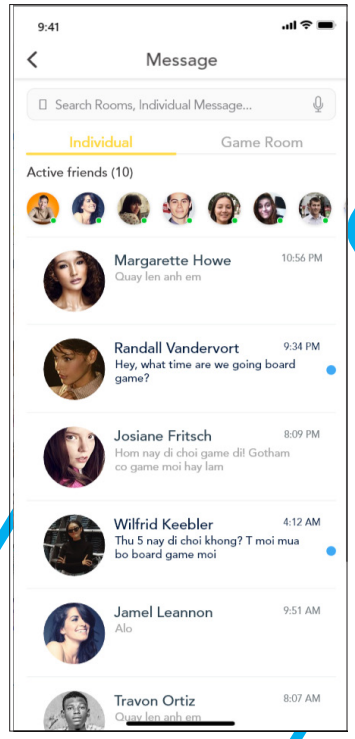


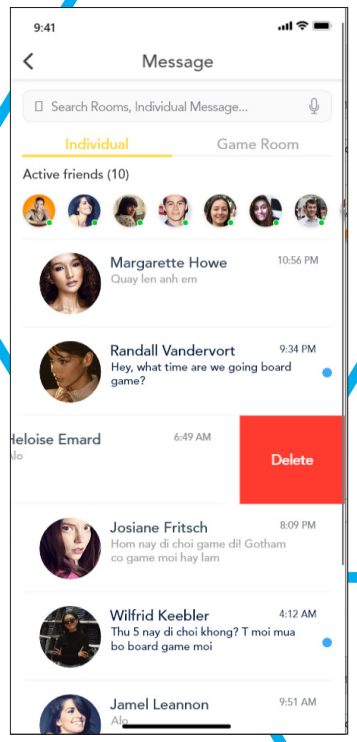


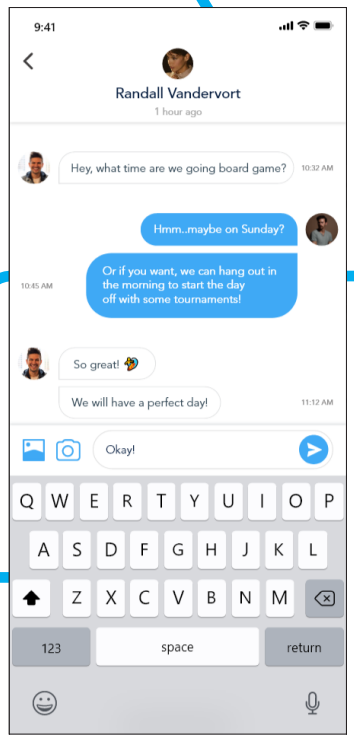


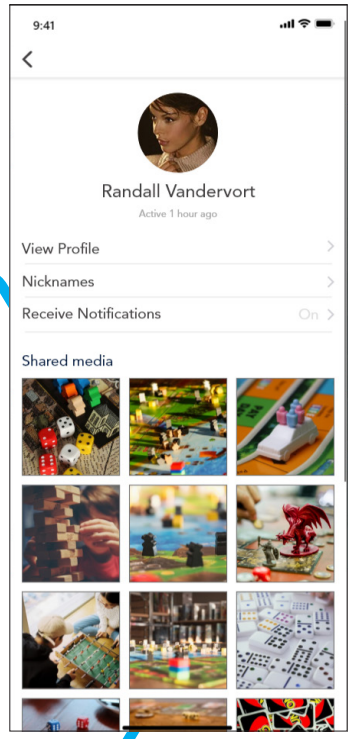
4.2 Design Finalization

6 Chat Screen









Project Proposal

Design Proposal

Pre Design

Design Finalization

Simulations

5 Simulation

5 Simulation

1 Animation

- Our Logo Animation when we use the application. We can see the logo circle arount and around make user attention to it.

- Loading screen when create the room is one of out animation. It make User feel the application are working to done.

5 Simulation

2 Simulation

- We design the final design simulation in XD application of Adobe, then upload it to driver.

Link:

https://drive.google.com/drive/u/1/folders/1YSVb-mpodXQ8DCJaB8PAUmDGH0KYh9EUh