

UXD Thesis Documentation

Fall 2020



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01.

Introduction

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Abstract

This project aims to design an experience that helps smokers quit smoking by NewLyf, a smoking adventure game.

The project focuses on Indian smokers who come to the United States for further studies. It started with how might we reduce smoking among the chain smokers of Thomas Jefferson University? But secondary research has shown that smoking is a global problem, and smoking initiation is different for different groups, communities, and individuals. Think global, act local has updated the statement to how might we reduce cigarette smoking among Indian smokers who come to the United States for further studies?

User interviews have shown that Indian students who come to the USA for further studies tend to live in their communities. Indian students of the same apartment tend to do everyday activities together, like cooking, eating, and grocery shopping.

Each person influences the other when it comes to smoking cigarettes. A smoker can easily influence non-smoking flatmates to start smoking.

If a smoker can influence to smoke, then they can even influence each other to stop smoking. Therefore, the NewLyf app is a community-based smoking adventure game with financial incentives and motivating elements to reduce smoking gradually and eventually quit.



Problem Statement

Currently, tobacco products are estimated to be responsible for 7 million deaths annually worldwide. One in every five deaths in the United States is smoking related (CDC, 1999).

One-third of college-aged students use tobacco products in some way, whether it be cigarettes, chewing tobacco, or cigars. According to the CDC, 13 percent of adults aged 18 to 24 smoke cigarettes. Furthermore, 19.8 percent of smokers are high school graduates, and 18.5 percent have completed some college.

Indian students, who have been staying with their families all their life, come to the United States for further studies and experience a sense of adulthood and freedom. The new lifestyle makes them curious to experience different things. Cigarette smoking is one of those experiences that the students try, and eventually, it leads to a habit.

Students often get the urge to smoke a cigarette with the slightest of stress, and since the cigarettes are always within arm's reach, they get addicted to it unconsciously. The nicotine nudges the brain to produce dopamine and an adrenaline rush, which then becomes associated with stress and certain activities. The drug and the action become interlinked without the subject, knowing it.

Smokers often struggle to quit as the nicotine hit is gone, but the daily habits and rituals are still there. Alongside treating the physical cravings, they also need to address these behavior patterns that the unconscious brain has associated with smoking.



Hypothesis

A smoking adventure game where smokers will bet money with each other to smoke fewer cigarettes. A wearable can be used to monitor their smoking habits. Quitting smoking can be irritating, so a twist in the game is introduced to keep the players motivated and divert their minds from the withdrawal symptoms. Every day a player will try to sabotage the other player's smoking habits. Everyone comes together and discuss who the trickster is. Each player tells their stories. They describe their experiences with the trickster and how they avoided smoking throughout the day. This will keep the game lively and help the students be together and quit smoking together as a whole.



Stakeholders

Neil Harner, Academic Advisor

Program Director, M.S. User Experience & Interaction Design
Assistant Professor
Thomas Jefferson University

Lauren Dillard

Adjunct Professor of User Experience Design
Thomas Jefferson University

Mike Begley, Advisor

Adjunct Professor of User Experience Design
Thomas Jefferson University

Why This Problem Space?

**7 Million
Deaths**

annually
worldwide due to
tobacco use

12%

of the world's
smokers are
Indians

**1 Million
Deaths**

annually in India
due to tobacco
use

Smoking affects the intelligence level & achievements of students

Smoking increases the risk of heart disease, stroke, cancer, and can cause a series of other health complications

College students who smoke are more stressed than students who had never smoked



02.

Business Requirements

- 10 Mission
- 10 Characteristics
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Mission

To help the young smokers in our community successfully quit and become smoke-free for life! We do this through the smoking adventure game that challenges a group of smokers to reduce smoking by engaging with each other, leading to quitting.

No longer will the smokers have to rely on nicotine patches, chewing gum, or willpower to quit their habit. We believe that the adventure game will yield better results and lead to an enhanced quality of life currently unobtainable from existing methods.

Characteristics

It is a smoking adventure game.

Smokers looking to quit can play with their smoker friends.

Smokers will reduce smoking gradually and eventually quit.

Smoke fewer cigarettes to earn cash.

Identify the Devil to win cash.



Short Term Goals

1. Develop a sleek, easy to use mobile application for iOS and Apple Watch OS.
2. Keep learning the data to perfect the smoking detecting capacity of the Apple Watch.
3. Create a Kickstarter campaign that will measure the value and desirability of the game in the market.
4. Create success stories and testimonials to make people aware of the ability and power of the game.
5. Get 'quit smoking' brands for in-app brand endorsements.



Long Term Goals

1. Develop smoking detection software for other wearables available in the market.
2. Develop a mobile application for other OS platforms.
3. Perfect the smoking detecting capacity of wearables to 99.99% accuracy.
4. Share success stories and the level of engagement that the app has with many other brands (not just 'quit smoking' brands) to get more in-app brand endorsements.
5. Collaborate with smart cigarette case brands that detect cigarettes smoked and lock away after a certain number of cigarettes.
6. **One-on-one Specialist Advice:** Collaborate with doctors who specialize in smoking cessation to help users with specific help, queries, and guidance.
7. Create an online community to help users connect with other smokers who have successfully quit smoking by sharing information, resources, and social support.
8. Become known as the Habit Quitting app for any addictions.



Objectives

1. Hire talent to develop a sleek, easy to use mobile application for iOS and Apple Watch OS.
2. Keep in constant touch with the users to learn and perfect the game as much as possible.
3. Create a video promoting the product and explain the game's walkthrough while keeping it fun and exciting at the same time.
4. Share the success stories and the Kickstarter campaign data with quit smoking brands for in-app brand endorsements.
5. Indian students who come to the US for further studies download the mobile application per year.
6. Smokers who live with other flatmates who are also smokers download the mobile application to curb their smoking habits.
7. Test the smoking detection of Apple Watch on five users every month and perfect the software.



Success Metrics

CSF, KPI, KEI

1. 90% smoking detection capacity of the Apple Watch.
2. The app will ask the user if they are smoking or not, and if the app gets a positive answer always, that means it is accurate.
3. Data shows that 82% of the users are smoking within the daily limit. 40% of the users are smoking fewer cigarettes than the daily limit.
4. Reach the \$10,000 Kickstarter goal.
5. More than a 4-star rating on the mobile application and at least 82% positive reviews of the game.
6. 5% of the 200,000 Indian students who come to the US for further studies download the mobile application per year. That equals 10,000 every year.
7. 10% of the smokers who live with other flatmates who are also smokers download the mobile application to curb their smoking habits.
8. The game is now known as the application to download when one needs to curb their smoking habits.
9. Mentions of the game on social media.
10. 10,000 impressions on Facebook, Instagram, and Snapchat ads with a 3% conversion rate



Business Model Canvas (1/6)

Key Partners

Acquisition of particular resources and activities

- Partner with designers and developers to come up with a sleek, easy to use mobile application for iOS and Apple Watch OS
- Acquire the knowledge required and license to create the smoking detection technology that the game needs to function as needed

Key Activities

Phase 1

Production

- Key activities of the mobile application rely on designers and developers for a superior quality output

Platform/network

- Build, measure, learn and build a better version of the mobile application regularly

Phase 2

Problem-solving

- Research and learn the methods and processes of the users using the mobile application. This will help Apple Watch to detect smoking accurately

Key Resources

Intellectual

- Patent the software and intellectual property that will help detect accurately when the user is smoking

Human

- Hire proprietary knowledge to create the smoking detection technology that the app needs
- Sales force
- Marketing team
- Customer success team
- Creative team
- Developers
- Finance
- Legal



Business Model Canvas (2/6)

Value Propositions

Newness

NewLyf is a one-of-a-kind smoking adventure game that helps young smokers successfully quit and become smoke-free for life! The game challenges a group of smokers to reduce smoking by engaging with each other, leading to quitting

"Getting the job done"

The game challenges a group of smokers to quit smoking effortlessly. They aim to get smokers to reduce smoking by controlled behavior, which eventually leads to quitting smoking.

Coupons and Rewards

Quit smoking brands will encourage users to continue reducing their cigarette consumption by providing discounts to the top scorer. Over time, we will have all types of brands providing discounts to the top scorers

Indian smokers who come to the United States for further studies

Value Proposition: A smoking adventure game designed to help smokers earn money by having a controlled smoking behavior. The game enables you to quit smoking for good, without any side effects

A group (4 or more) of smokers who live together

Value Proposition: The game aims to help your group quit smoking effortlessly. Bet on yourself and earn money while reducing smoking. No longer will you have to rely on willpower, chewing gum, or nicotine patches to quit their habit



Business Model Canvas (3/6)

Customer Relationships

Automated Services

The mobile application creates personalized profiles from the data captured from each user. It provides customized services to every user as an individual and as a group

Communities

Each person in the group share their experience for the day and support each other with their smoking problems. Groups help create connections between individual members and the brand

Co-creation

Create success stories of real-time users and take the user testimonials

Customers rate the app and provide user reviews

Channels

Types

Own / Direct

- Web sales: Market through the brand's website
- Sales Force: Banner ads at no tobacco campaign events, schools, and university events
- Customer Success: Happy customers will spread the word

Partner / Indirect

- Crowd Funding sites: Kickstarter campaign to spread awareness about the brand
- Marketing Channels: Ads on Facebook, Instagram, Snapchat
Content marketing on Reddit and Quora
Google ads
MailChimp newsletters



Business Model Canvas (4/6)

Channels

Phases

Awareness

- Kickstarter campaign to spread awareness about the brand
- Banner ads at events
- Marketing Channels
- Happy customers will spread the Customer Success via word of mouth
- Crowd Funding sites

Evaluation

- Create reviews and success stories of users and promote via Marketing Channels
- Happy customers will spread the Customer Success via word of mouth

Purchase

- In-app purchase through iOS

Delivery

- Purchase through the application

After Sales

- Happy customers will come back and also spread the Customer Success via word of mouth



Business Model Canvas (5/6)

Customer Segments (Segmented)

Indian smokers who come to the United States for further studies

Needs

They want to reduce their smoking habit

Problem

They live with other students who smoke together. They influence each other to smoke more cigarettes.



A group (4 or more) of smokers who live together

Needs

They are trying different ways to quit smoking but are unable to do so

Problem

They quit cold turkey, which helps avoid cigarettes for a limited time. After a while, they get back to smoking again



Business Model Canvas (6/6)

Cost Structure

Fixed Costs

- Legal team
- Design and Development team

Variable costs

- Advertising
- Marketing

Revenue Streams

Brokerage fees (Fixed: List price)

- Escrow fees/interest: 3% of the total dollar invested per game

Lending (Dynamic Pricing: Real-time-market)

- In-game coins: Players can bribe the DEVIL to increase their cigarette limit for the day.
DEVIL can bribe the game to increase his cigarette limit

Advertising (Dynamic Pricing: Real-time-market)

- Brand endorsement: Quit smoking brands will encourage users to continue reducing their cigarette consumption by providing discounts to the top scorer. Over time, we will have all types of brands providing discounts to the top scorers



SWOT Analysis (2/2)

Strengths

Influence

Groups influence each other to smoke more cigarettes; the same group will influence each other to reduce the number

Loss Aversion Fear of losing money acts as a motivation to control the habit

Financial & Brand Rewards

When users control smoking, they get financial rewards as well as discounts on brands

Gradual Quitting

Gradual reduction in the consumption of cigarettes has a long-term effect than quitting cold turkey

Freshness

A new Devil every day makes it feel like a brand new game, which helps keep the gameplay fresh, engaging, and dynamic

No Side Effects

This technique has negligible side effects as compared to nicotine patches and chewing gums

Weakness

Accuracy

The Apple Watch detecting someone smoking will take numerous data to perfect it

Demotivation

Losing money could demotivate the user

Complexity

Test the complexity of the game mechanics on the users



SWOT Analysis (1/2)

Opportunities

Habit Quitting

Similar concept can be used for other habit quitting activities

Competition

Minimal competitors that have the same level of competitive gaming concept

Brand Integration

Collab with quit smoking brands to promote their products on the app and vice versa

Together

Everyone is at home due to pandemic. This helps the group to be together and play the game

Threats

Community

Users need to meet at least once a day for the concept to work.
Users need to live close to each other

Limitations

The game is only for Apple Watch wearers for now

No Data

When the Watch battery drains out, there will no data recorded.
Other player needs to be present to validate the data



Growth Strategy

1

Hire talent to integrate the concept in Android and other wearables which will cater to the mass market

2

Keep testing the smoking detecting capacity of wearables to 99.99% accuracy.

3

Continue sharing success stories and the level of engagement that the app has with many brands to get more in-app brand endorsements

4

Collaborate with smart cigarette case brands that detect cigarettes smoked and lock away after a certain number of cigarettes.

5

One-on-one Specialist Advice: Collaborate with doctors who specialize in smoking cessation to help users with specific help, queries, and guidance.

6

Expand the target audience to a broader market.

7

Create an online community to help users connect with other smokers who have successfully quit smoking by sharing information, resources, and social support.

8

Expand the brand by using the concept to curb binge eating habits, gambling, shopping, and other addictions.



Competitive Analysis

Competitive Analysis (1/10)

Based on the research and problem statement, the game focuses on reducing the cigarette limits, and find ways to make use of incentives to control the habit and addiction that the user has.

So, thinking of these needs and wishing to learn what kind of apps and technologies are available in the market to meet them, I decided to conduct a competitive analysis focusing on five main categories:

- **Quit Smoking Apps**
- **Addiction Quitting Apps**
- **Same Concept Gaming**
- **Watch Habit Tracking Apps**
- **Contingency Management Apps**



Competitive Analysis (2/10)

Quit Smoking Apps



QuitNow!

iPhone rating: 4.6 stars

Android rating: 4.6 stars

Price: Free with in-app purchases

QuitNow! makes quitting easier by helping you focus your energy into four sections — your new ex-smoker status, 70 ex-smoker achievements to keep you motivated, a strong ex-smoker community, and your newfound health improvements. Browse frequently asked questions or ask the QuitNow! bot questions of your own.

Link: <https://apps.apple.com/us/app/quitnow-quit-smoking/id483994930>



Smoke Free

iPhone rating: 4.8 stars

Android rating: 4.7 stars

Price: Free with in-app purchases

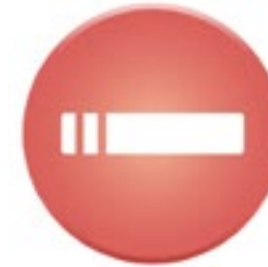
Log your cravings and get tips for managing them, plus insights into craving patterns and graphs to monitor your overall progression. You also have the option of participating in a rigorous scientific experiment that will help more people quit smoking successfully.

Link: <https://apps.apple.com/us/app/smoke-free-quit-smoking-now/id577767592>



Competitive Analysis (3/10)

Quit Smoking Apps



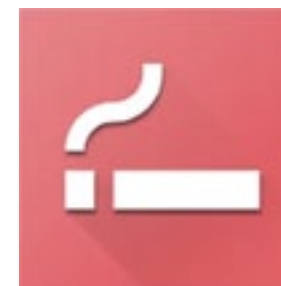
SmokeFree

Android rating: 4.2 stars

Price: Free

There are two ways to quit with SmokeFree. Choose the quit mode if you're highly motivated, or use the reduce mode if you need more time. This app acts as your companion during the quitting process, helping you slowly reduce your cigarette use so your body adapts. Features include rich motivational tips, personal stats, and financial and health achievements.

Link: <https://play.google.com/store/apps/details?id=com.motivebite.smokefree.free>



Quit Tracker

Android rating: 4.7 stars

Price: Free with in-app purchases

This app is a motivational tool which tracks the health and financial benefits you'll enjoy every day you resist a cigarette. Use the app to track how close you are to living a smoke-free life, how much money you're saving, and how much life you've regained. There's also a timeline that shows you how quickly you start enjoying health benefits.

Link: <https://play.google.com/store/apps/details?id=com.despdev.quitsmoking>



Competitive Analysis (4/10)

Quit Smoking Apps



EasyQuit

Android rating: 4.8 stars

Price: Free

With this app, you can watch all aspects of your health improve, from your blood circulation and oxygen levels to your senses of taste and smell. Use the slow mode to help you stop smoking slowly, with a customized plan just for you. Earn badges as rewards and try the memory game when cravings strike.

Link: <https://play.google.com/store/apps/details?id=com.herzberg.easyquitsmoking>



Quit Genius

iPhone rating: 4.5 stars

Price: Free

This app uses behavioral modification tools based on the ideas behind Cognitive Behavioral Therapy (CBT) to help you gain control over your own actions as you try to quit. Rather than forcing you to quit right away, the app allows you to set your own goals for quitting. The app then rewards you by telling you how much money you've saved, how many years of your life you've regained, and offers tools that can help you slowly but surely reach the finish line of quitting.

Link: <https://apps.apple.com/us/app/quit-genius-quit-smoking/id1234288038>



Competitive Analysis (5/10)

Addiction Quitting Apps



Pear reSET

Price: Free

The reSET app guides users through a series of engaging lessons that help guide them through recovery. Users complete the lessons at their own pace and take a quiz after completing each lesson to receive virtual rewards.

Link: <https://peartherapeutics.com/products/reset-reset-o/>



Smoke Free

iPhone rating: 4.9 stars

Android rating: 3.8 stars

Price: Free

Sober Grid allows you to create online profiles and interact, support, and engage with other people in recovery using a platform similar to Facebook. A unique feature of the app is the "Daily Quests," which are small things you can do throughout your day to improve your mood and reduce negative thinking, such as reading daily inspiration or adding something to a gratitude list. Users can track their personal sobriety, keep a virtual journal, monitor your triggers, and connect with peers who are also on the journey of recovery.

Link: <https://www.sobergrid.com/>



Competitive Analysis (6/10)

Addiction Quitting Apps



Nomo – Sobriety Clocks

iPhone rating: 4.8 stars

Android rating: 4.7 stars

Price: Free

Nomo can be a great tool for people who are supporting someone through recovery. Key features include: Your own sobriety clock, which helps you easily track your days in sobriety. Ability to share your sobriety clock with people who are supporting your recovery, such as friends, family, partners, coaches, or counselors. Ability to message an accountability partner if you are feeling triggered to use. There is also a “distraction” feature that serves as a simple refocusing tool to help give you strength during a moment of weakness.

Link: <https://saynomo.com/>



Competitive Analysis (7/10)

Similar Concept Games

Among Us

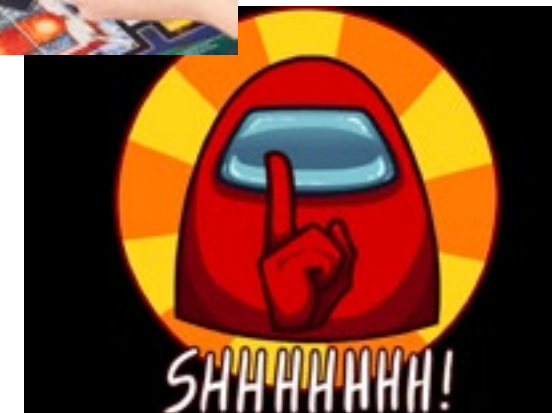
Players work together to fix their crumbling spaceship while figuring out who the imposters are.

Werewolf/ Mafia

The game models a conflict between two groups: an informed minority (the mafiosi or the werewolves), and an uninformed majority (the villagers). The game continues until a faction achieves its win condition; for the village, this usually means eliminating the evil minority, while for the minority this usually means reaching numerical parity with the village and eliminating any rival evil groups.

Cluedo

The object of the game is to determine who murdered the game’s victim, where the crime took place, and which weapon was used.



Competitive Analysis (8/10)

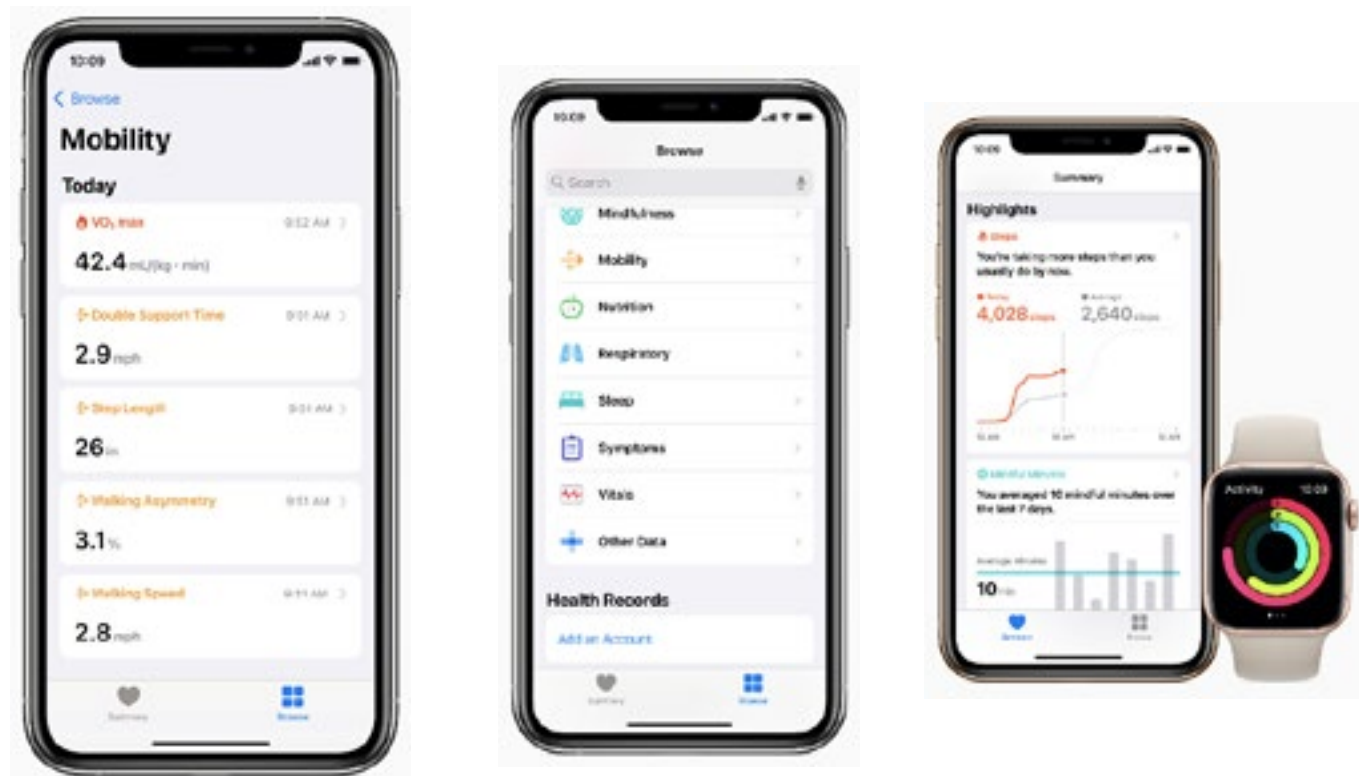
Apple Watch Habit Tracker

iOS Health

The Health app uses machine learning to determine the exercise minutes or vitals. Data shows how cholesterol or blood pressure has changed over the years. Even review your exercise activity for a day, week, or month.

The Health app can store a vast array of health data and sort through it with ease. Using the updated Search and Browse tabs, blood glucose, weight, heart rate, things like hearing health, and information about the users period are all right there.

With the accelerometer, gyroscope, and GPS, both Apple Watch and iPhone can track things like workouts, steps, and all-day activity. It also reveals more metrics like walking speed and walking asymmetry, that can give the users a better overall view of your health.



Competitive Analysis (9/10)

Contingency Management Apps



Bonusly

Every month, users get a Bonusly allowance.

With that allowance, users can give small bonuses to their peers, direct reports, and managers to recognize their contributions in real time. The dollar value is usually small, but the recognition is invaluable.



HealthyWage

HealthyWage offers weight-loss contests in which a team of employees can win as much as \$10,000.



Aherk!

Aherk is designed to help the users blackmail themselves. The users will provide Aherk with embarrassing pictures of themselves, and then a goal (say lose 10 pounds) they want to meet. If the users don't meet it by the deadline, that embarrassing photo is released onto their social networks.



Competitive Analysis (10/10)

Smoking Alternative

The primary research showed all the failed attempts made by users to quit smoking. The most used option was to keep themselves busy by developing a hobby.

But after a few weeks, they got back to smoking mostly due to daily routine and/or boredom.

E-Cigarette

Vaping

2 out of 13 users tried this method but failed to succeed.

'Vaping' Increases Odds of Asthma and COPD.

30.7% of e-cig users started smoking within six months.

Chew Cardamom

Chewing Gum

Sucking Peppermint Lozenges

4 out of 13 users tried this method but failed to succeed

Kept Themselves Busy

Tried To Stay Away From Other Smokers

10 out of 13 users tried this method but failed to succeed

Nicotine Patch

Nicotine Gum

Causes sleep disturbance and take months to quit

Quit Cold Turkey

Not an easy way and requires a lot of motivation and willpower



03.

Research

36 Secondary Research

39 Primary Research

Secondary Research

Secondary Research

- Smoking Habits of High School Students Related to Intelligence and Achievement
- College Students' Smoking Behavior, Perceived Stress, and Coping Styles
- Social Smoking Among US College Students
- The dark side of marketing seemingly "Light" cigarettes: successful images and failed fact
- Is the Smoking Decision an 'Informed Choice'? Effect of Smoking Risk Factors on Smoking Beliefs
- Strategic Withdrawal from Cigarette Smoking
- Applying a Behavioral Economic Framework to Understanding Adolescent Smoking
- Behavioral changes were seen after sleep learning: Rotten egg smell blended with cigarette smell helps smokers' quit
- Nudging Smokers
- Nicotine addiction and the unconscious brain



Insights & Significance

- Smoking cigarettes affect college students mentally and academically
- Misleading advertisements leads to smoking misperceptions among youngsters
- Busy schedule keeps smoking under control
- Unconscious brain associates smoking with daily habits and rituals even if there is no nicotine hit
- Nudging smokers leads to behavioral changes

Primary Research



Interviewees

Indian students at Thomas Jefferson University who smoke cigarettes

Smoke an average of 4 to 9 cigarettes per day

Information Collection Goals

- Smoking Initiation
- Common Triggers
- How to Avoid Smoking
- Reasons to Quit Smoking
- Failed Methods

Survey Form Information Collection Goals

- Confirm the belief that most of the Indian students tend to live among their own community
- Has smoking increased post coming to the USA?
- Reasons for the increase in smoking
- Measure the competitiveness of the Indian students

Form Link: <https://docs.google.com/forms/d/e/1FAIpQLSc6xVdfxwg003UQ6PjDhJubqFhnZMVbxSRxmPmgfLdNIE4Ow/viewform>

The image shows a screenshot of a Google Forms survey titled "Thesis Survey". The survey contains three questions, each with three radio button options: "Yes", "No", and "N/A".

- Question 1: "On a usual day, you cook with flatmates or flatmates help you in some way or the other in cooking." Options: Yes, No, N/A.
- Question 2: "On a usual day, you eat your food with flatmates." Options: Yes, No, N/A.
- Question 3: "For smokers, you normally smoke with your flatmates or with someone, rather than smoking alone." Options: Yes, No, N/A.

Questions

Q1. How many cigarettes did you smoke yesterday? How many cigarettes did you smoke last week?

(This determines the level of addiction)

Q2. At what age did you start smoking? What was the reason behind it?

(This will help me understand the relationship between addiction and smoking at a younger age, and also the reason for its initiation)

Q3. When was the last time you smoked with someone? When was the last time you smoked alone?

(This will help determine how much group smoking influences a smoker)

Q4. Tell me the time when you had the urge to smoke, and you did not have a cigarette. What did you do?

(This will help me understand how they cope with no cigarette in hand)

Q5. Tell me about the last time when you smoked the least number of cigarettes or you did not smoke the whole day. What was the reason? How did you cope up with it?

(This will help understand what leads to a decrease in smoking)

Q6. Tell me about the last time when you considered quitting? How did it go? Why did it fail?

(This will give me insights on the failed methods)

Q7. Why did you consider quitting the cigarette?

(This will determine the reason behind the change of mind)

Q8. I want to know more about your last three times you smoked a cigarette. What were you doing before you smoked the cigarette? Why did you get the urge to smoke?

(This will determine the emotion that triggers smoking)

Q9. Where do you get your cigarettes from? Who pays for it?



Interview Takeaways

First Cigarette

- Transition from High School to College
- **It was considered cool (most common reason)**
- Friends started smoking and influenced me • Personal problems and stress
- Movie influence

Smoking Triggers

- When meeting with friends
- While consuming alcohol at a party
- **Part of the morning routine. They have chai tea and cigarette and sometimes after lunch too (most common reason)**
- Free time, boredom

Reasons to Skip Smoking

- Busy with exams
- Focussed on a project
- Couldn't buy cigarettes due to pandemic
- **Strict schedule, so no time to smoke (most common reason)**

Reasons to Quit Smoking

- Had asthma problems
- Was not able to workout properly
- **Breathing problems (most common reason)**
- Affected the non-smokers around
- Aware that it was not healthy



Key Takeaways

1 out of 13 interviewees was able to quit smoking successfully. It is because he had a severe asthma attack while smoking.

It takes visible health problems for one to quit cigarettes.

A smoker has to go through severe health issues for an extended period to quit cigarettes. If the health issue is short term, it leads to smoking relapse.

Having someone to quit smoking by worsening their health is not advisable.

Smoking has become an unconscious behavior.

Due to their daily habits and rituals, people smoke cigarettes even if they do not have the urge to do so. They smoke because their flatmates, friends, or colleagues nudge them to smoke with them.

All flatmates drink chai tea and some a cigarette together. It has become a part of their morning and evening routine.

Survey Takeaways

An average Indian student who come to the USA for further studies tend to live among their own community.

They tend to do everyday activities together.

Like cooking, eating and grocery shopping.

Each person has an influence on the other. A smoker can easily influence non-smokers to start smoking.



04.

Experience Design

- 45 User Overview
- 46 Personas
- 47 Storyboard

User Overview

Goals

- Quit smoking
- Help

Needs

- A community to help to quit
- Contingency management

Challenges

- Peer Pressure
- Always available cigarette
- Influence each other to smoke more



Personas

Sporty Sameer

Age: 25
Location: Philadelphia, PA, Lives with flatmates
Profession: Pursuing master's degree from Thomas Jefferson University

Biography: Sporty Sameer is an international student in the USA. This is the first time Sporty Sameer is staying away from his family. This makes him feel that he is now an adult and can do anything that he wishes. He started smoking along with his flatmates.
 Since smoking cigarette has now become a daily routine in Sporty Sameer's life, he smokes at regular intervals even if he has no urge to smoke.
 Sporty Sameer like to play cricket and makes time to play whenever he can. Off lately Sporty Sameer gets tired soon while playing cricket.

Goals: To quit smoking and being able to play sports without any health issues.

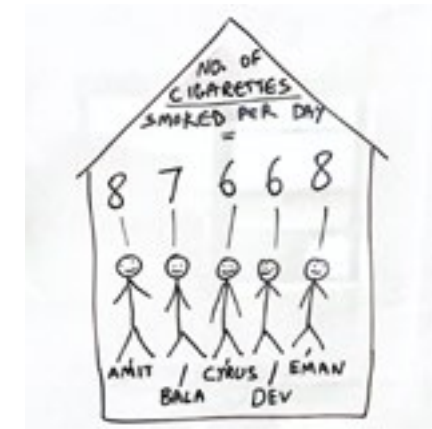
Pain Points: Difficulty in breathing while playing sports. Smokes with flatmates that makes it difficult for him to quit smoking.

Quitting Methods Tried: Cold Turkey, Chewing gums



Health: ★★☆☆☆
Social Pressure: ★★★★★
Money: ★★☆☆☆

Storyboard - Preliminary (1/4)



Five friends, typically flatmates, decide to reduce smoking together. They chip in \$20 each to play the smoking adventure game.



Before the game begins, the players are asked to wear the Apple Watch whenever they are smoking, so that the app can collect and learn the smoking habits.



Once the Apple Watch learns the user's habits, it starts sending messages to the user to understand their patterns better.

Working Widisha

Age: 25
Location: Philadelphia, PA, Lives with flatmates
Profession: Working in a multinational company

Biography: Working Widisha is an Indian woman working in a multinational company in the USA. Working Widisha has been smoking since the time she came to the USA for further studies. Whenever Working Widisha is stressed she smokes a cigarette. While working in the office, Working Widisha takes a lot of smoke breaks due to the office stress. Since Working Widisha is working she can afford to buy many boxes of cigarettes at a time. Working Widisha loses control of the the number of cigarettes she smokes in a day. Off lately Working Widisha has noticed that her cigarette intake and stress levels have increased a lot.

Goals: To have controlled smoking. Someone to monitor and provide statistics on the number of cigarettes smoked over time.

Pain Points: Lose control of the number of cigarettes smoked throughout the day.

Quitting Methods Tried: Nicotine Patches caused skin irritation, dizziness and racing heartbeat



Health: ★★☆☆☆
Social Pressure: ★★★★★
Money: ★★★★★



The app learns the habits and sets different parameters to accurately detect when the player is smoking.



The player can join the smoking adventure game once all the data is received, and the app can determine when the player is smoking.



The player can join the smoking adventure game once all the data is received, and the app can determine when the player is smoking.

Link to view the storyboard: https://drive.google.com/file/d/18Ub597inL6DK3y1lyj5r_79b46xKi2KN/view?usp=sharing



Storyboard - Preliminary (2/4)



In the morning, one player of the group receives a message that he/she is the DEVIL for the day.



The DEVIL can reduce other players' cigarette limit for the day, making it difficult for them. If the DEVIL reduces two cigarettes of any player, his cigarette limit for the day reduces by 1.



Here BALA is the DEVIL, and he can see other player's cigarette intake for the day. He has the option to increase and decrease their cigarette limit for the day.

Storyboard - Preliminary (3/4)



DEV accepted he is smoking, and \$1 is deducted from his account. Here only 5 points are removed from his account.



AMIT gets a message saying that he is the top scorer right now, and if he continues to be, he could win at least half of the penalties collected so far. This motivates AMIT to continue to avoid smoking as much as possible.



The Dashboard shows the penalties collected, the player's balance, the cigarette limit, cigarette smoked, and the amount deducted from his account.



The DEVIL has reduced other players cigarette limit for the day. In total, the DEVIL reduced 8 cigarettes from all the players. This reduces the DEVIL's limit by 4 cigarettes, and he can have only 2 cigarettes on that day.



Here DEV is trying to smoke using his other hand without the Watch. But the other data suggests that there is a possibility that he is smoking.



DEV tapped NO, hence \$0.60 is deducted from his account. But he suffered a loss of 6 points, which decreases his chance of winning.



The scoreboard displays all the scores and the top scorer for the day. Here we can see that AMIT is winning the game.



AMIT gets half of the penalties collected. The other half will go in the DEVIL's guessing game.



The players talk about their experience for the day and discuss who could be the DEVIL.

Link to view the storyboard: https://drive.google.com/file/d/18Ub597inL6DK3y1Iyj5r_79b46xKi2KN/view?usp=sharing



Link to view the storyboard: https://drive.google.com/file/d/18Ub597inL6DK3y1Iyj5r_79b46xKi2KN/view?usp=sharing



Storyboard - Preliminary (4/4)



They cast their vote based on the stories and the discussion.



The players successfully guess the DEVIL, and the remaining amount gets shared between the players, excluding the DEVIL.

05.

Visual Design

- 52 Mood Boards
- 55 Branding
- 56 Style Guide
- 57 UI Kit

Link to view the storyboard: https://drive.google.com/file/d/18Ub597inL6DK3y1Iyj5r_79b46xKi2KN/view?usp=sharing



Mood Board

Mood Board Version 1



Green is the most commonly associated color in the United States and Europe with springtime, freshness, and hope. Green is often used to symbolize rebirth and renewal, and immortality. The focus is more towards minimalism and not complicate the app since it has a lot of features.



Mood Board Version 2



Blues and greens create a calming atmosphere. Green is calming, optimistic, Blue is often described as peaceful, tranquil, secure, and orderly. Red inspires passion, power, and energy.



Branding

The logo icon represents the community holding onto each other and helping each other go through both good and bad times of life.



#97FFB4
#3BD266
#129738



#0141DF



#22262F




#B7B5B8




Style Guide

Colors


Primary Colors



Secondary Color



Tertiary Colors



#97FFB4
#3BD266
#129738

#0141DF
#0172C3

#B7B5B8

#22262F

#B7B5B8

Typography

Lorem Ipsum
Avenir Black

Lorem Ipsum
Avenir Heavy

Lorem Ipsum
Avenir Book

Headings

Avenir Heavy 14 16 18 22
Avenir Black 14 16

Body

Avenir Book 12.5 14 16

Buttons

Avenir Book 16 20
Avenir Black 18





Links




Avenir Book 16
Avenir Heavy 14 16

App Icon



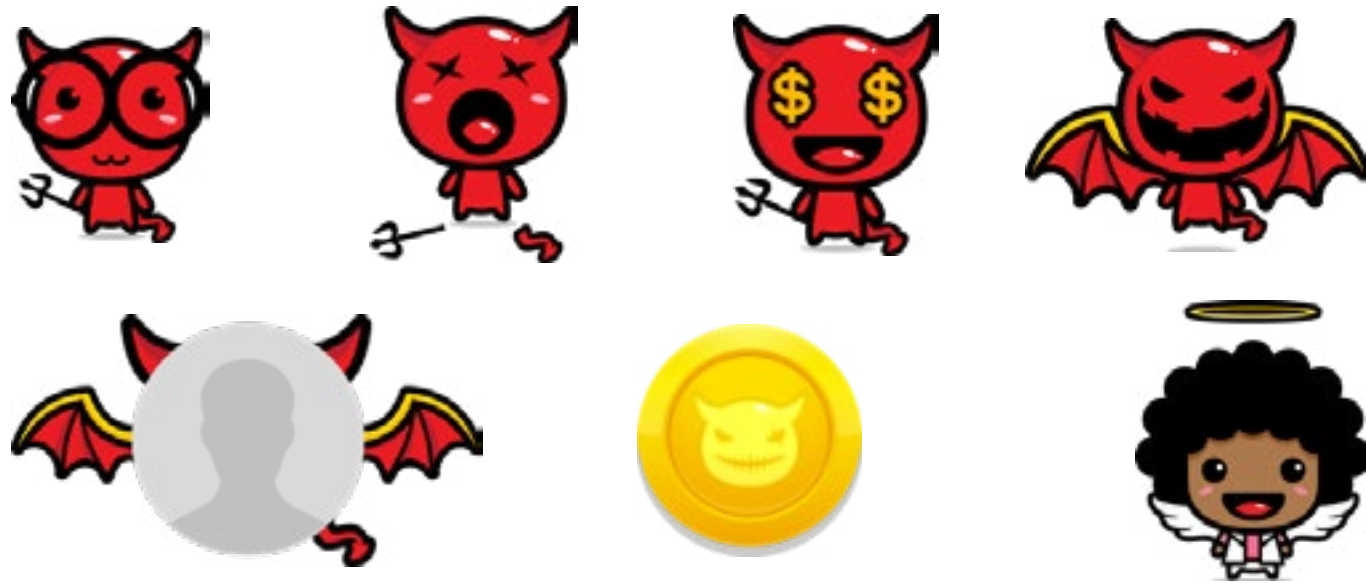
UI Kit

UI Kit

Main Characters



Secondary Characters

This helps the main character stand out from the other characters.



05.

Structural Development

- 50 Moscow Method
- 64 Survey - Onboarding Card Sorting
- 66 UI Mockup - Onboarding
- 67 Sitemap
- 68 Point System
- 69 Amount Penalty
- 71 Point System & Amount Penalty

MoSCoW Method - Trigger

Based on the user interviews' feedback, a list of features was created to help smokers quit smoking and characteristics that would help avoid smoking withdrawals. Also, added features on how the Apple Watch would be used to detect smoking.

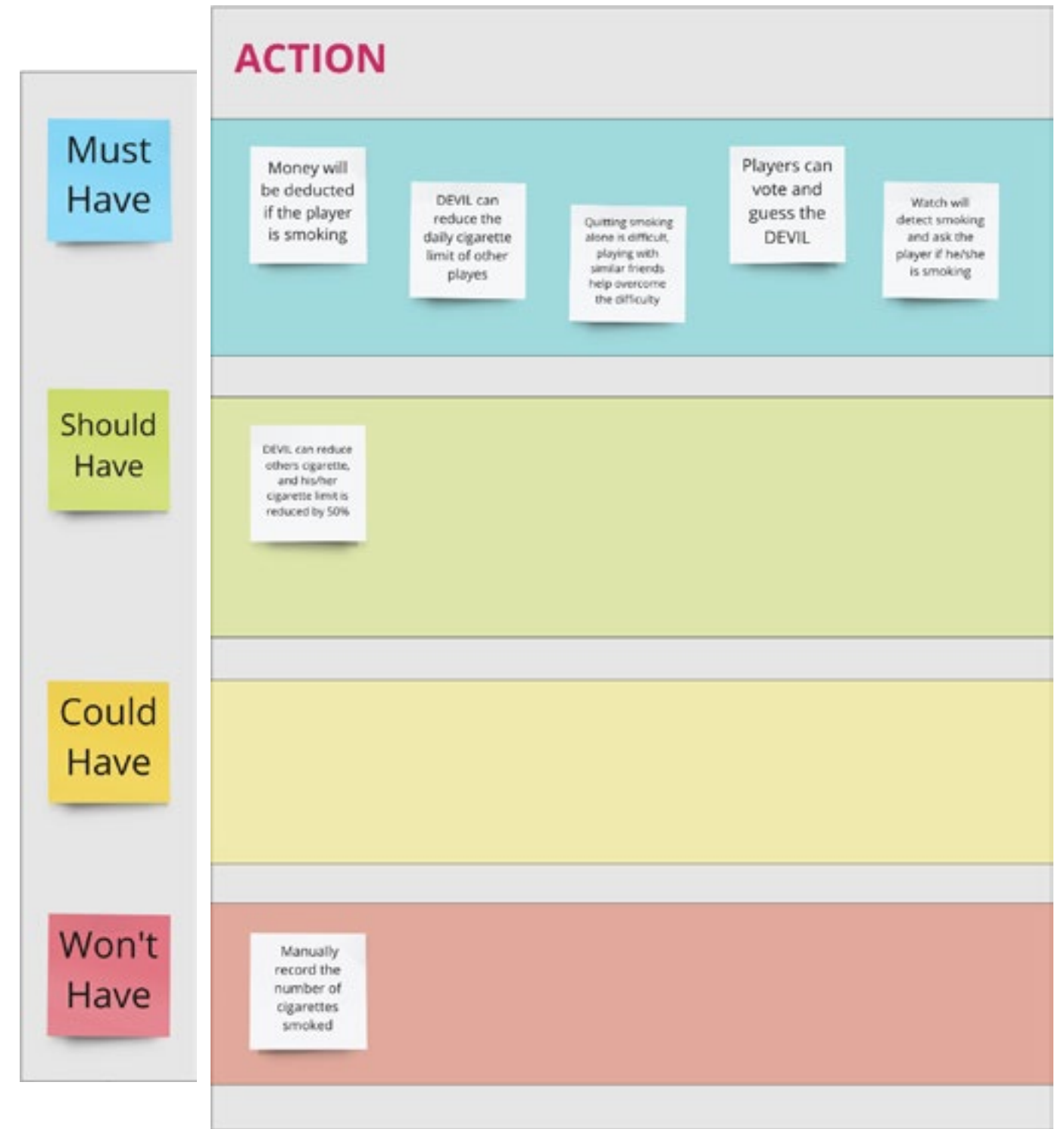
Link to view MoSCoW on Miro: https://miro.com/app/board/o9J_kksTEdE=



MoSCoW Method - Action

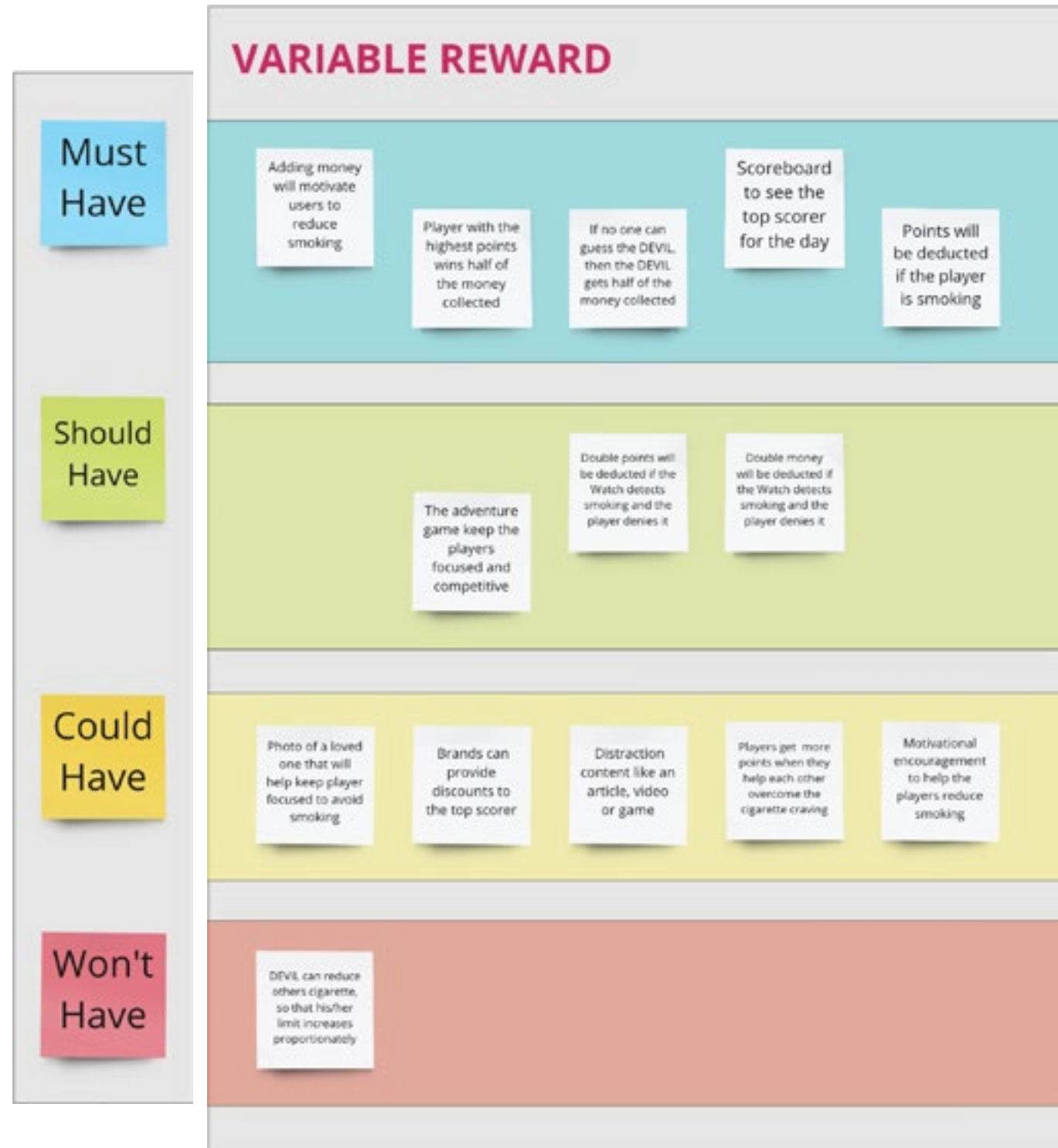
Features like Devil voting, reduce the smoking limit, points deduction, track smoking habits, and smoking penalties were distributed into four categories, based on the MoSCoW method: must have, should have, would have, and could have.

Link to view MoSCoW on Miro: https://miro.com/app/board/o9J_kksTEdE=



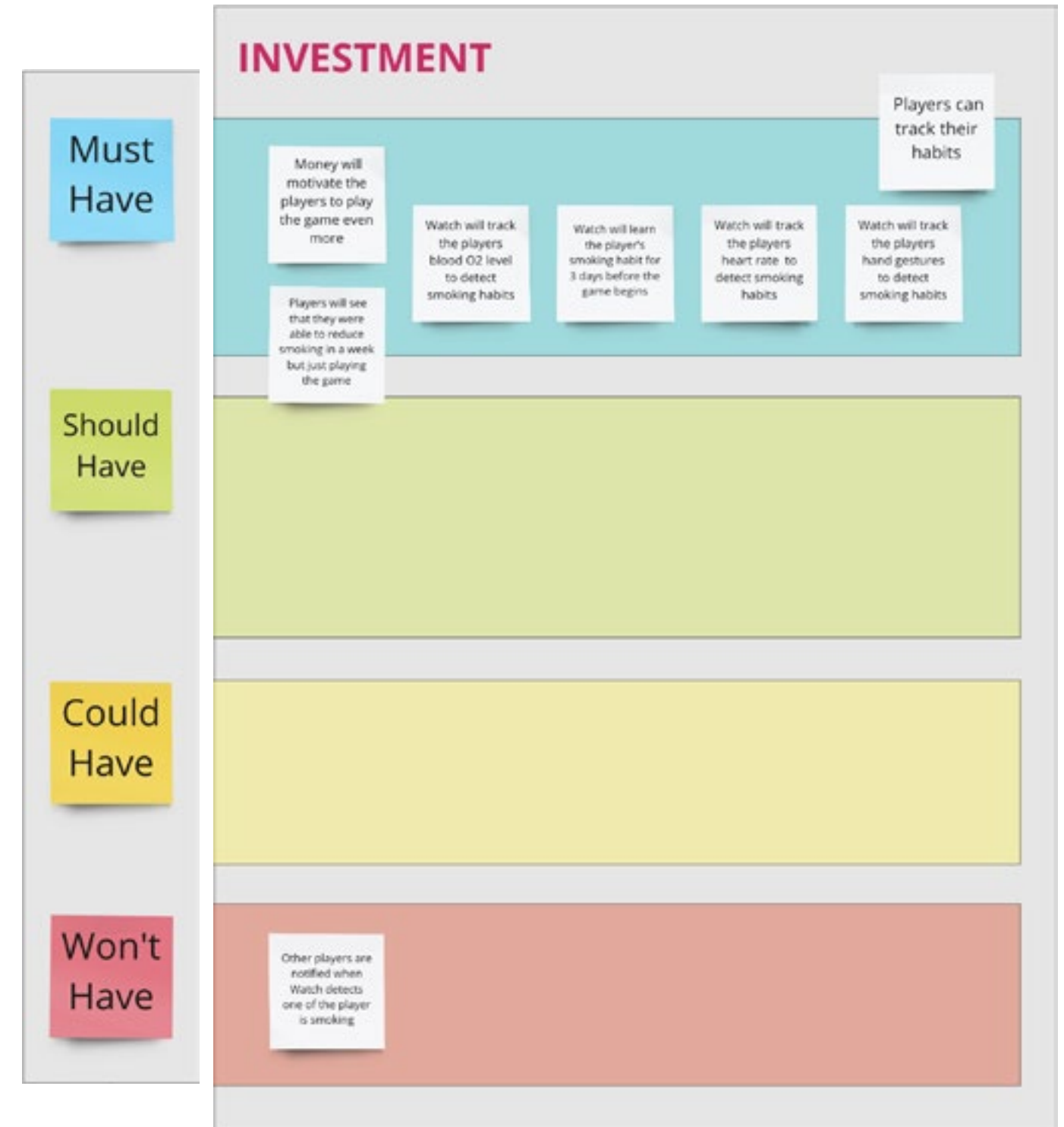
MoSCoW Method - Variable Reward

Link to view MoSCoW on Miro: https://miro.com/app/board/o9J_kksTEdE=



MoSCoW Method - Investment

Link to view MoSCoW on Miro: https://miro.com/app/board/o9J_kksTEdE=



Survey - Onboarding Card Sorting

For new users, understanding the game concept is an important thing. The onboarding process needs to explain each feature and be clear and concise. Each important feature was printed on 25 cards, different cards. Various combinations of the cards were created and presented to five individuals to see if they fully understood the game's concept.

Smoke one cigarette post the limit and lose double the points and money	Bet at least \$20 in a 30-day game	All players deposit \$20 each	Smoking cigarettes will cost you cash and points	Each player gets a cigarette smoking limit for the day
The top scorer wins cash everyday	Compete with friends, flatmates, buddies or colleagues	Be the top scorer for the day to win money and other prizes	Smoke one cigarette post the limit and lose double the points and money	The twist
Every day one of you becomes the Devil	Everyday a random person becomes a Devil	Find the Devil. Unless, of course, the Devil is you!	Identify the Devil to win cash	If the Devil is found, then the players get the money
Fail to identify and the Devil wins the cash	If the Devil is not found, then the Devil get the money	The dollar gets accumulated in the bank	The devil can reduce your smoking limit for the day	Devil can reduce others cigarette limit
Bribe the Devil to increase your smoking limit	Smoke one cigarette and lose points and a dollar	By day 30 you will Smoke less cigarettes. Earn more cash.	Will it be easy? Maybe Will it be worth it? Absolutely	Let's begin

Survey Result - Onboarding Card Sorting

After many iterations, nine cards were selected that best explained the game in the onboarding process.

Smoke less cigarettes. Earn more cash	Bet at least \$20 in a 30-day game	Smoking cigarettes will cost you cash and points	The top scorer wins cash everyday
Every day one of you becomes the Devil	The devil can reduce your smoking limit for the day	Identify the Devil to win cash	Fail to identify and the Devil wins the cash
By day 30 you will Smoke less cigarettes. Earn more cash.			



UI Mockup - Onboarding

Created graphics for each onboarding card



Smoke less cigarettes.
Earn more cash



Bet at least \$20 in a 30-day game



Smoking cigarettes will cost you cash and points



The top scorer wins cash everyday



Every day one of you becomes the Devil



The devil can reduce your smoking limit for the day



Identify the Devil to win cash



Fail to identify and the Devil wins the cash

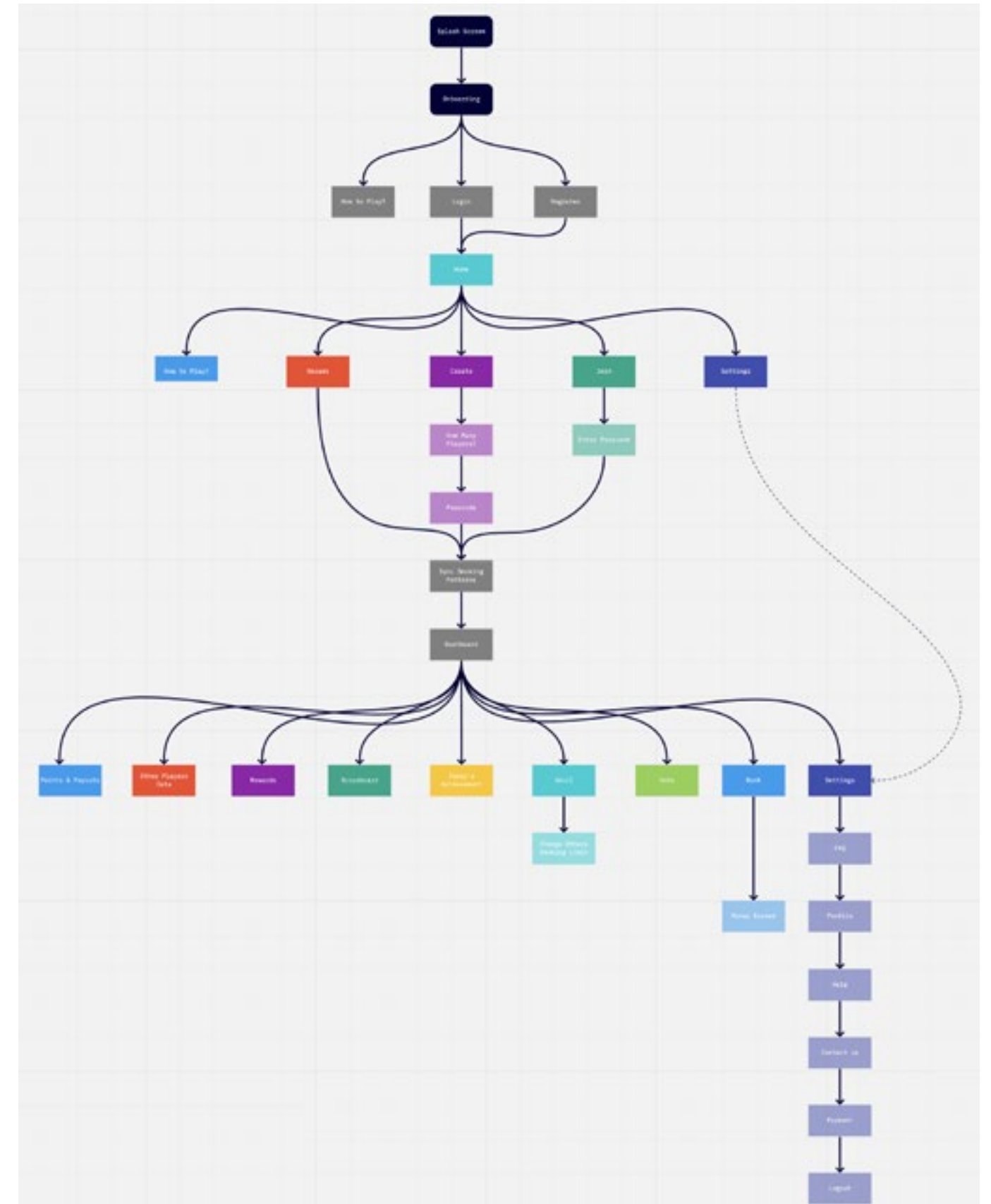


By day 30 you will
Smoke less cigarettes.
Earn more cash.



Sitemap

Link to view the sitemap on Miro: https://miro.com/app/board/o9J_kksTEdE=/



Point System Version 1

Each player gets 100 points at the start of the day. Score resets every night at 12:00 am.

Under the daily limit

Watch detected smoking and player agreed

-5
5 points deducted

Watch detected smoking but player denied

-(%/10)
Points deducted will be one-tenth of the probability of smoking detected by the watch

For example: If the watch detects that there is an 80% probability that the player was smoking, then -8 points will be deducted

After exceeding the daily limit

-10
10 points deducted

-10 - (%/10)
Points deducted will be ten points and one-tenth of the probability of smoking detected by the watch

For example: If the watch detects that there is an 80% probability that the player was smoking, then -10-8 equals 18 points will be deducted points will be deducted

Amount Penalty Version 1

Each player gets 100 points at the start of the day. Score resets every night at 12:00 am.

Under the daily limit

Watch detected smoking and player agreed

\$1
\$1 deducted

Watch detected smoking but player denied

\$(%/100)
Amount deducted will be one-hundredth of the probability of smoking detected by the watch

For example: If the watch detects that there is an 80% probability that the player was smoking, then \$0.8 will be deducted

After exceeding the daily limit

\$1.5
\$1.5 deducted

\$1.5+\$(%/100)
Amount deducted will be \$1.5 plus one-hundredth of the probability of smoking detected by the watch

For example: If the watch detects that there is an 80% probability that the player was smoking, then \$1.5+0.8 equals \$2.3 will be deducted

Point System Version 2

Each player gets 100 points at the start of the day. Score resets every night at 12:00 am.

Watch detected smoking

Under the daily limit	After exceeding the daily limit
-5	-10
5 points deducted	10 points deducted

Amount Penalty Version 2

Each player gets 100 points at the start of the day. Score resets every night at 12:00 am.

Watch detected smoking

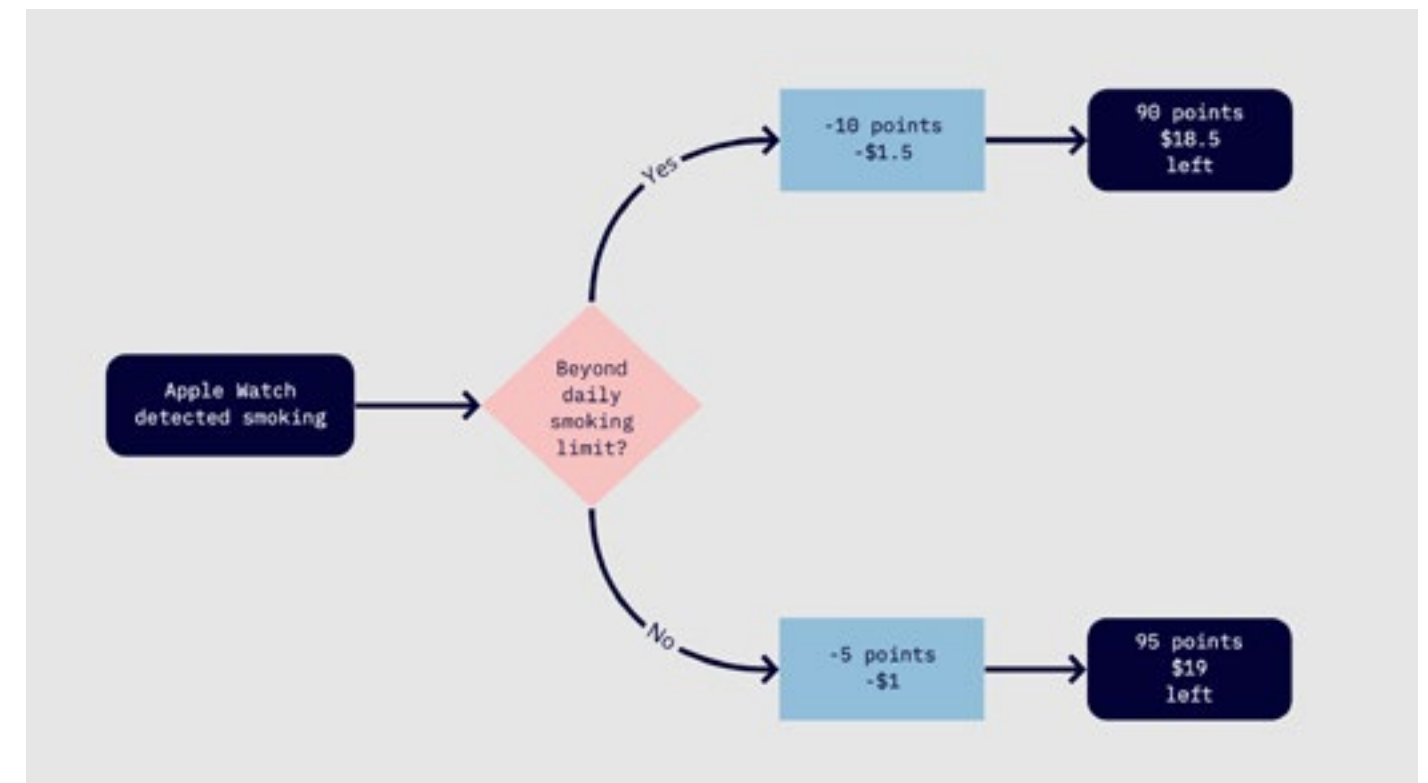
Under the daily limit	After exceeding the daily limit
\$1	\$1.5
\$1 deducted	\$1.5 deducted



Point System & Amount Penalty User Flow

Each player gets 100 points at the start of the day. Score resets every night at 12:00 am.

Each player starts with \$20 deposited in his account



06.

Low Fidelity Prototype

- 73 Low Fidelity Wireframes
- 82 Low Fidelity Wireframe Testing
- 83 Low Fidelity Wireframe Prototype
- 84 Low Fidelity Wireframe Feedback

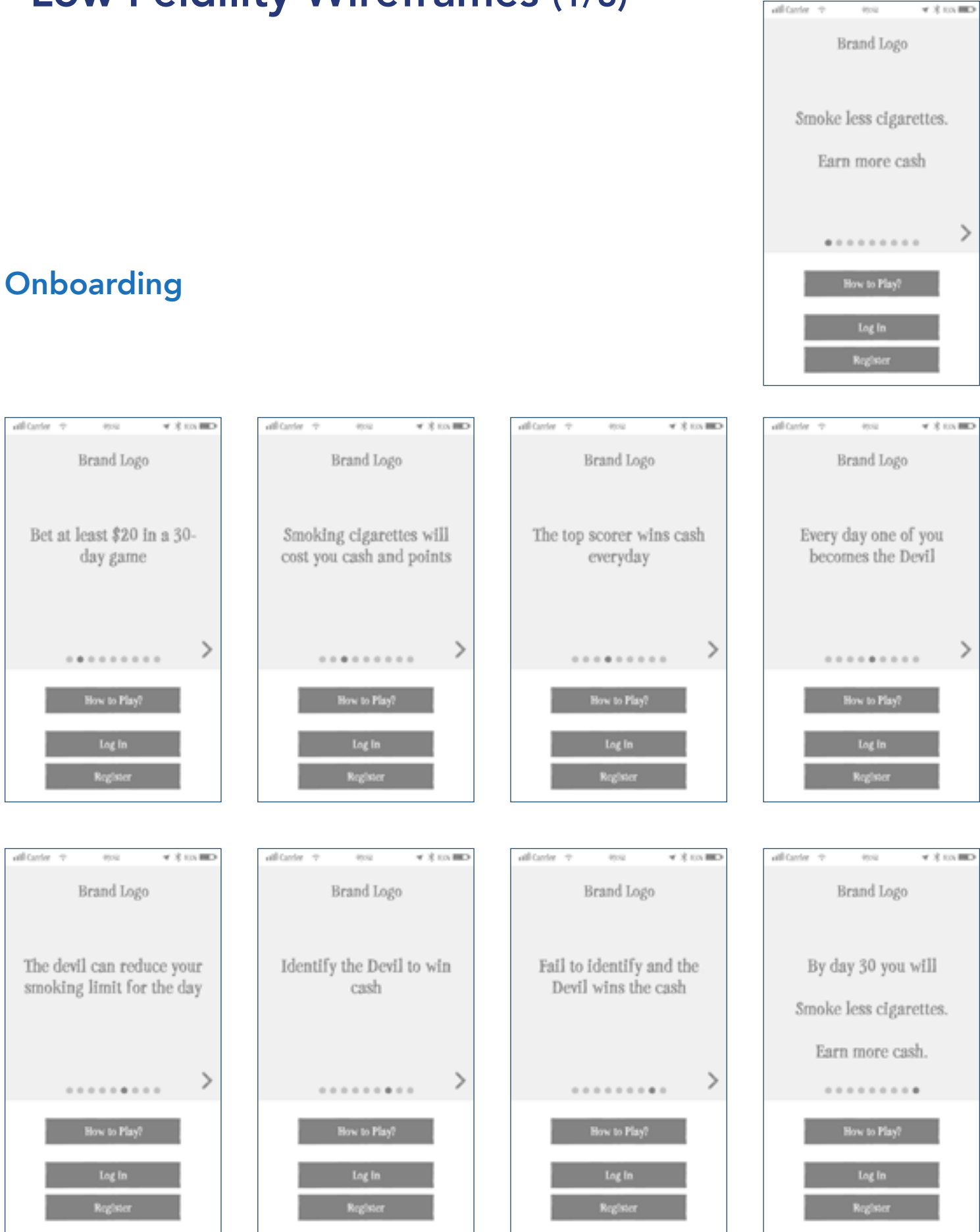
Low Fidelity Wireframes

All wireframes were created on Adobe XD



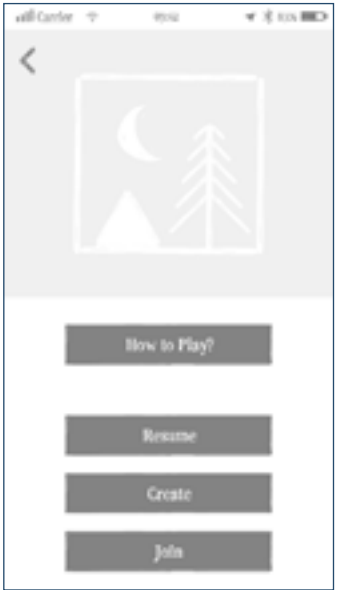
Low Feidility Wireframes (1/8)

Onboarding



Low Feidility Wireframes (2/8)

Start options



Join a room



Create a room



Enter passcode

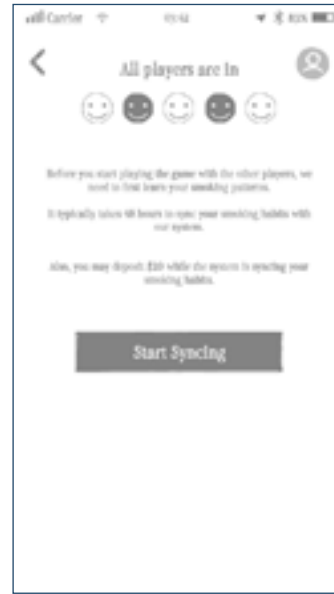


Low Feidility Wireframes (3/8)

Waiting for players



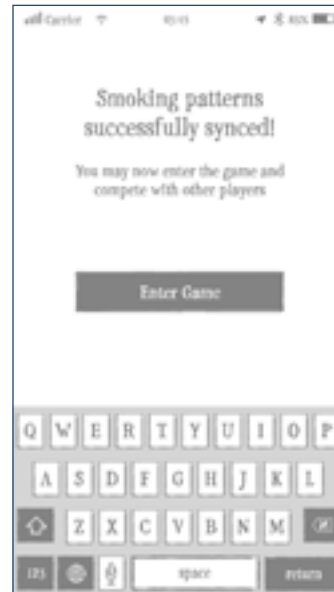
All players are in



Sync and deposit

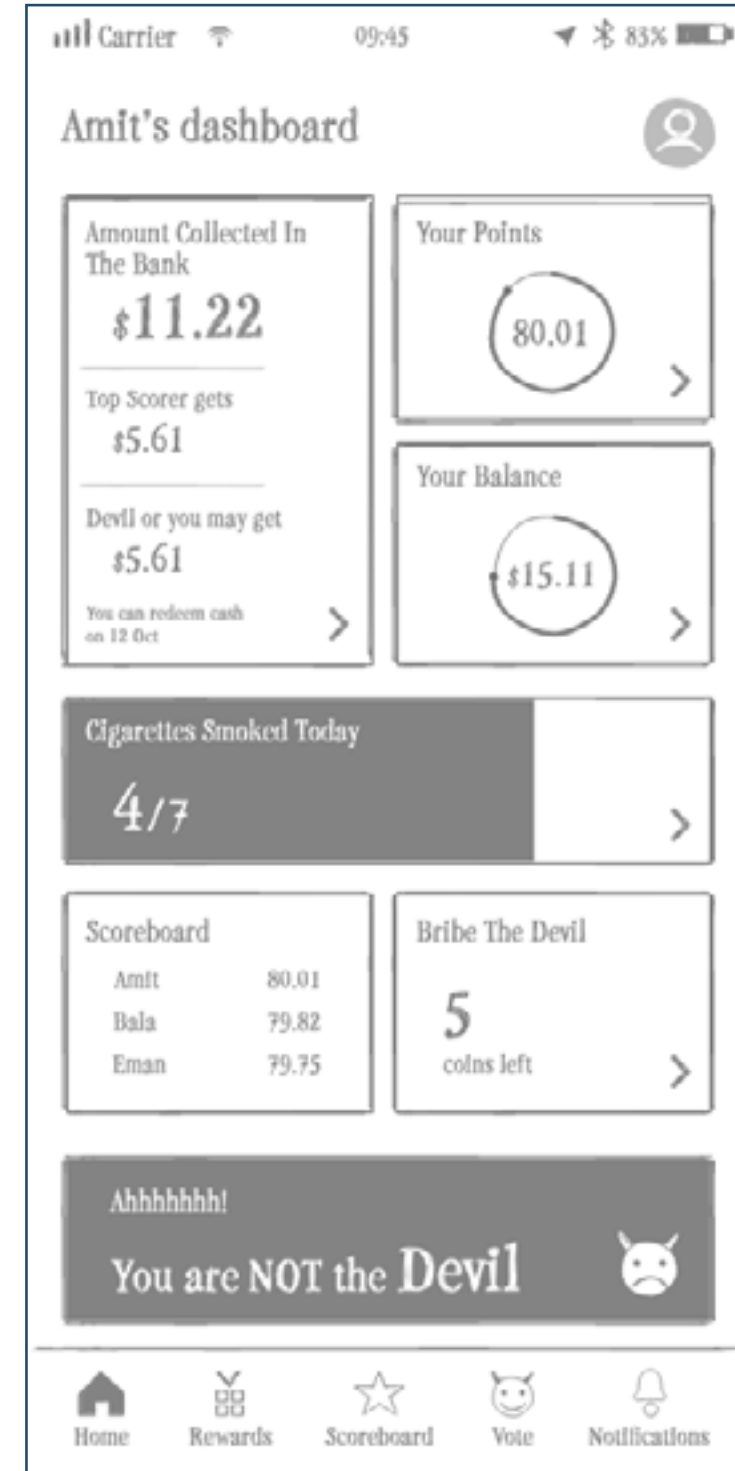


Sync successful



Low Feidility Wireframes (4/8)

Dashboard



Low Feidility Wireframes (5/8)

Points



Your activity



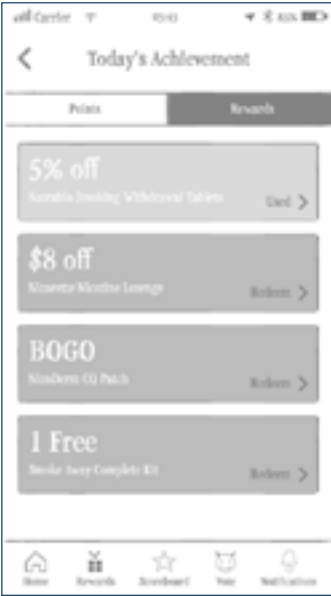
Devil's dashboard



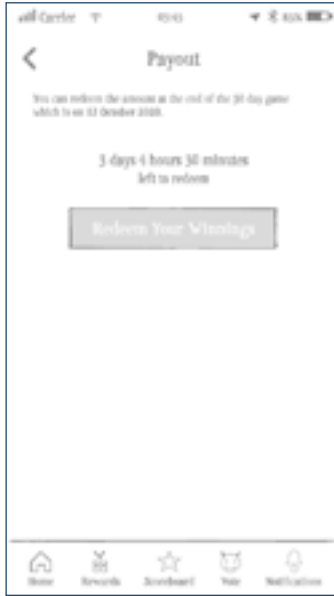
Cigarette limit



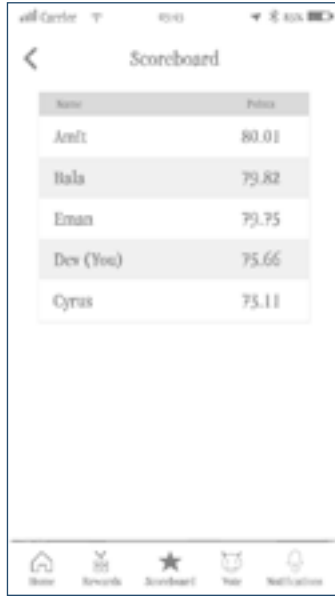
Rewards



Payout



Scoreboard



Low Feidility Wireframes (6/8)



Low Feidility Wireframes (7/8)

Bribe the Devil



Devil Bribed

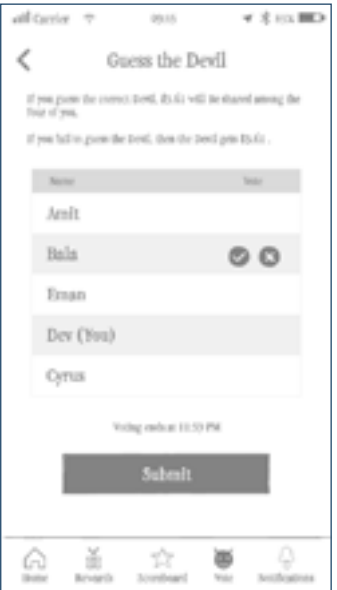


Low Feidility Wireframes (8/8)

Guess the Devil



Voting



Players voted



Voting results



Low Fidelity Wireframe Testing Strategy

Tested the low-fidelity prototype with four users. Explained all the features to the participants and asked them to go through the low-fidelity prototype.

At every screen, they were asked to describe what they saw and how the screens work. Where would they click to go to the next task?

This gives feedback on how the users would navigate through the app once they know the concept.

Testing was done in-person on a laptop. Participants were asked to think aloud.

Participants in this study were smokers who smoked between 3-8 cigarettes a day.

Total: 4 users (1 woman and 3 men) Ages: 21-28 years old



Low Fidelity Wireframe Prototype

Adobe XD was used to create the low-fidelity version of the prototype.

After the prototype was created, a link was created and shared with the participants for user testing.

Participants were able to access the prototype via the link and interact with the screens on the provided desktop devices.

Access prototype: <https://xd.adobe.com/view/96bbad5a-e104-4bb4-8184-f939913b3d6f-c3e8/>



Low Fidelity Wireframe Feedback

User comments and insights:

- Loved the concept
- Looks clear and crisp
- The screens look too small as compared to the newer iPhones. The screens need to be a bit longer to match iPhone 11 Pro Max.
- Waiting rooms could have images of people instead of smileys, so we know who has joined and who hasn't yet.
- The icons in the footer need labeling to it. I don't know what each icon means. (This was later added in the low-fidelity for further testing purposes)
- Add images in the onboarding process to make it more visual. There are so many onboarding processes; I will get bored reading everything. Visuals help to remember the processes.
- The concept is good, but a bit complicated. Onboarding should be a must for all new users. Put "Login" and "Register" buttons at the end; else, people will skip the onboarding process.
- The Devil feature is amazing. I keep playing "Among Us" and will play this game too, helping me quit smoking.



07.

Medium Fidelity Prototype

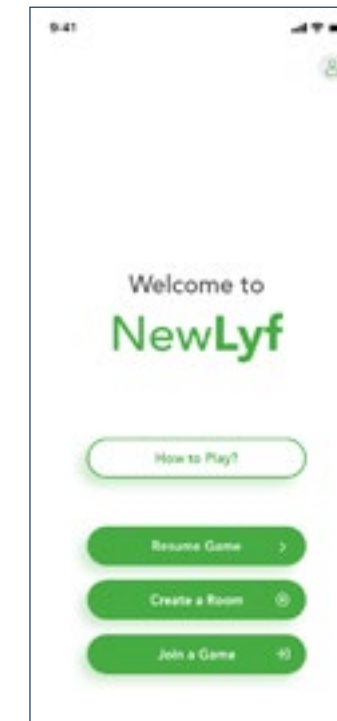
86	Medium Fidelity Wireframes
94	Medium Fidelity Wireframe Testing
95	Medium Fidelity Wireframe Prototype
96	Medium Fidelity Wireframe Feedback

Medium Feidility Wireframes (1/7)

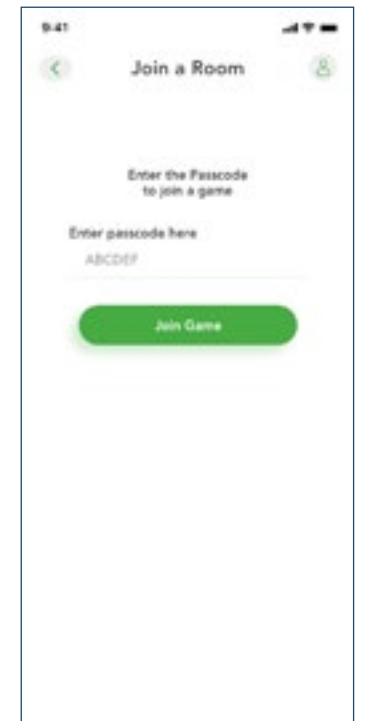
Login



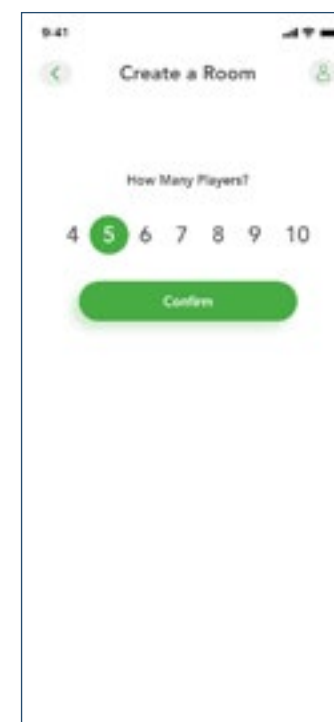
Start options



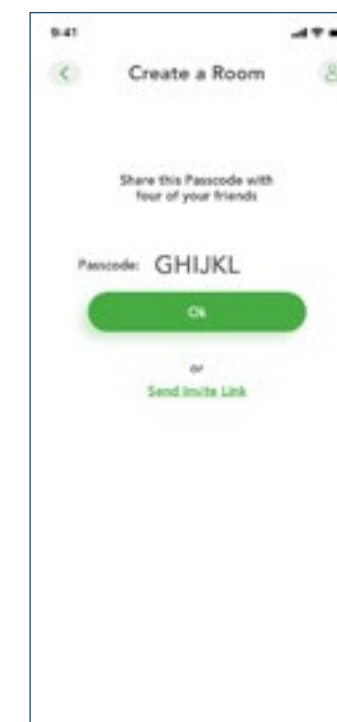
Join a room



Create a room



Passcode



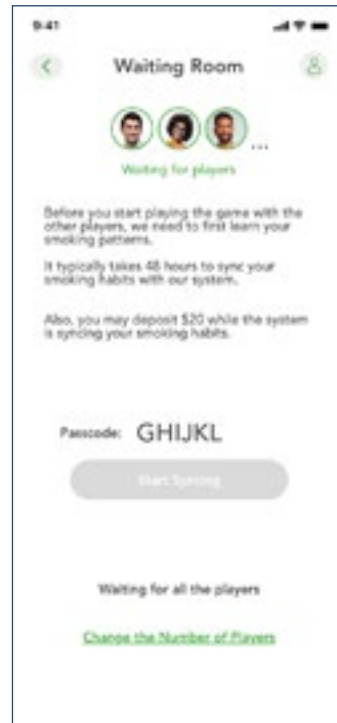
Medium Fidelity UI Mockups

All wireframes were created on Adobe XD

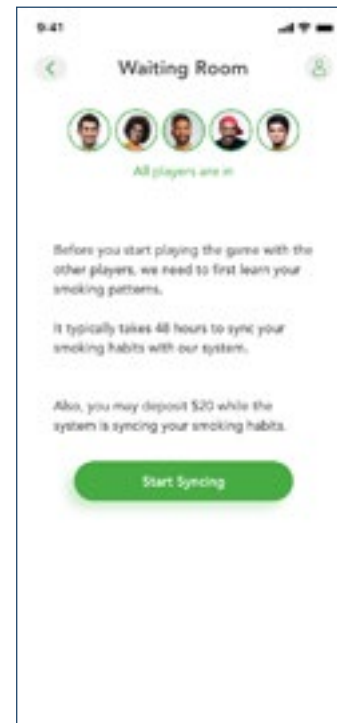


Medium Feidility Wireframes (2/7)

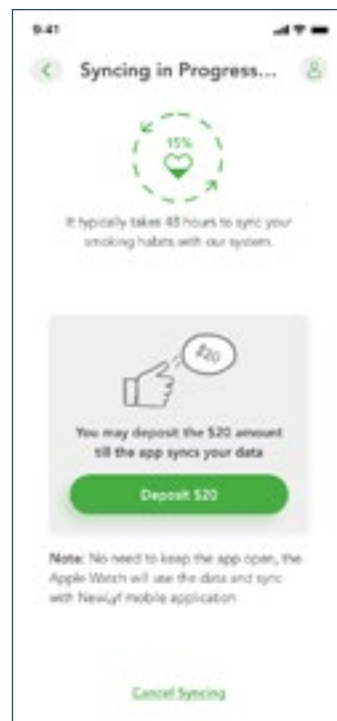
Waiting room



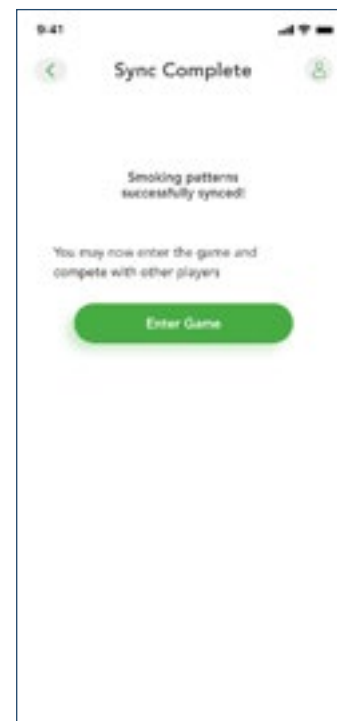
All players are in



Sync and deposit

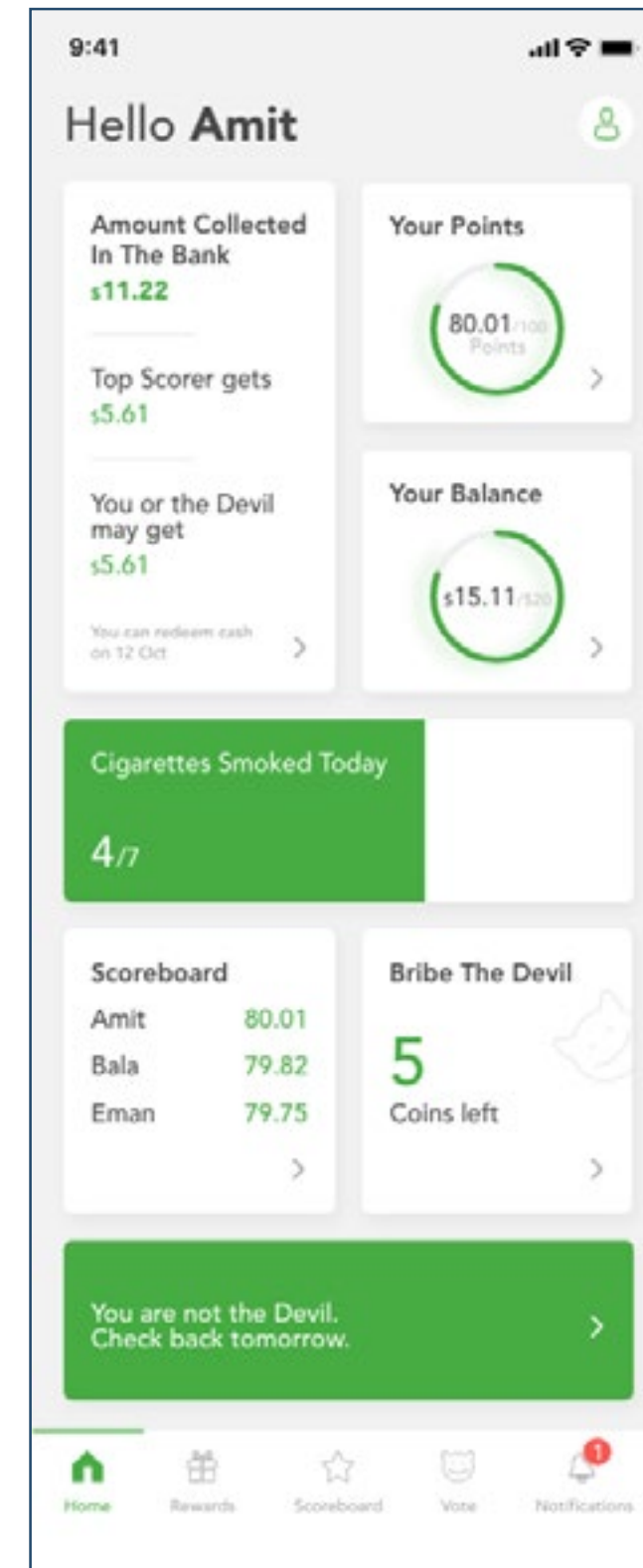


Sync successful



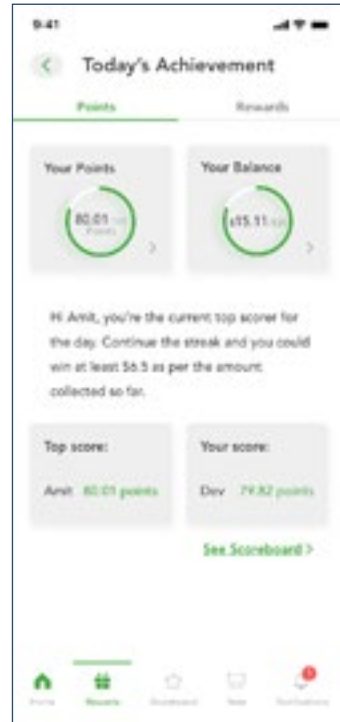
Medium Feidility Wireframes (3/7)

Dashboard



Medium Feidility Wireframes (4/7)

Points

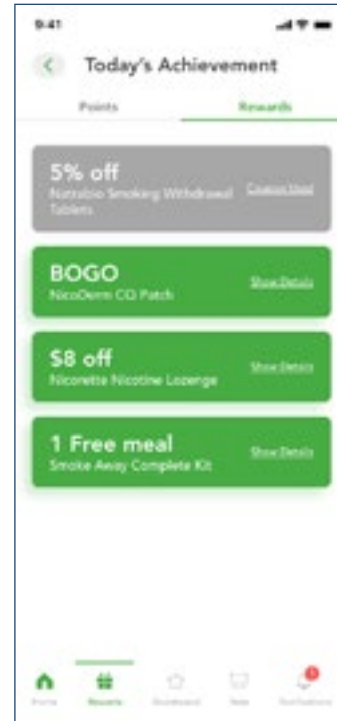


Your activity

Your Activity

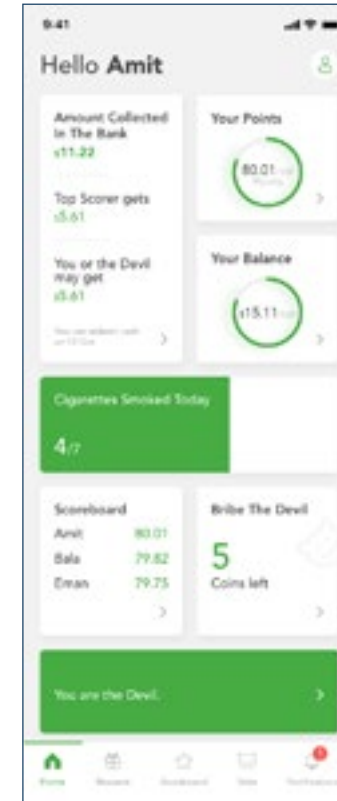
Time	Points	Balance
12:00	100	\$20.00
13:04	95.00	\$19.00
13:40	94.02	\$18.30
14:22	89.02	\$17.30
15:08	85.32	\$16.30

Rewards



Medium Feidility Wireframes (5/7)

Devil's dashboard



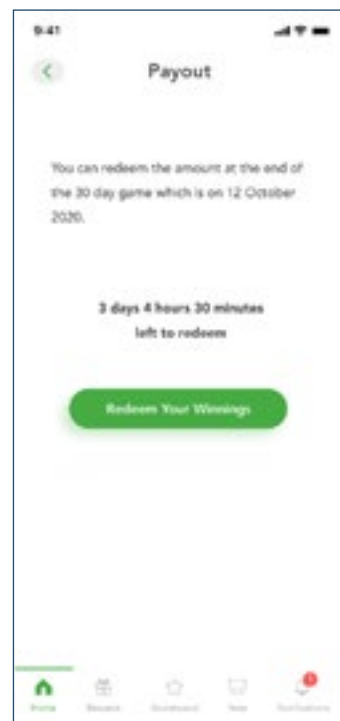
Cigarette limit

Devil's Dashboard

Name	Limit	New Limit
Amit	9	7
Bala	8	8
Eman	9	6
Dev	8	7

Hi, Mr. Devil, you have the power to reduce others cigarette limit for the day. Be aware that, for every two cigarettes that the you reduce, your cigarette limit is reduced by one.

Payout



Scoreboard

Scoreboard

Name	Points
Amit	80.01
Bala	79.82
Eman	79.75
Dev You!	75.66
Cyril	73.11



Medium Feidility Wireframes (6/7)

Bribe the Devil



Pay coins

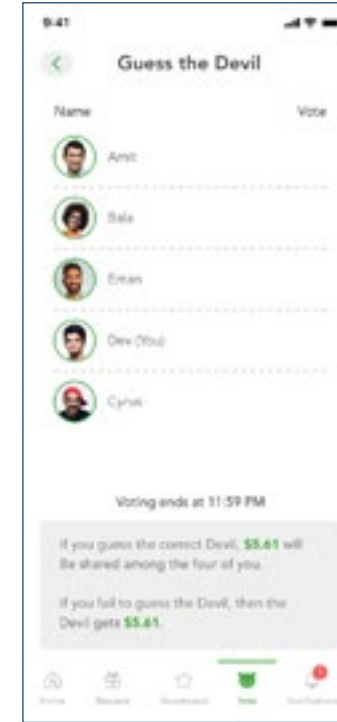


Devil bribed

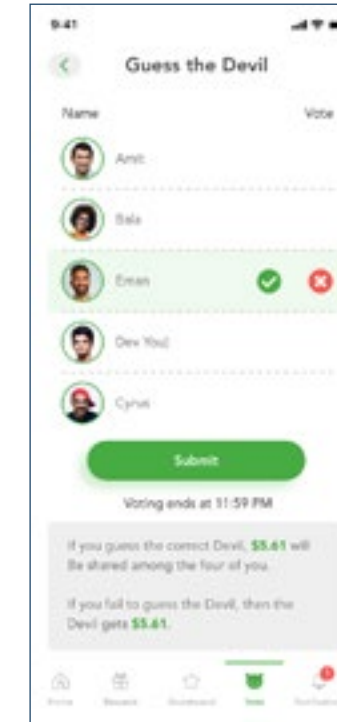


Medium Feidility Wireframes (7/7)

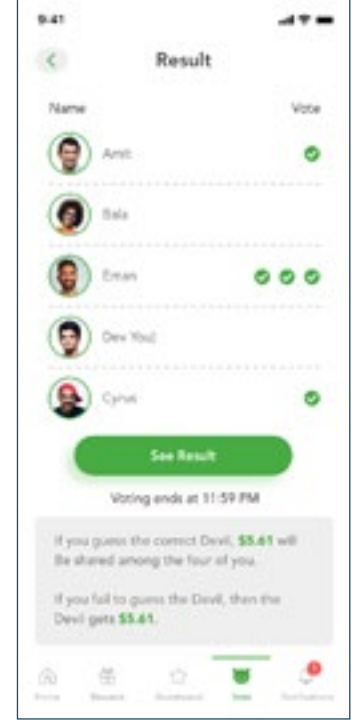
Guess the devil



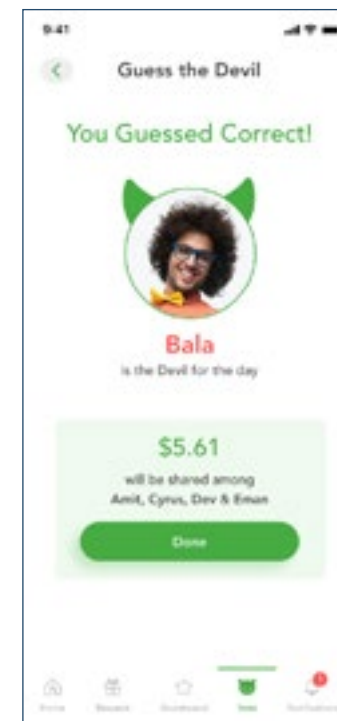
Voting



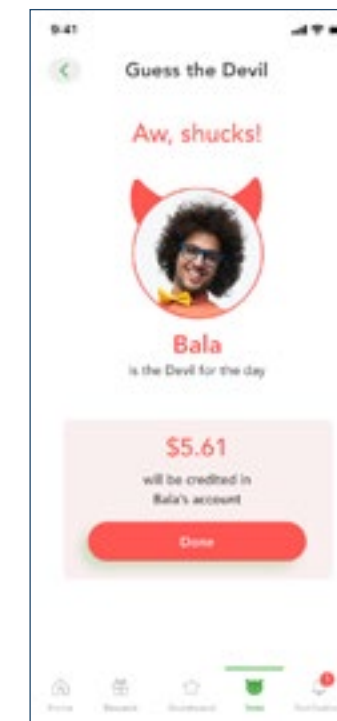
Voting result



Right guess



Wrong guess



Medium Fidelity Wireframe Testing Strategy

Tested the medium-fidelity prototype with five users by conducting exposure testing. Showed each of the participants the medium-fidelity prototype and asked them to go through each of the. This gives feedback from the first-time user's point of view.

Later, took their feedback, explained the game concept, and asked them to go through the app again. Now they are familiar with the app and knows how the app works.

Participants joined via the Zoom desktop app. Participants were asked to think aloud. This helps to know their actions and what they were talking about while performing the tasks.

Participants in this study were smokers who smoked between 3-8 cigarettes a day.

Total: 5 users (1 woman and 4 men) Ages: 21-28 years old



Medium Fidelity Wireframe Prototype

Adobe XD was used to create the medium-fidelity version of the prototype.

Screen dimensions used to design the screens were similar to the sizes of iPhone X, XS, 11 Pro.

After the prototype was created, a link was created and shared with the participants for user testing.

Participants were able to access the prototype via the link and interact with the screens on their desktop devices.



Medium Fidelity Wireframe Feedback

User comments and insights:

- The screens are too bland for a game. Add a contrasting color to make it look fun.
- If it is a game, it needs to be more vibrant with illustrations.
- Show a character to guide the users.
- Show some coins and illustrations when users are winning.
- Along with the person's name, show some personalized messages..
- Here are some links to other games that might be helpful to build a good engaging UI.



07.

High Fidelity Prototype

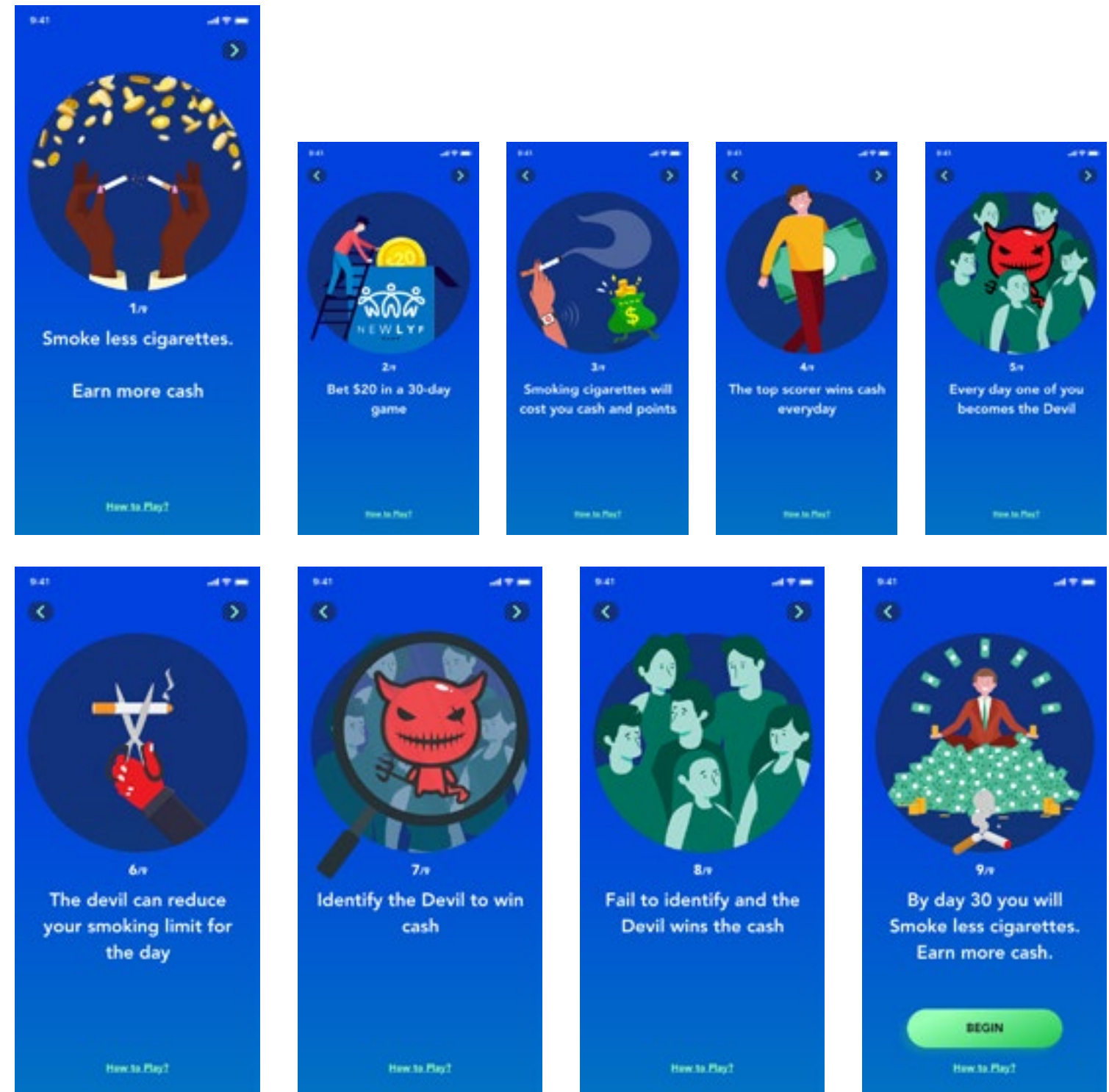
- 98 [High Feidility Wireframes](#)
- 108 [High-Fidelity Wireframe Testing](#)
- 109 [High-Fidelity Wireframe Prototype](#)
- 110 [High-Fidelity Wireframe Testing](#)
- 112 [High-Fidelity Wireframe Feedback](#)
- 113 [Future Recommendations](#)
- 114 [High-Fidelity Annotated Links](#)

High Fidelity UI Mockups

All wireframes were created on Adobe XD

High Feidility Wireframes (1/9)

Onboarding



High Feidility Wireframes (2/9)

High Feidility Wireframes (3/9)

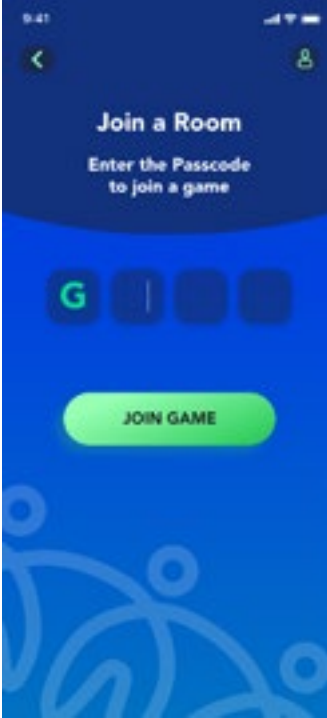
Login



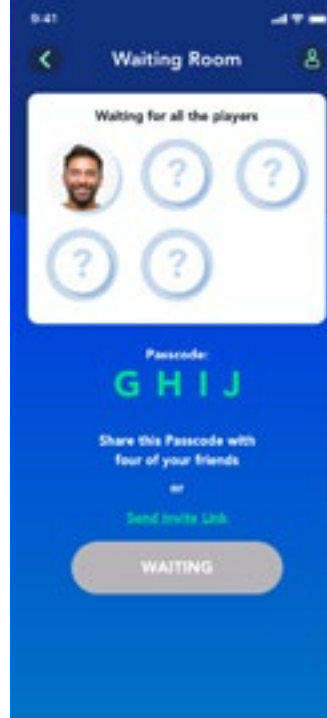
Start options



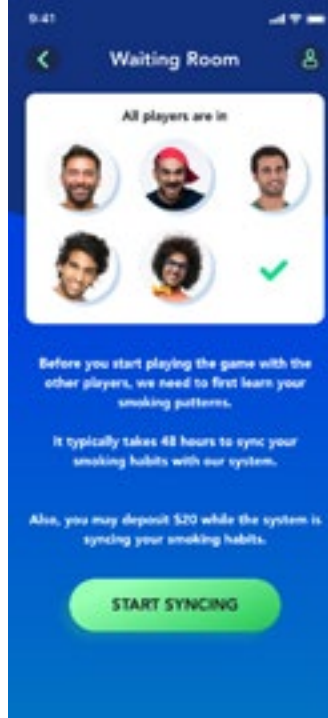
Join a room



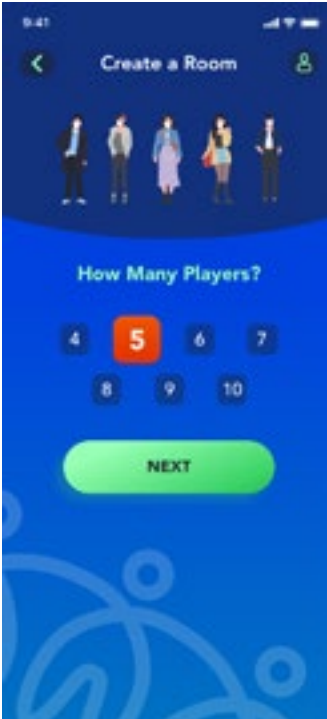
Waiting room



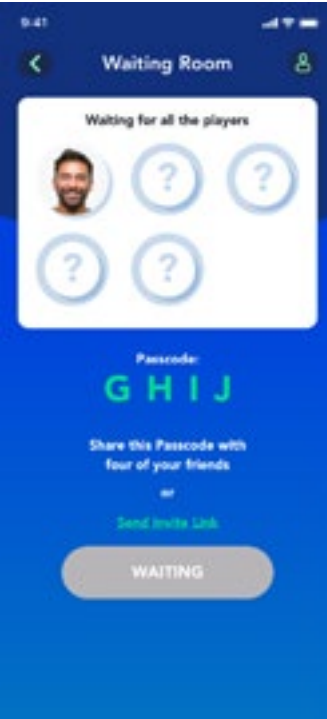
All players are in



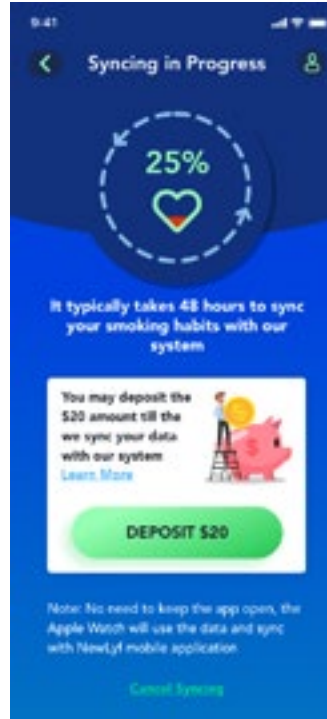
Create a room



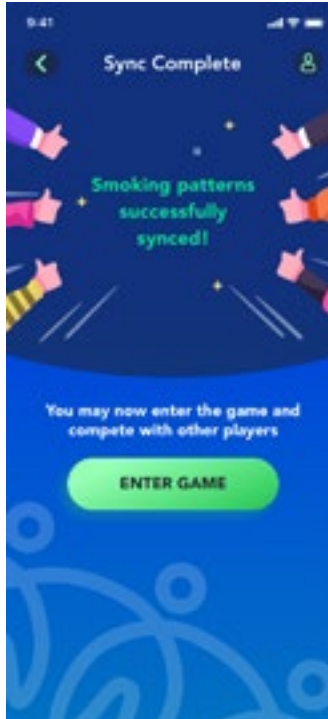
Passcode



Sync and deposit

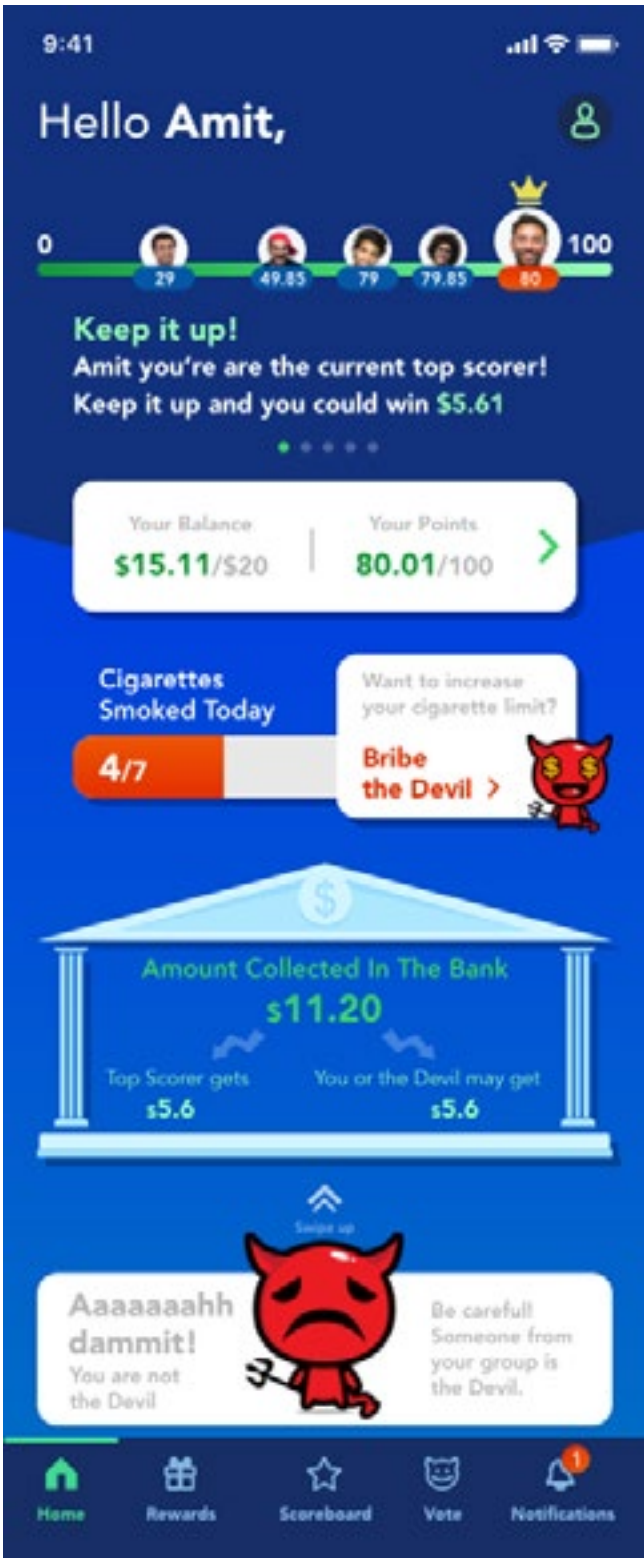


Sync successful



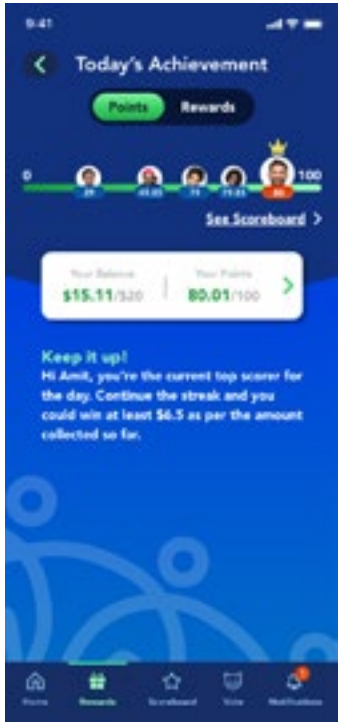
High Feidility Wireframes (4/9)

Dashboard

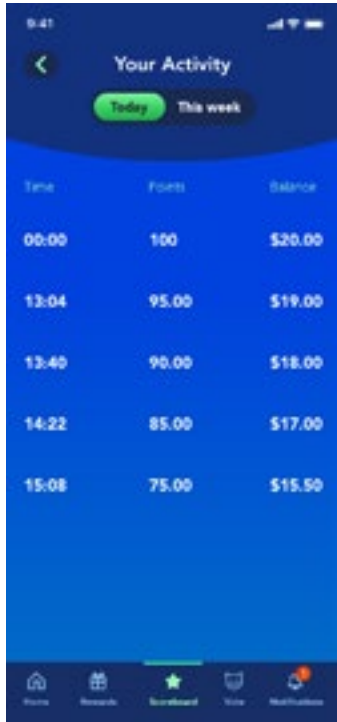


High Feidility Wireframes (5/9)

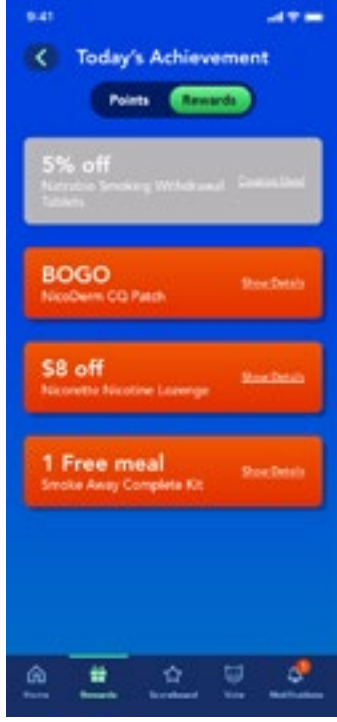
Points



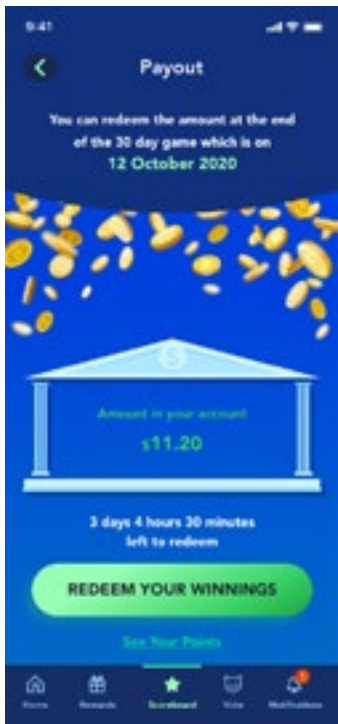
Your activity



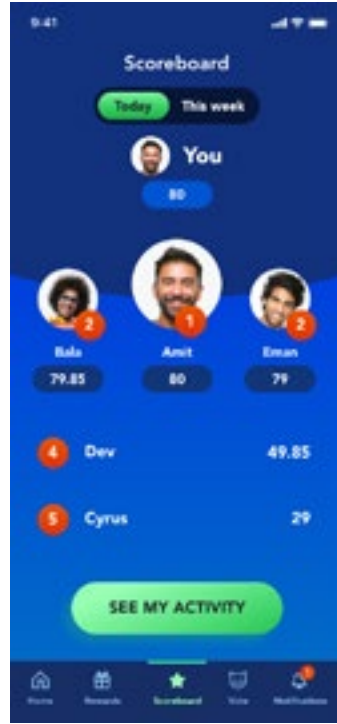
Rewards



Payout



Scoreboard

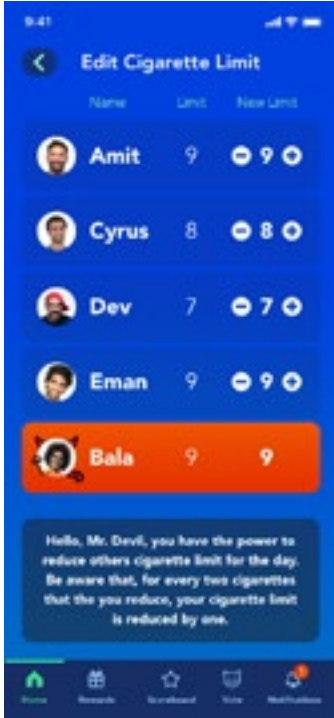


High Feidility Wireframes (6/9)

Devil's dashboard



Cigarette limit

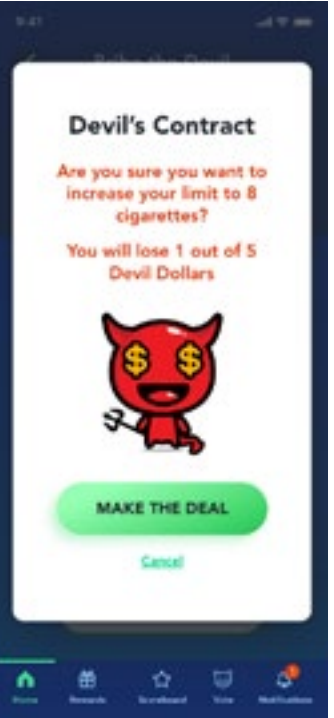


High Feidility Wireframes (7/9)

Bribe the Devil



Pay coins



Bribe the Gods



High Feidility Wireframes (9/9)

High Feidility Wireframes (9/9)

Guess the devil

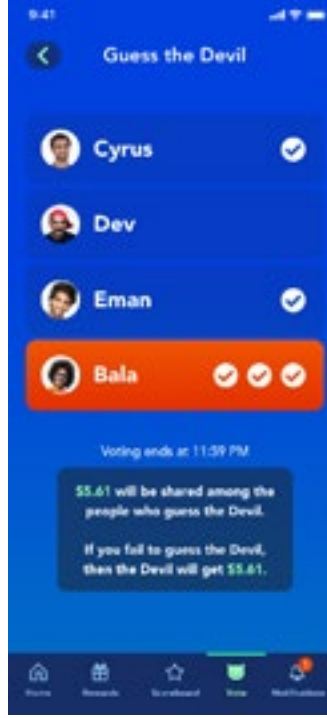
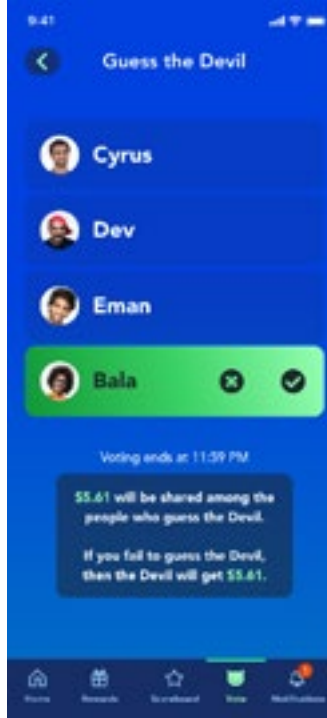
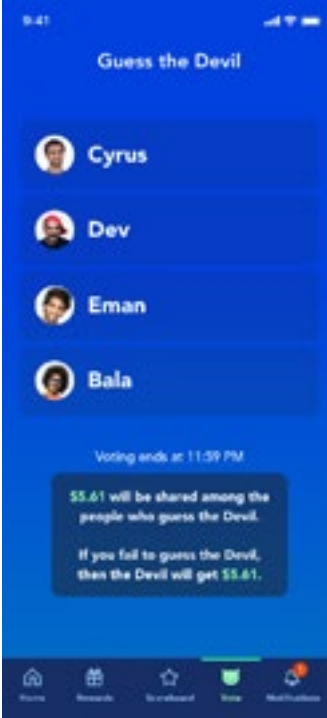
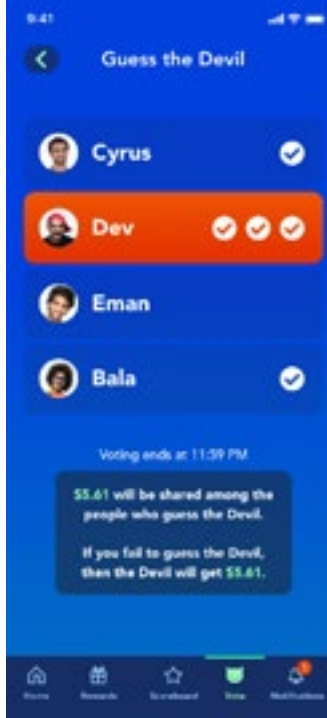
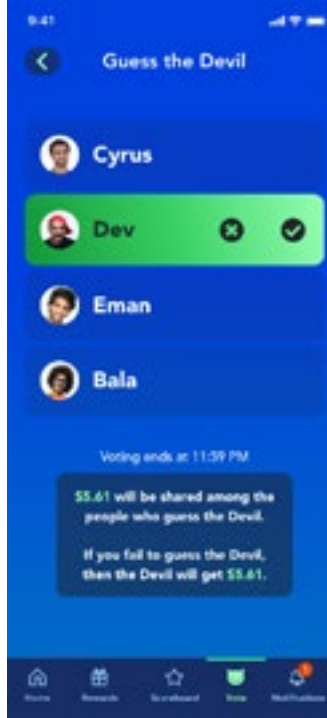
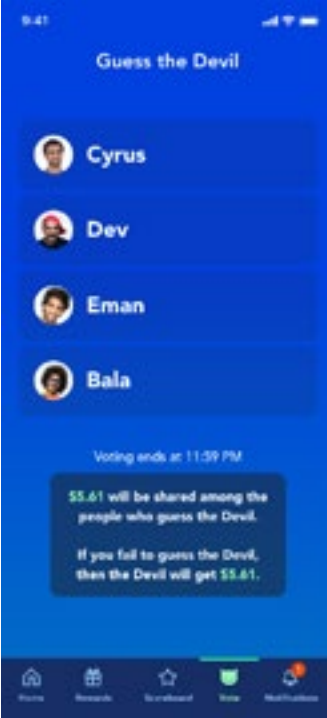
Voting

Voting result

Guess the devil

Voting

Voting result



Pop-up

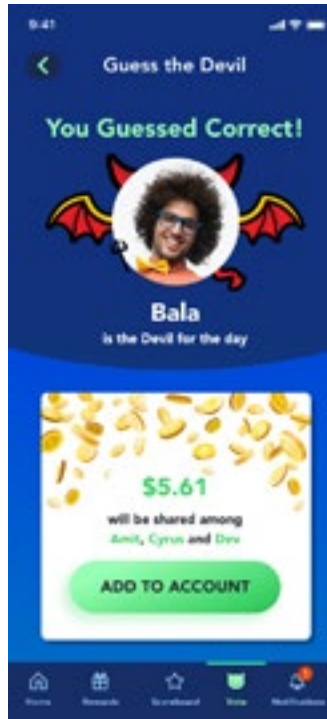
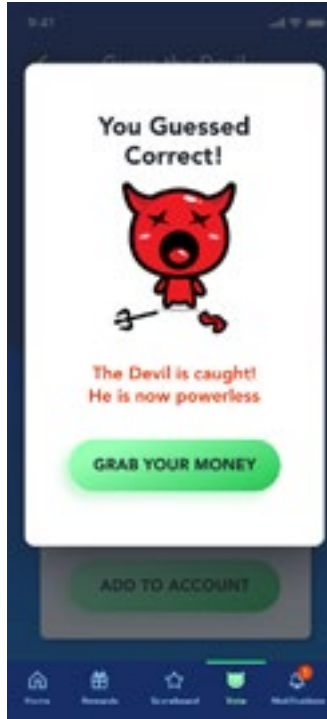
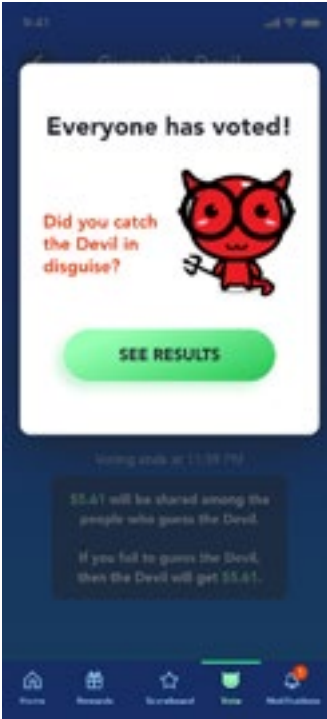
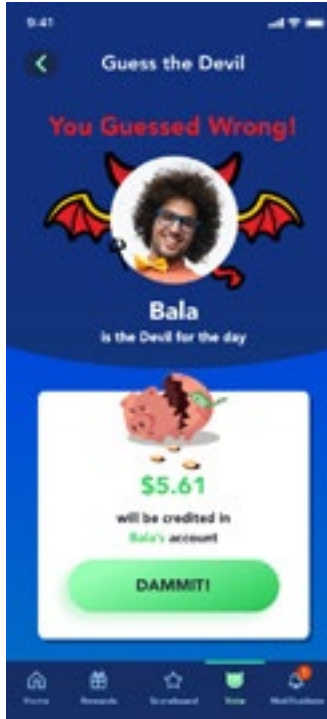
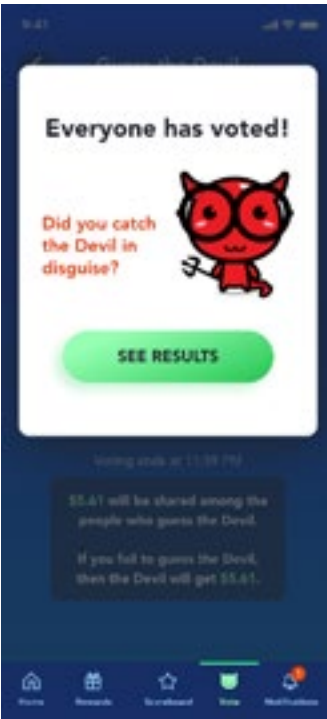
Wrong guess

Who is it?

Pop-up

Right guess

Amount credited



High-Fidelity Wireframe Testing Strategy

Tested the high-fidelity prototype with five users by conducting a moderated usability test (UT). The users were guided through the tasks that they were supposed to perform. Participants joined via the Zoom desktop app. Participants were asked to think aloud. This helps to know their actions and what they were talking about while performing the tasks. Participant's UT tasks were recorded with their consent.

Participants in this study were smokers who smoked between 7-9 cigarettes a day.

Total: 5 users (5 men) Ages: 21 - 26 years old



High-Fidelity Wireframe Prototype

Adobe XD was used to create the medium-fidelity version of the prototype.

Screen dimensions used to design the screens were similar to the sizes of iPhone X, XS, 11 Pro.

After the prototype was created, a link was created and shared with the participants for user testing.

Participants were able to access the prototype via the link and interact with the screens on their desktop devices.

Access prototype: <https://xd.adobe.com/view/18177703-067b-49fb-b00f-c834093e5422-4d44/>

Annotated design with feedback: <https://xd.adobe.com/view/532f0e78-e9a0-4745-b446-61790f6d2b3d-067c/>



High-Fidelity Wireframe Testing Script (1/2)

Onboarding

Go through the onboarding process. Stop at the end of the onboarding process for questions.

Questions

What are your impressions about the onboarding process?

Explain what you understood about the game from the onboarding process

What more information would you like to see before starting the game?

What do you like least about the task you just went through?

If you had a chance to redesign this task, what would you do differently?

Create A Room

You and four of your friends want to join the game. You are creating the game.

Create a room to allow your friends to join the game. Stop once all the friends are in the game for questions.

Questions

What are your impressions about the 'Create A Room' task?

What more information would you like to see to create a room?

What do you like least about the 'Create A Room' task?

If you had a chance to redesign this task, what would you do differently?

Join a room

Your friend has created a room and is asking you to join them. Join your friend's game and stop at the waiting room for questions.

Questions

What are your impressions about the 'Join A Room' task?

What more information would you like to see to join create a room?

What do you like least about the 'Join A Room' task?

If you had a chance to redesign this task, what would you do differently?



High-Fidelity Wireframe Testing Script (2/2)

Dashboard

Go to Dashboard and wait for the questions.

Questions

What are your impressions about the Dashboard?

What more information would you like to see on the Dashboard?

What do you like least about the Dashboard?

If you had a chance to redesign this task, what would you do differently?

Voting

It is the end of the day. It is time to vote out the devil.

Vote the Devil out.

Questions

What are your impressions about the voting task?

What do you like the most about the "Voting" task you just went through?

What do you like least about the task you just went through?

If you had a chance to redesign this task, what would you do differently?

Check your balance

You don't remember how much money and points you have lost. Go and check your balance and points.

Questions

What are your impressions about the voting task?

What do you like the most about the "Voting" task you just went through?

What do you like least about the task you just went through?

If you had a chance to redesign this task, what would you do differently?

Feedback

General feedback

Questions

How was the overall process?

What do you like most about the game?

What do you like least about the game?



High-Fidelity Wireframe Feedback

User comments and insights:

- If everyone has a different smoking limit, a person who smokes only three cigarettes will always win from a person who smokes seven cigarettes daily. Create an algorithm that calculates the percentage of cigarettes smoked based on the cigarette limit.
- The watch will calculate the cigarette limit for the users. The app should also ask the user to enter their cigarette limit and ask other questions regarding smoking.
- Love the interactive game. I would definitely play it. Paying a small amount like \$20 for a 30-day game that helps quit smoking looks like a good deal.
- I want to try a demo game for one week. If it is interesting, I will play for a month.
- Like the personalized messages, it makes the user feel that the app cares about the user. I would love to see occasional motivational quotes to keep me motivated to quit smoking.
- Devil and the voting feature is lovely would definitely play it.



Future Recommendations

- Develop smoking detection software for other wearables available in the market
- Perfect the smoking detecting capacity of wearables to 99.99% accuracy.
- Share success stories and the level of engagement that the app has with many other brands (not just 'quit smoking' brands) to get more in-app brand endorsements.
- One-on-one Specialist Advice: Collaborate with doctors who specialize in smoking cessation to help users with specific help, queries, and guidance.
- Create an online community to help users connect with other smokers who have successfully quit smoking by sharing information, resources, and social support.
- Become known as the Habit Quitting app for any addictions



High Fidelity Annotated Link

<https://xd.adobe.com/view/532f0e78-e9a0-4745-b446-61790f6d2b3d-067c/>



08.

Apple Watch

- 116 Why an Apple Watch?
- 117 Functionality
- 118 Prototyping Techniques
- 119 Prototyping Techniques Insights

Why an Apple Watch?

The game requires to monitor the cigarette intake of the players.

Based on the players smoking habits, they will get a smoking limit for the day. If they cross the smoking limit, they will face a double penalty.

The Apple Watch will also be used to detect when the user is smoking.



Functionality

Apple Watch can be used to monitor:

- **Motion & Accelerometer**

The app relies on arm motion and an accelerometer to track and learn the user's movement.

Current app in the market

Workout app shows what kind of exercise a person is doing.

- **Heart Rate**

When a player smokes a cigarette, the resting heart rate will increase with a sudden spike.

Current app in the market

Heart Rate iOS app shows the beats per minute.

- **Blood Oxygen Sensor**

Apple Watch 6's blood oxygen sensor is claimed to be similar to an oximeter.

Smoking causes carbon monoxide to build up in the blood. A pulse ox can't tell the difference between this other type of gas and oxygen. People who smoke may have an inaccurately high pulse ox reading.

Apple Watch oxygen monitor's sensors can only measure blood oxygen levels through the wrist. Still, almost all medically approved pulse oximetry technology does so through your fingertips, the spot where oxygen levels can be measured most accurately.



Pretotyping Techniques

Will the Apple Watch predict the data accurately?

Use Apple Watch on self to read the Heart Rate level whenever I am smoking. Compare it with the entire day's data. Learn the patterns.

Ask a Watch user to smoke cigarettes throughout the day wearing the Watch. The subject should note down the time when he/she is smoking. Read the data and predict when the subject was smoking.

Will the concept work?

Select a household with at least four students who smoke cigarettes and are willing to quit.

Choose a day when all are at home all day. Due to pandemic, most of them are at home all day.

Find out how many cigarettes each one smokes using survey forms.

Reduce each player's two cigarettes and create that as the limit for the day.

Use the "Fly on the Wall" research method.

Each one gets \$10 and 100 points each at the start of the day.

One guy is the Devil. Devil will reduce the other's cigarette limit.

The amount and score will be on a paper stuck on the wall.

When someone smokes, \$10 will go down to \$9. And 100 points will go down to 90 points.

End of the day, the one with the high score gets half of the cash.

All will discuss and figure out who the Devil was.

If they guess right, they get the money, or the Devil gets the money.



Pretotyping Techniques Insights

Will the Apple Watch predict the data accurately?

Apple Watch's Heart Rate app was used for this experiment.

Before smoking a cigarette, the heart rate was between 83BPM to 86BPM.

After taking a few puffs of the smoke, the heart rate rose quickly from 85 to 111BPM. Hence Apple Watch can be used to detect smoking patterns.

Will the concept work?

Due to the COVID-19, many were not comfortable with the experiment. This will be conducted post the pandemic.



09.

Production

121	Functional Requirements
122	Content & Data Requirements
123	Development Practices & Methodology
124	Project Timeline - Original
125	Project Timeline - Actual

Functional Requirements

Database & Storage

Collects and saves user profile account information.

Payment Gateway

Players will deposit and withdraw the money online using the payment gateway.

Smoking Detection

An algorithm that perfectly detects when a user is smoking. It makes use of three components

1. Beats per minute
2. Hand gestures
3. Blood oxygen (beta)

QA Testing

Test the app on various iOS devices.

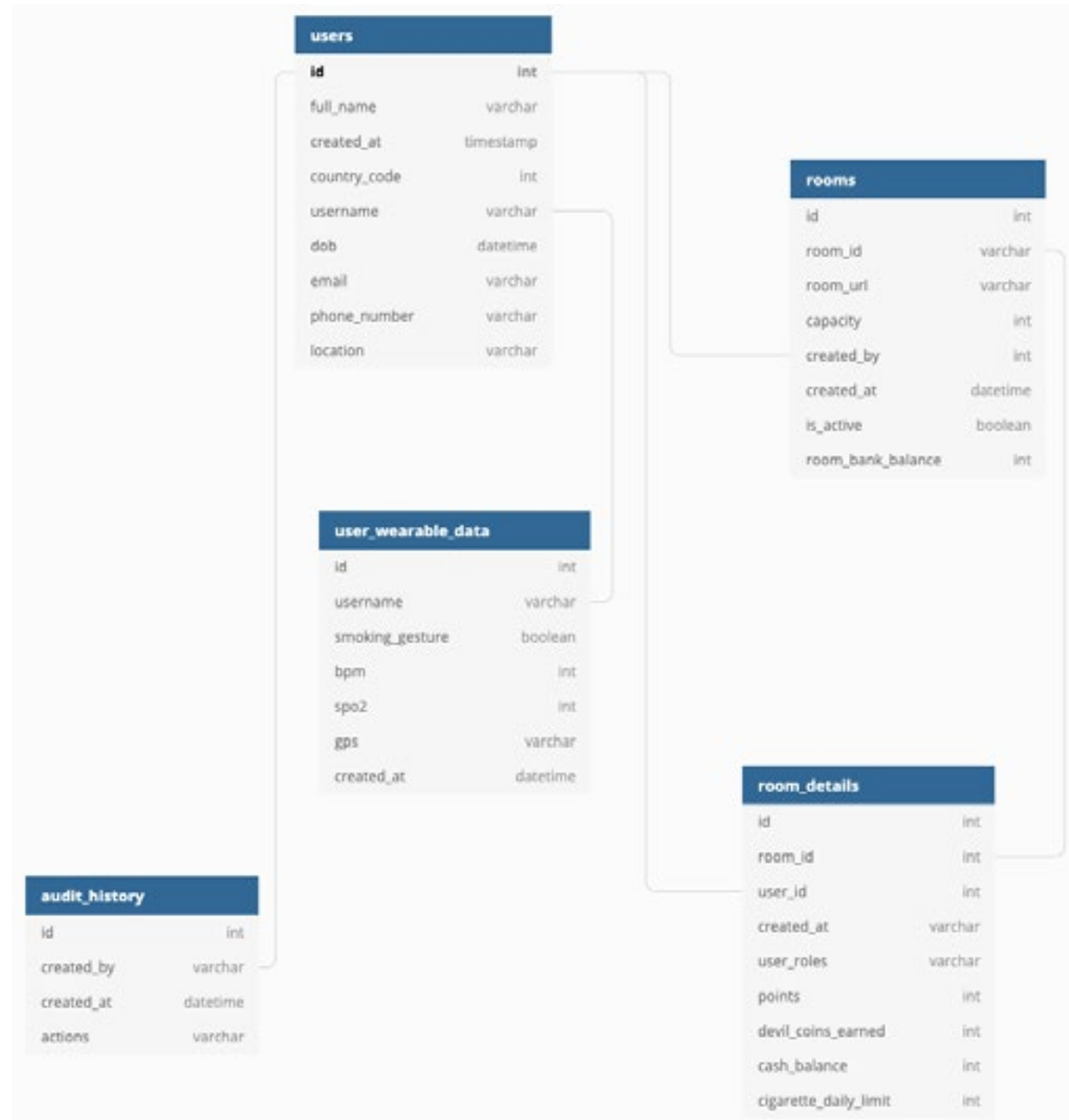
Test the smoking detection ability of the watch on 50+ users.



Content & Data Requirements

dbdiagram.io

<https://dbdiagram.io/d/5fc460e73a78976d7b7dd8ae>

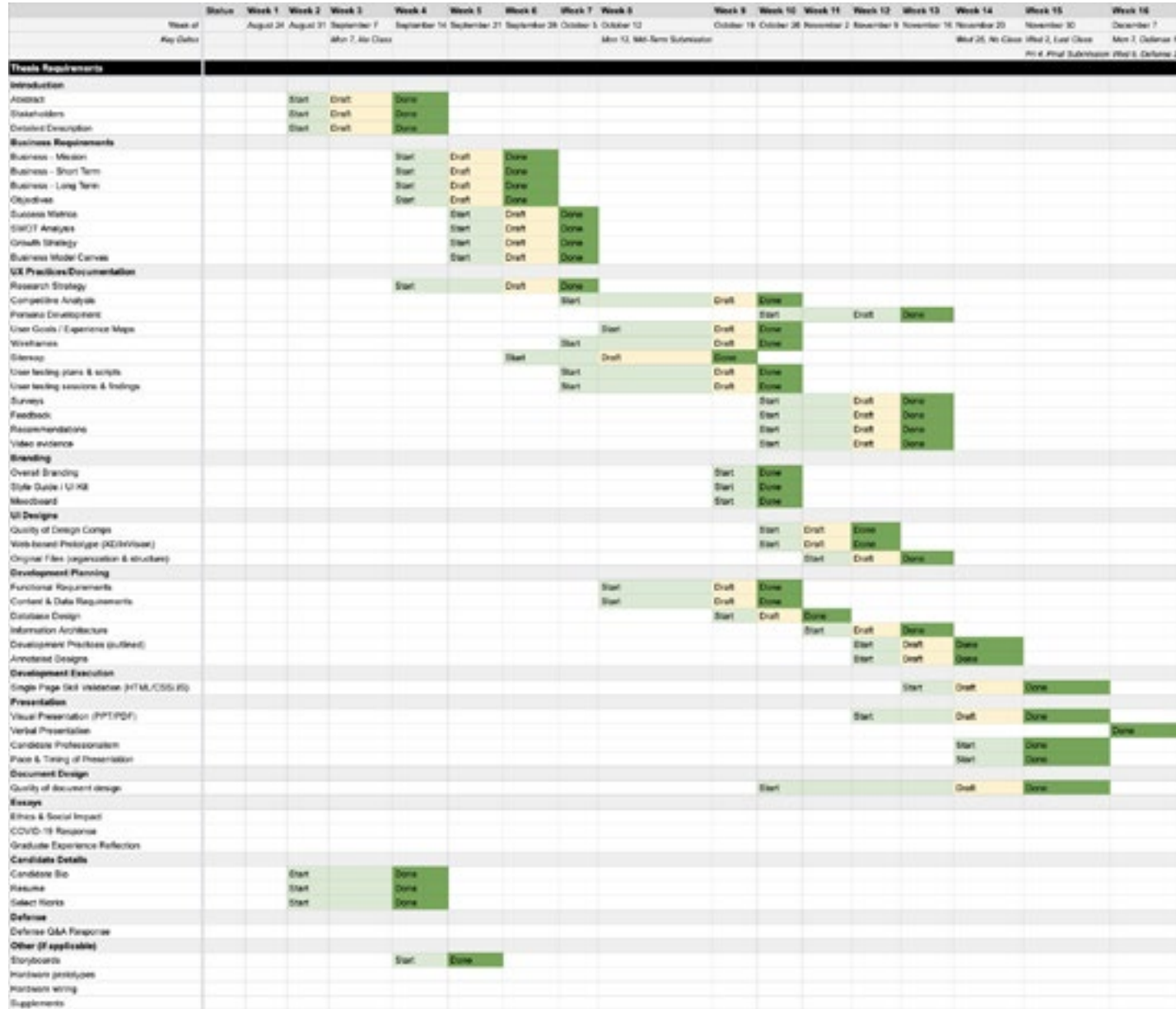


Development Practices & Methodology

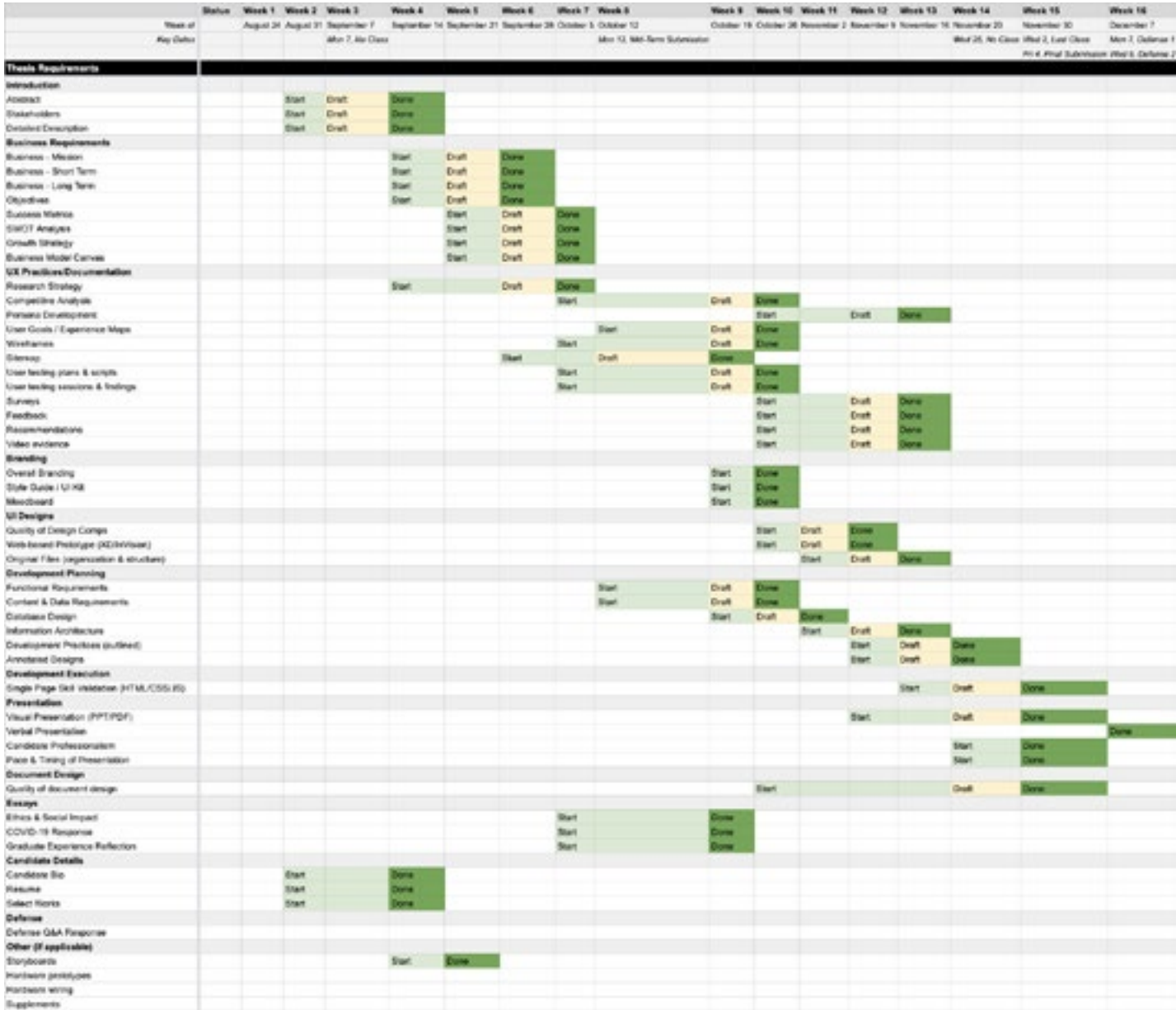
- Agile development methodology.
- HTML, CSS and JS for front-end development.
- iOS native programming languages for back-end development.
- PHP and MySQL to build informational databases.



Project Timeline - Original



Project Timeline - Actual



Link to view the timeline on Google Sheets: <https://docs.google.com/spreadsheets/d/1QFMqAITwAxvheZNSkysqPeO9UAM7fHKxI8RO0fyLaKk/edit#gid=538540826>



10.

Graduate Candidate Background

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Student Biography

Interaction Designer by profession, artist by heart.

I am Tany Joseph Odathumpambal, a passionate User Experience & Interaction designer from Thomas Jefferson University who loves solving real-world problems by creating simple, usable, and impactful design.

A design career that spans over six years of industrial experience on projects has helped create holistic visual solutions for brands across disciplines. My experiences have helped me specialize in user experience, visual designing, video production, advertising & branding.

One of the best qualities about being a designer with an engineering background is that I can not only deal with the graphical parts of a project, but I can likewise completely comprehend, take an interest and even manage the technical aspects of those same projects.



Resume

Tany Odathumparambil

User Experience and Interaction Designer

with more than half a decade of industrial experience. Completing, M.S. in User Experience & Interaction Design, to create, design, and build experiences that are useful, pleasant, and meaningful.

Experience

Inverse Paradox, UX/UI Design Intern

May 2020 - Present | Hulmeville, PA

- Working on data visualization, information architecture, wireframes, and prototypes and delivering navigation flows, icons, illustrations, and landing page layouts.

Blackstone LaunchPad at Jefferson, UX Designer

September 2019 - May 2020 | Philadelphia, PA

- Designed and developed a website for Nexus Maximus - a platform to present innovative projects.
- Worked on branding and website design and development for an e-commerce platform for the entrepreneurs of Thomas Jefferson University.

Crystal Logic, Creative Director UI/UX

October 2018 - June 2019 | Mumbai, India

- Oversaw the company's design part and wore multiple hats from project manager to UX/UI Designer.
- Responsible for everything design-related from user research to visual design.

Communicate India, Consultant Creative Director

January 2018 - October 2018 | Mumbai, India

Creative Head

January 2017 - January 2018

Senior Graphic Designer

August 2015 - January 2017

- Launched the website design and development department of the digital agency.
- Led website, social media campaign, branding, and visual identity design for 100+ clients.
- Collaborated with multiple roles to create beautiful, functional, and desirable experiences and services.

Inscripts, Associate Product Executive

June 2014 - August 2015 | Mumbai, India

- Conceptualized and crafted multi-platform (web & print) graphics and websites for multiple in house projects.

TanyJ.com

otanyjoseph@gmail.com

+1 (215) 403-1917

linkedin.com/in/tanyj

Skills

Tools

Adobe Creative Suite, Adobe XD, Sketch, InVision, Slickplan, Cinema 4D, Microsoft Office, WordPress, HTML, CSS, Javascript

Design Practices

Competitive Analysis, Surveys, Data visualization, Interviews, Personas, Journey Mapping, Design Thinking, Storyboarding, Site Mapping, Interaction Design, Rapid Prototyping, Usability Testing, Prototyping

Interpersonal Skills

Innovative, Creative, Adaptable, Team Work, Leadership, Conflict Resolution

Education

Thomas Jefferson University, M.S. in User Experience & Interaction Design

2019 - DEC 2020 | Philadelphia, PA

Don Bosco Institute of Technology, Bachelor of Engineering in Information Technology

2010 - 2014 | Mumbai, India

Academic Recognition

Creative Head

CSI 2012 - 2014

Design and Computer Graphics Head

Colosseum and Cretal 2014

Creative Head and Design Head

Colosseum 2013

Head of Fine Arts

Cretal 2012

Conducted & attended various design workshops and seminars for students & teachers alike.

Authorized to work in the United States



Select Works



Pac-Mania is a GPS enabled mobile game that lets you play Pac-Man in real-time by walking and collecting points. It allows you to achieve your daily steps and keeps you fit.

The objective is to achieve the daily steps by collecting points and rewards. Compete with friends to be on the top of the scoreboard. It keeps you moving, from your first step to your thousandth and beyond.

<http://www.tanyj.com/pac-mania.html>



Pac-Mania is an augmented reality (AR) game that lets you play Pac-Man in real-time by walking and collecting points. Using the state of the art contact lens technology enables you to achieve your daily steps and keep you fit. Pac-Mania is more accessible to the users as it does not require any phone, hands, or voice to play the game. It uses your eyes and eye gestures to keep you fit and play the game. Create and wear your avatar. Pac-Mania keeps you moving, from your first step to your thousandth and beyond.

<http://www.tanyj.com/ar-lens-pac-mania.html>



Thomas Jefferson University East Falls wants to strengthen the community by encouraging experienced students to connect with new students and help them adjust to campus life. Design an experience that allows mentors and mentees to discover each other. Consider the needs of both mentors and mentees, including how someone may become a mentor and how to connect mentors to mentees.

<https://docs.google.com/presentation/d/1gpWy0cuTNx-uzbkOeKqhmGfXVkJNauRVQ7pqNatCHKf8/edit?usp=sharing>



Program Reflection (1/2)

I love design, and college is the time to pursue what you love. I could have chosen to major in Computer Science, my undergrad degree, but if I didn't enjoy it, it wouldn't be as rewarding to complete my degree.

Before joining Thomas Jefferson University, I was working as a designer for five years. During my interactions with my seniors and other professional designers, I realized that while I have the technical skills to be a designer, I still lacked the skills to create solutions to complex problems. I want to learn how to take an idea, turn it into a technology-driven solution, understand humans better, and understand their need for technology. I also wanted to design products that will change the way we live.

The Master's in User Experience and Interaction Design program has prepared me for my goals. Thomas Jefferson University has allowed me to focus on my dreams and work on real-time functional projects. At Kanbar College of Design, Engineering and Commerce, I got several opportunities to develop various usability skills and enhance in-person human-human communication. I was able to immerse myself in a pool overflowing with ideas, tackle design challenges on a global playing field while drawing inspiration from the exposure and multi-cultural platform available to me.

Some of the most brilliant professors and researchers with a strong science and technology backing aid the M.S. in User Experience and Interaction Design program at Thomas Jefferson University. Here, I experienced the classroom evolution from the traditional space to a futuristic one where online tools and digital networks are an essential part of education. Studying UX and IxD has helped me equip myself with the skills I need to create technology-driven solutions. Learning from my fellow talented designers, professors, and researchers, I hope to become one of the world's best interaction designer and bring a difference among people.

My long term goal is to develop products that will positively impact specially-abled people. I hope to understand and explore the aspects of user experience



Program Reflection (2/2)

and interaction design and how it affects users, particularly in the education and health sectors. I believe these fields are very much consequential to the human-technical relationship and aim to integrate my experience as an artist to develop processes that can be called art forms in themselves someday.



11.

Supplements

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COVID-19 Challenges (1/2)

The year 2020 will be engraved in the memory of people worldwide for many years to come. The COVID-19 pandemic has challenged doctors, engineers, designers, and everyone else in many ways. Much of daily life has been painted by the coronavirus. Everyone's home has become their new office space. People are finding creative ways to make their businesses, studies, or even life work.

The class format sure was challenging during the pandemic. Personally, for me, it was overwhelming as I had fewer interactions with my classmates. Due to this, I was unmindful of the class progress that slowed down my thesis timeline at first, but then as days passed and as I got used to the new normal, things started to change, and I picked up the pace.

My thesis addresses the smoking addiction problem. It focuses on Indian students who come to the USA for further studies. They get addicted to smoking cigarettes.

One crucial finding I got during the pandemic is that the Indian students did not smoke a single cigarette as they could not buy the cigarettes. During the initial lockdown, when the world had little knowledge about COVID-19, people were more scared about the virus and chose to isolate themselves at home. During my research phase in April 2020, all the participants had zero access to cigarettes. They did not smoke a single cigarette for three weeks. They felt the urge to smoke at first, but after two weeks, the feeling went off. But as soon as the shops got back to business, the students bought the cigarettes and started smoking again.

Another instance is that due to the pandemic, everyone is at home all the time. Most Indian students have a habit of having milk tea known as 'Chai.' Many Indians prefer having Chai-tea and smoking a cigarette every day morning and evening together with their flatmates. It is called 'Chai-Sutta,' which translates to 'tea-cigarette.' So two of the interviewees who occasionally smoked after coming to the USA, is now a full-time smoker smoking 7-8 cigarettes a day along with their flatmates.



COVID-19 Challenges (2/2)

Why is the Chai-Sutta, the tea-cigarette combination, a favorite in India? Here is a logical explanation by an Indian on Quora. The primary reason is habit & environment. Typically, in India, when a smoker gets the urge to smoke, he goes to a Paan Tapri. Paan Tapri is a small roadside stall that sells tea, loose cigarettes, betel leaf, and other everyday items. Selling tea and cigarette is like a blade & razor relationship. Hence, the possibility of buying tea while purchasing a cigarette has increased, and vice versa.

Secondly, most people don't smoke alone. They usually have nonsmoker friends, and for the sake of these nonsmokers, the smokers opt for a Paan Tapri as the stalls provide both tea and cigarettes.

Tea contains caffeine, and cigarettes contain nicotine. Hence, there is a double impact on the brain, which any smoker would like. It is a kind of buzz that relieves and provides a happy feeling. These may be the reason for chai-sutta be a great duo in India

.



Ethics & Social Impact

NewLyf focuses on helping smokers reduce their smoking limit and eventually quit smoking. NewLyf will be learning from the user's data about their smoking patterns. Based on the smoking patterns, they will be given a personalized smoking limit for the day, which will reduce gradually over a 30 day game period.

In the United States, almost half of all smokers make a quit attempt every year. Most of these end in failure. It is estimated that 95%–99% of unaided quit attempts end in relapse, most within the first few weeks of quitting. Behavioral or pharmacological treatment improves outcomes, but relapse is still the typical outcome (Shiffman S., 2005).

Although playing the NewLyf game could help quit smoking, once a user gets a smoking relapse, he/she could come back to using the app to quit again. NewLyf could act as a tool to control smoking habits after multiple relapses. They will have transferred their addiction to the app. The user is now dependent on the app and is currently under the app's control. The app will decide how many cigarettes the user will smoke, and the user will follow it blindly. Here the addiction is not cured but transferred to something else.

Winning and losing money while playing the game could lead to a gambling addiction among the users. The game's downside could be that a non-smoker tries to manipulate the data and enters the game with his/her colleagues. Every day he/she will have smoked the least cigarettes and be the top scorer to earn more cash.

Ten years from now, NewLyf is envisioned to cure any addiction, which will help users gradually reduce their addictions and eventually quit. The app could create addiction transfer instead of addiction quitting. Users might move from one coping mechanism to another, never realizing the true extent of their problem.



Appendix

Contingency management: what it is and why psychiatrists should want to use it
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3083448/>

BENEFITS OF BETTING ON YOURSELF

<https://www.drinkershelfer.com/new-blog/2019/7/21/benefits-of-betting-on-yourself>

The Nature of Competitiveness: The Development and Validation of the Competitiveness Index

<https://journals.sagepub.com/doi/10.1177/0013164492052002016>

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Make sure that you earn Move and Exercise credit

<https://support.apple.com/en-us/HT207941#:~:text=Every%20full%20minute%20of%20movement,toward%20your%20daily%20Move%20goal.&text=Open%20the%20app%20on%20your%20Apple%20Watch%20and%20tap%20Outdoor%20Walk.>

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UXD Thesis Documentation

Fall 2020

by Tany Odathumparambil

