



**For (I, Game & Robot) Hackathon
Game Design Planning
By A.Nasser 10/2022 (54 slides)**

INTRODUCTION

Game Title: Pixy Roads

Game Description: Mobile web3 car game, Single/Multi player with variant of gameplay experience.

Target platform: Mobile – iOS & Android

In game currency: Cash (off chain)

Web3 Token: PIX

Blockchain: Need some research, Top 20 Web3 games built on these
blockchains: FLOW – BNB – WAX – POLYGON – RONIN

STORY

BACKGROUND

The Player arrive to Shanghai in these days with a big dream (To be the best racer in shanghai city, and to destroy the corrupted evil Racing Organization), But he don't have any money, So with help with new friends he met in shanghai he get a Robo-Vehicle from Pix-Moving and rent a Garage, and start to work as DiDi driver and earn cash to customize his car and join races to be the best racer and to get more information who behind these races.

PROTAGONIST

Player : (The gamer will choose the name and upload avatar image)

Age : 22

Company : Freelancer

Occupation : DiDi driver

SUPPORTIVE CHARACTERS

Kyle : Male friend (Works at real state he managed to get a Garage) for the player.

Lily : Female friend (Works at PIX Moving company she managed to get a ROBO-VEHICLE) for the player.

Henry : Supervisor in DiDi company.

Zoe : Female Manager in Zbuy an online shop.

Alex : Another racer want to be the best racer in shanghai, compete with player.

Unknown : Head of the Racing Organization (Evil man)

Roger : Another evil manager at the Racing Organization

Supportive Characters

Kyle

Age : 28

Company : Big Star Real Estate

Occupation : Sales Agent



Lily

Age : 24

Company : PIX MOVING INC

Occupation : Community Manager

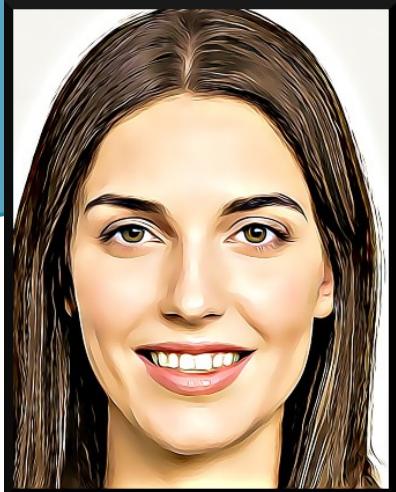


Henry

Age : 47

Company : DiDi INC

Occupation : Supervisor



Zoe

Age : 31

Company : Zbuy

Occupation : Customer Service



Roger

Age : 51

Company : ???

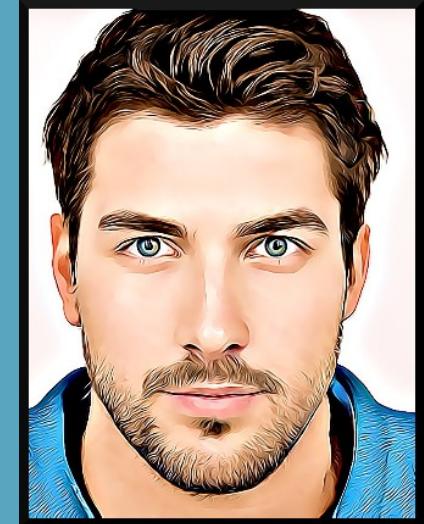
Occupation : Right hand for the Boss

Alex

Age : 33

Company : Freelancer

Occupation : Photographer



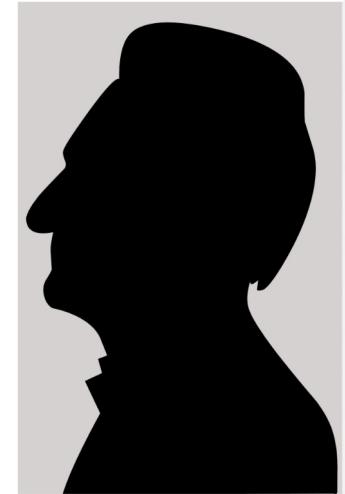
Head of the Race Organization

Name Unknown

Age : ???

Company : ???

Occupation : ???



Game Objectives

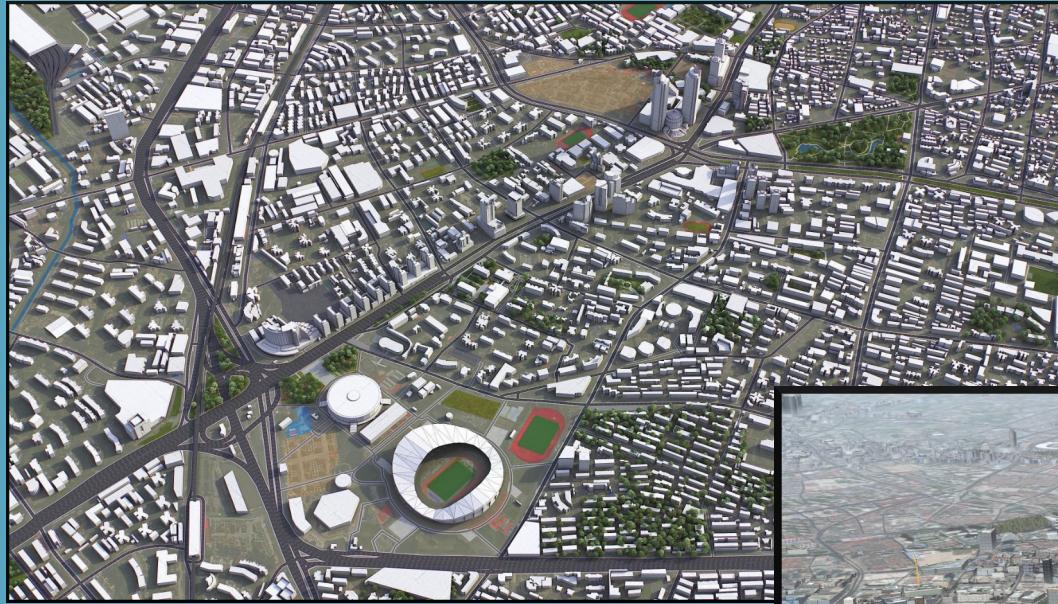
The player can choose one or multiple objectives to play in the game:

- DiDi driver and spend his whole time completing tasks and collecting cash.**
- Try to win every multiplayer race he can join.**
- Collect every battle card in the game.**
- Customize his car and share the new styles with his friends.**
- Upgrade his garage with cool furniture.**

City Far View 3D Models Reference

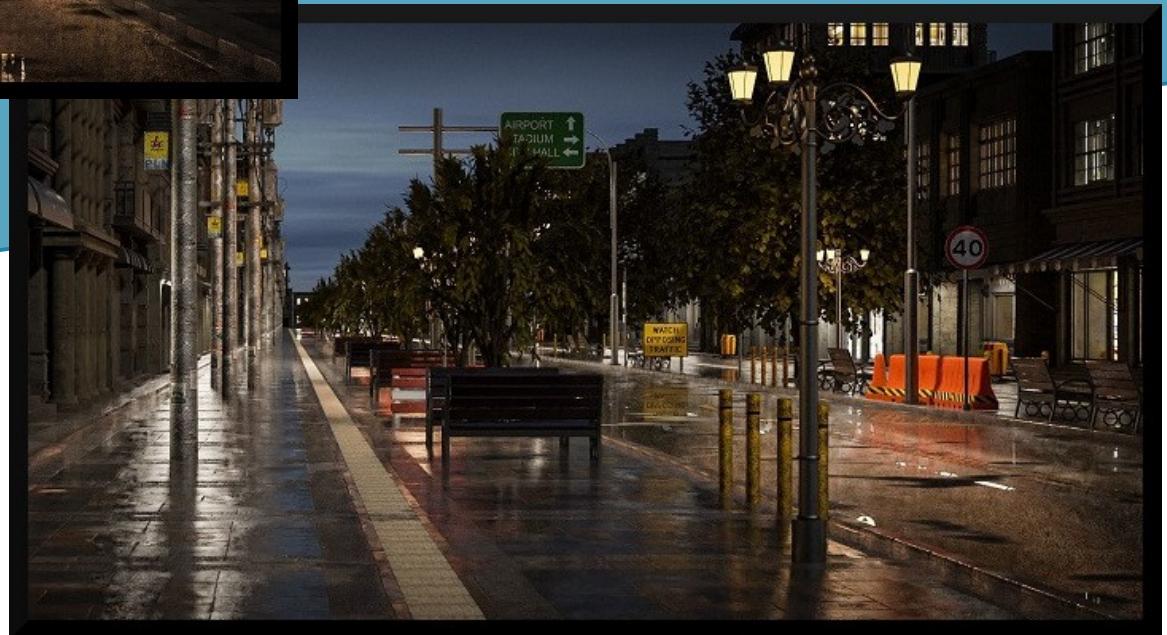


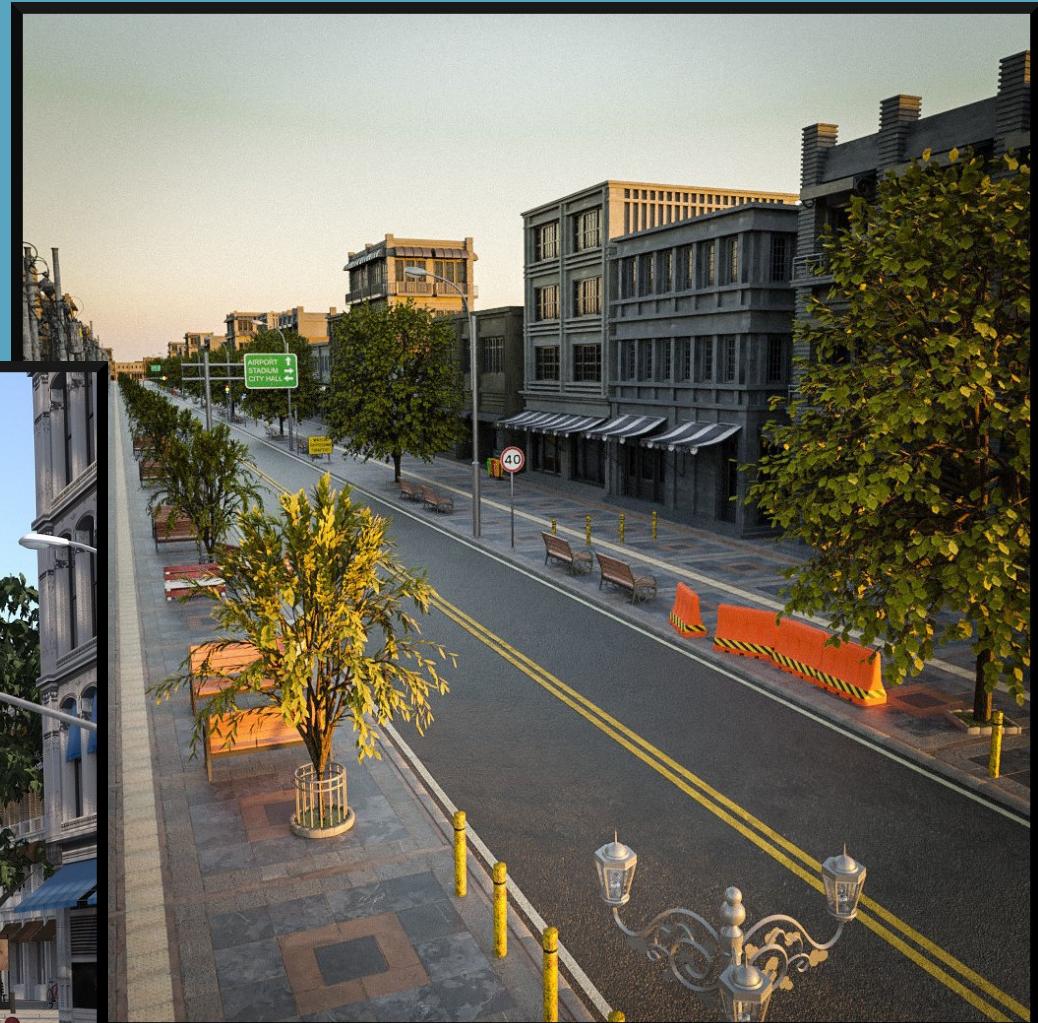


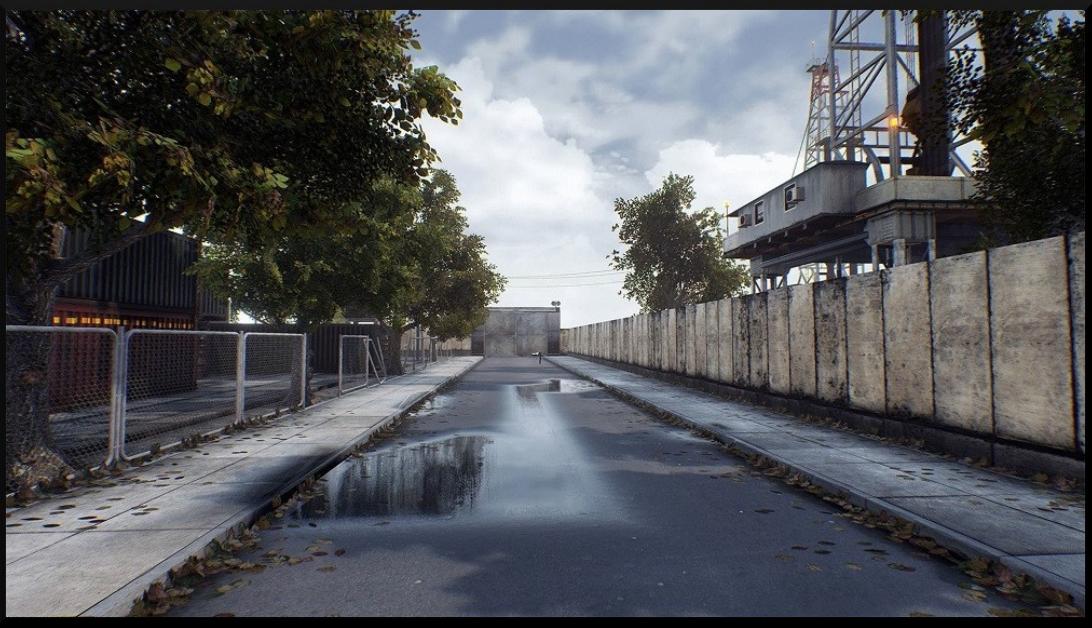


City Close View 3D Models Reference









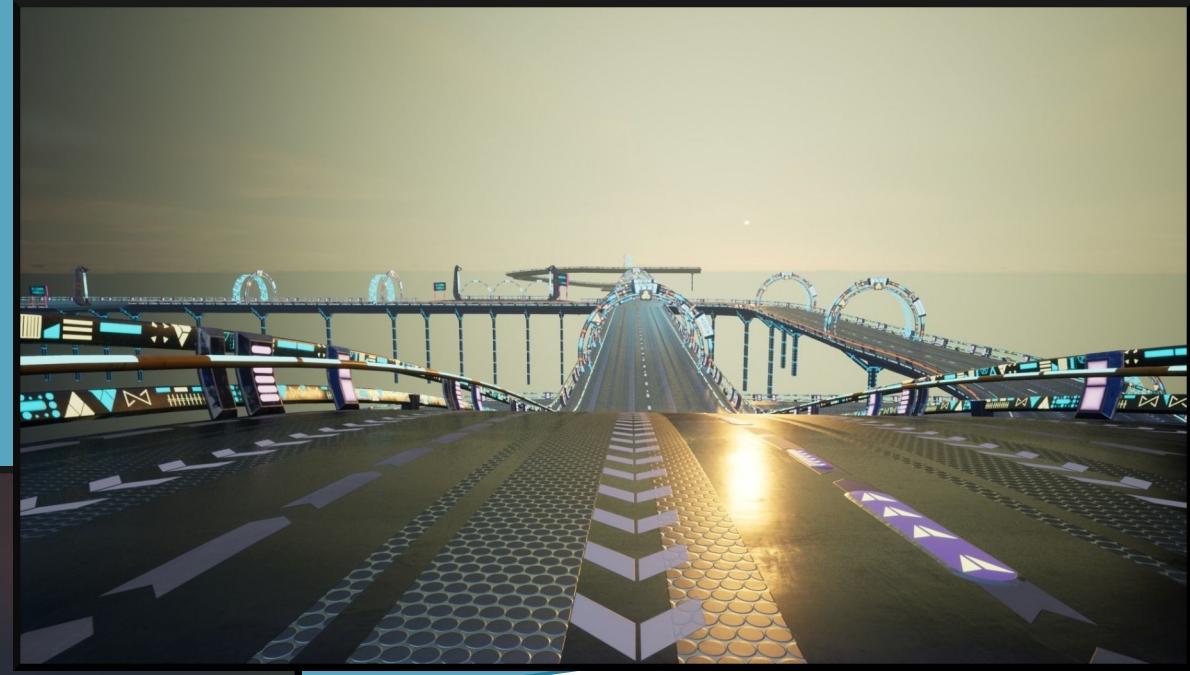
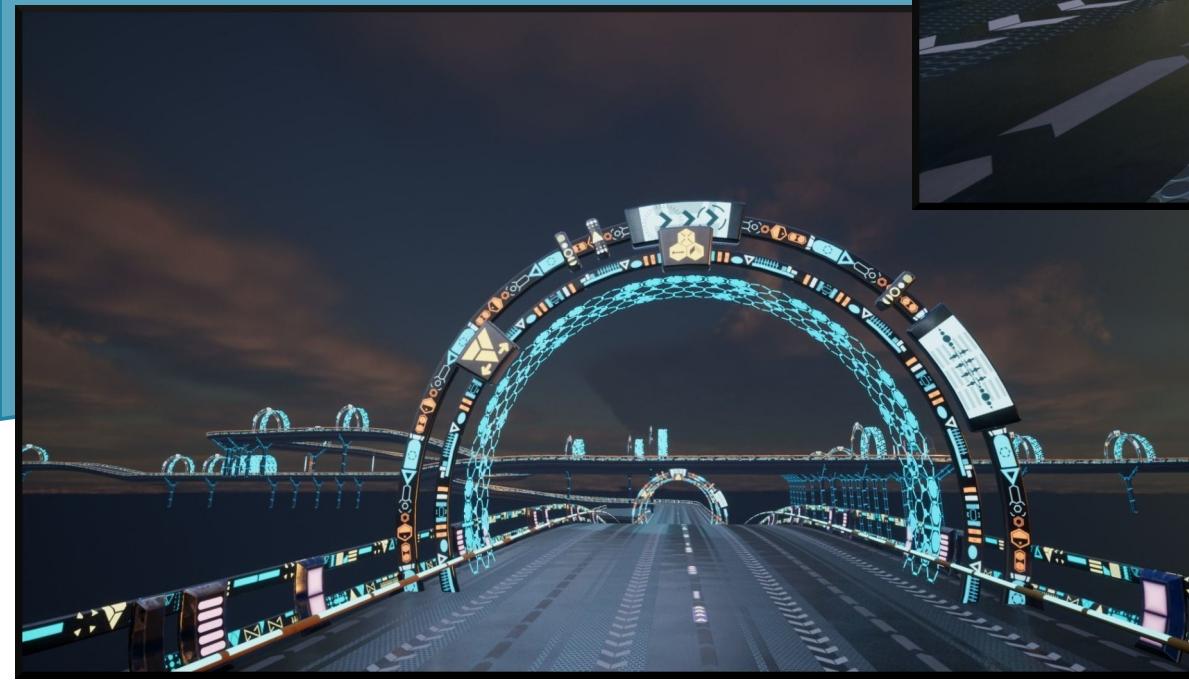


Race Track Reference

Choosing a Sci Fi Art Style for the Race Tracks, Because it's easier to build and modify, also the players only will be there for a short time.







Unique Selling Points

- Stunning City of Shanghai player can wander around.
- New MashUp game idea.
- Advanced traffic cars AI.
- Realistic driving in town.
- Competitive multiplayer racing.
- Wide range of race battle cards player can collect.
- Lot of options to customize Robo-Vehicle Exterior and Interior.
- Player can earn money by selling NFT battle cards.
- Every player can spend hours upgrading his Robo-Vehicle & Garage as he like.

Target audience

-The game is targeting a wide variety of mobile gamers:

- 1-Sims players who want to wander around in the beautiful city of (Shanghai) as DiDi drivers.
- 2-Competitive players who want to win and collect cards in the race tracks.
- 3-Players who want to earn money from selling rare cards and as NFTs.

GAMEPLAY

Game types

Simulator – Race – Cards – Customization

(Pixy Roads) is a single Player/Multiplayer MashUp car game, With 4 different genres in one game.

#Card battle racing game (Multiplayer) Mixing card battle game with racing game.

#DiDi simulator (Single player) Located in the beautiful city of (Shanghai).

#Customization: With cash the player can customize his Robo-Vehicle & Garage.

-Garage: Large empty place when the player starts playing the game, After earning cash from (DiDi work and Winning racing cards battles), Player can upgrade his/her garage with furniture and other sort of things.

-Robo-Vehicle: When the player starts playing the game he own a normal Robo-Vehicle, and after progressing through the game he earn cash and with it be able to customize Robo-Vehicle interior and exterior:

- 1-Change Robo-Vehicle body**
- 2-Change Robo-Vehicle colors**
- 3-Add exterior parts**
- 4-Add interior parts**
- 5-Buy Robo-Vehicle stickers**
- 6-Change Robo-Vehicle light colors**

DiDi gameplay

- The player uses DiDi to take a trip, and drive in the city streets to his destination.
- Driving the vehicle is more realistic compared to the race scene.
- The vehicle can reverse and completely stop when the player holds the brake button.
- Traffic violation system (the traffic system is by cameras in street) if camera catch you making something wrong it will give you ticket.

How much cash player will get from completing DiDi trips

-Short trips (15-25) cash

-Trips (40-60) cash

-Long trips (80-120) cash

(Depends on the length of the trip)

List of traffic violation fines

- Failing to stop at a red light 500 cash
- Driving over the speed limit 300 cash
- Blocking street for X time 200 cash
- Colliding with other cars 100 cash
- Driving in other road 300 cash
- Driving the wrong way 300 cash

How much is the garage rent and car installments

- Garage rent 300 cash every month
- Robo-Vehicles installments 300 cash every month

Race gameplay

-The player vehicle will move forward automatically, this will allow the player to focus more on using the battle cards.

The player can steer the wheels left and right, and use the brake to drift on track curves.

-Four players in every race.

-Three laps every race, can finish the lap in one minute.

Car garage: Huge empty place when player starts the game, Filling the garage with furniture needs Cash.

Empty garage when starting the game:



Buying furniture with cash:



TECHNICAL

What game Engine

-Unity engine (universal render pipeline build) Version 2022.1.20

Aspect ratio

-16:9 is the most popular aspect ratio, due to its considerable width, this format is considered panoramic. In other words, it captures a wider area than other aspect ratios.

Multiplayer System

Unity Game Server Hosting.

What system to use for race cars AI

Unity asset: iRDS – Intelligent Race Driver System

What AD services to use

-Unity ads.

Ads in the game

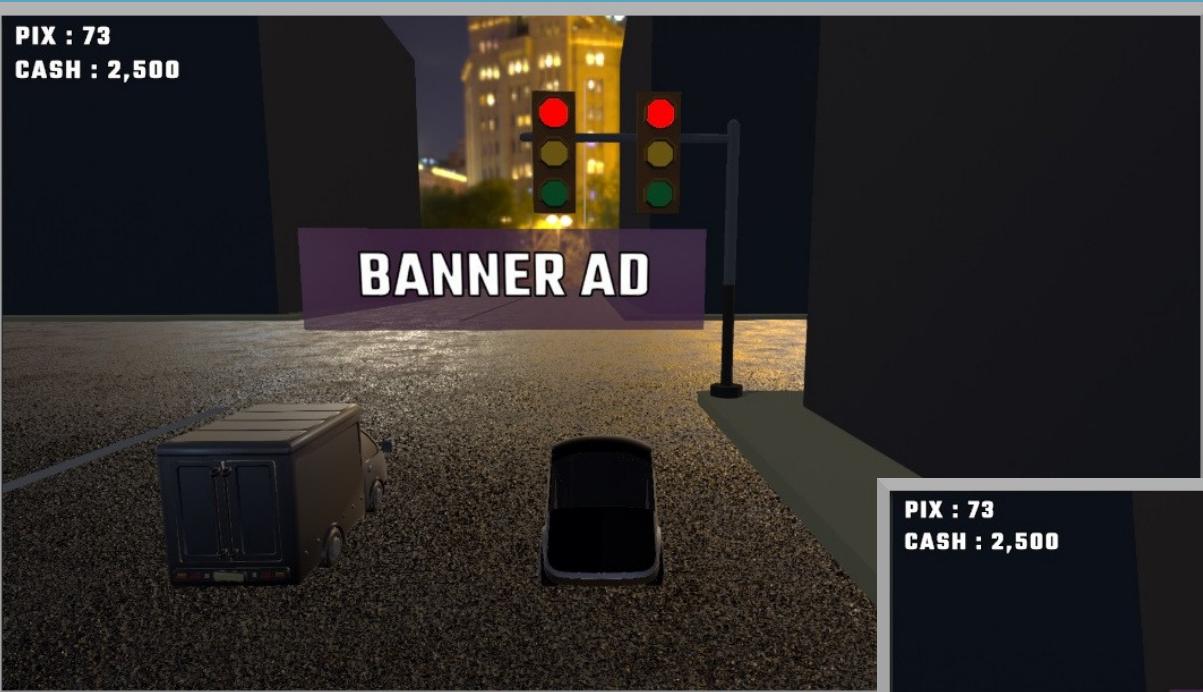
-Banner Ads in city buildings.

-Ads shown when stopping at traffic lights.



PIX : 73

CASH : 2,500



PIX : 73

CASH : 2,500



What data will be stored on the chain

- PIX token
- NFT race battle cards

What data will be stored off chain and where

#These data will be stored in Unity Gaming Services (Cloud Save)

- Collected Cash
- List of items player bought (car customization-garage furniture-music tracks)
- Player's achievements & skill points
- Player's DiDi progress

Saving players' progress

-Anonymous authentication introduces players to your game and provides a frictionless First Time User Experience. A First Time User Experience is the initial interaction with the application. A player can go through the first few levels using an anonymous account, so game servers can still track the progress while the player gets a chance to try out and explore your game.

Once a player becomes invested in your game, prompt the player to upgrade their anonymous account to sign in with a platform account using (Unity Cloud Save).

Size of the mobile game Build

Between 2 to 3 Gigabyte

How to manage play testers

-Using Unity Automated QA services

How to manage game analytics

-Using Unity Analytics services

Building shanghai city

- 1-Get shanghai city map**
- 2-Select area in city**
- 3>Create a terrain inside unity engine for selected area**
- 4-Add 3D roads models**
- 5-Add prototype buildings and props**
- 6-Add traffic system**
- 7-Test gameplay and Iterate**
- 8-Buy ready city buildings and prop 3D models from stores**
- 9-Customize the buildings and props fbx and textures**
- 10-Add visual effects**
- 11-Optimize playing performance**
- 12-Test gameplay and Iterate**

List of city 3D models to buy and to create

3D models to buy

- Buildings
- Roads
- Side walks
- City props (lights-signs-traffic lights-traffic cameras-trees-etc...)
- Garage furniture

3D models to create

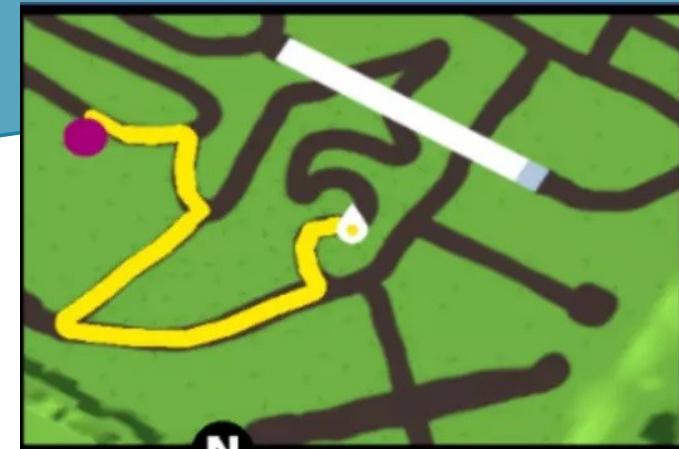
- Robo-Vehicles
- City Terrain
- Traffic cars
- Robo-Vehicles customization parts
- Race tracks

List of in game locations

- Garage: player home and place to customize the car and garage**
- City (Shanghai) where player work as a DiDi driver to collect cash**
- Race tracks: where player race against other players and use race cards to win prizes**

List of visual effects in the game

- Unity Post processing stack (Bloom-Ambient Occlusion-Anti aliasing-Color Adjustments)
- Rain
- Steam
- Snow
- Fog
- Tree wind
- Robo-vehicle using battle card in race (nitro-shield-slow...etc)
- UI visual effects (pressing button-collecting cash-win race-use cards)



Navigation in city

Will be using a Mini Map system tool to guide the player to his destination.

BLOCKCHAIN

PIX Token ERC20

PIX total supply : 100,000,000 PIX

NFT Race Cards ERC1155

What is NFT Race Cards?

We can call it NFT Race Battle Cards, These cards will be used only in the multiplayer race mode, to the players win the race.

How players can earn money

By selling (NFT battle cards), the player gets a random battle card every time he opens a Gift box, rare cards will be highly desirable.

DEVELOPMENT AND MARKETING

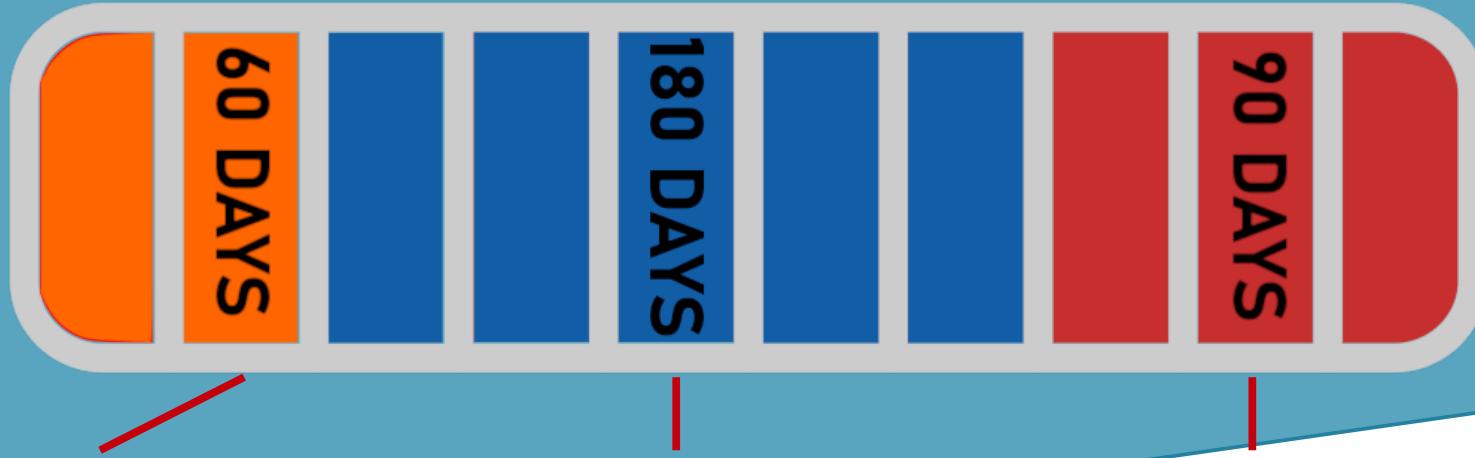
Development cost

Regardless of the type and size of the game you develop, there are several factors that influence the costs, which apply to almost all mobile game development.

Pre-Development Costs

For the game development process to be well structured, game developers will create a strategy in the form of a GDD document that will include all the game details. This step is essential because it will be the basis of the whole project.

DEVELOPMENT PROCESS



Pre Production

- Forming team
- Concept art
- Rough prototype
- Detailed game design document

Production

- Serious building
- Hire freelancers
- Test iterate loop
- Start free marketing

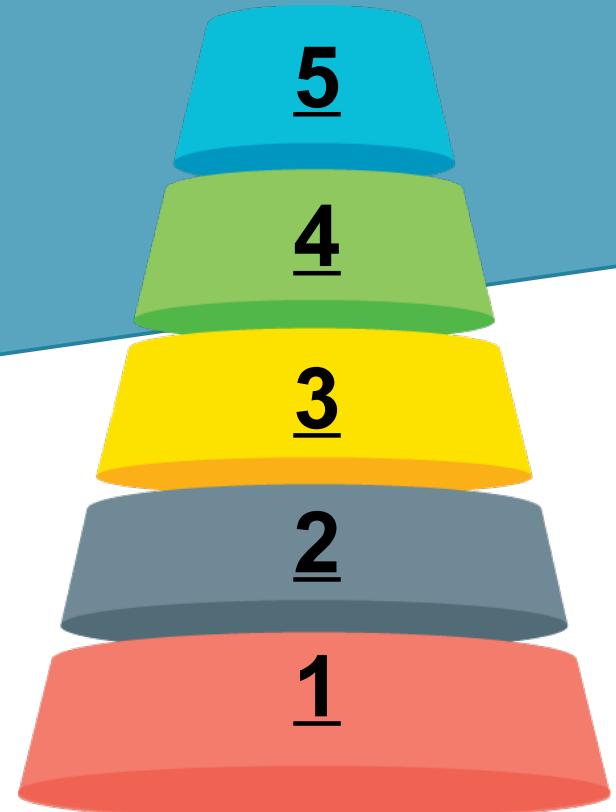
Post Production

- Get ready to launch
- Start paid marketing
- Start Localization
- Fix bugs and optimization
- Test iterate loop

MARKETING

The 5 Steps to Launch a Mobile Game

- Automate & Scale Up**
- Soft Launch**
- Monetization Strategy**
- Advanced Marketability Test (SDK Networks)**
- Initial Marketability Test (Social)**



Step 1: Run a marketability test on social networks

The first step to launching a hyper-casual game is running an initial marketability test on social media networks - this tells you its relative potential for success in the market. Facebook is typically the best place to start - it has a simple integration, it's relatively fast and cheap to use, and offers a vast audience. Essentially, testing on Facebook gives you a general idea whether your game prototype matches your KPI goals.

If test results on Facebook look promising, try marketability testing on other social networks like Google, Snapchat and TikTok. This will give you even broader confirmation that your game stands out among the competition.

Step 2: Run a marketability test on SDK networks

Once initial KPIs are looking good, now it's time to test on SDK networks. Why? SDK networks offer the biggest audience possible, and the biggest opportunity for your game to scale up during the global launch. Just because a game passes marketability on Facebook, doesn't necessarily mean it will scale on an SDK network later on.

To understand marketability on SDK networks, we look at eCPM, which is IPM multiplied by CPI. Like the chart shows, the campaigns that generate the highest eCPMs will be the ones to top the SDK networks' data science ad serving models, winning the most impressions and scaling the fastest. Essentially, the higher the eCPM, the more the purchasing power your campaign has on the network.

Step 3: Implement ad monetization

Once your game's KPIs look promising on both social media and SDK networks, you're almost ready for launch. But first, you need to maximize your monetization opportunities through the game content itself. This includes adding more levels, A/B testing different placement and creative strategies, determining a basic game economy, and more.

This way, before launch, you're putting yourself in the best position to profit from your game, while ensuring your users have the most positive and exciting experience possible.

Step 4: Run a soft launch

Now it's time to soft launch your game - releasing the product ahead of the scheduled launch is an opportunity to simulate real-world interactions. Since you've already tested your marketability, you can confidently soft launch on every ad network possible to increase your buying power.

Step 5: Automate and scale up

Congrats! You've now global launched your game, new users are joining every day, and LTV is becoming much more accurate. Now is the best time to automate user acquisition, so you and your team can not only focus on acquiring the users, but also the game itself - and you can buy users much more efficiently.

TEAM

(Project manager)

Role: Make detailed project GDD – Planning and monitoring the project – Build communication lines with game stores, media, blockchain companies – Ensure workflow and deadlines are met – help other sections with problems they have.

(Game designer)

Role: Design the whole economy – Design the DiDi game loop – Design the cards race gameplay.

(3d modeler & artist)

Role: Build 3d models: City terrain – Street traffic cars – Track for multiplayer race – NEV car interior & exterior accessories parts - Sky Boxes

(Full stack developer)

Role: All blockchain related tasks.

(C# programmer)

Roles: Build car controller – City cars AI – DiDi missions system – Off chain economy – Player leaderboard & achievements – Multiplayer networking – NEV car customization system – Garage upgrade system

(Q&A)

Role: Test the game and give feedback – Build a social community around the game and collect data.

(Hire remotely for a short period of time, no needs to be full time employees)

(UI designer)

Role: Develop user interface.

(2d artist)

Role: Design game logo & banners – race cards – game icons – characters avatars.

(Sound designer)

Role: Sound effects & music tracks.

(Effects designer)

Role: Create game visual effects

(Estimated cost by salary for 1 year)

- Project manager: $5,000 * 12 = 60,000 \$$**
- Game designer: $3,000 * 12 = 36,000 \$$**
- 3d modeler & artist: $3,000 * 12 = 36,000 \$$**
- Full stack developer: $4,000 * 12 = 48,000 \$$**
- C# programmer: $4,000 * 12 = 48,000 \$$**
- Q&A: $2,500 * 12 = 30,000 \$$**

Freelancers (one time payment)

- UI designer: 3,000 \$**
- 2d artist: 5,000 \$**
- Sound designer: 5,000 \$**
- Effects designer: 5,000 \$**
- Software licenses and additional costs: 5,000 \$**

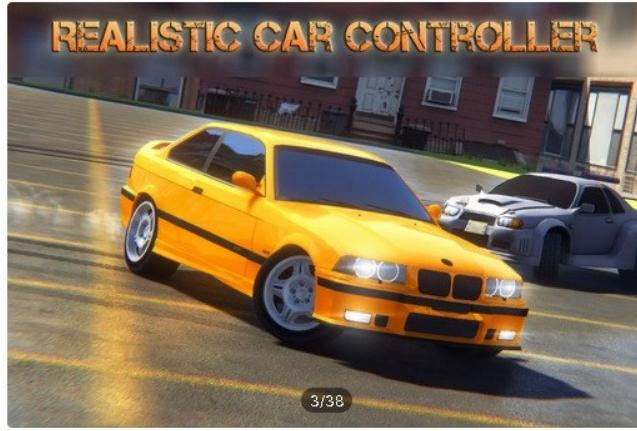
Assets from (Unity Asset Store) can be used to speedup building the game, Each asset is highly developed by professionals and can be added to the final build

NOTE : WE ARE TARGETING 2 TYPE OF ASSETS :

1-C# SCRIPTS (CAR CONTROLLER – TRAFFIC SYSTEM).

2-FBX MODELS (BUILDINGS – PROPS).

THESE ASSETS CAN BE EASILY MODIFIED BY THE TEAM PROGRAMMER AND ARTIST, AND WONT BREAK THE PROJECT IN THE FUTURE BECAUSE (UNITY ENGINE) BUILT FROM GROUND TO USE C# SCRIPTS AND FBX FORMAT.



Realistic Car Controller

BG BoneCracker Games

★★★★★ (428) | ❤ (2998)

\$50

Taxes/VAT calculated at checkout

Product Information

License agreement [Standard Unity Asset Store EULA](#)

License type Extension Asset

File size 317.2 MB

Latest version 0.50

Latest release date

Supported Unity versions

Support

Reviews

Add



Neo Shanghai (Built-In)

K KitBash3D

(not enough ratings) | ❤ (140)

\$199

Taxes/VAT calculated at checkout

Product Information

License agreement [Standard Unity Asset Store EULA](#)

License type Site

File size 1.0 GB

Latest version 1.1

Latest release date May 19, 2021

Supported Unity versions 2019.3.13 or higher

Support [Visit site](#)

Add to Cart

[View Full Details](#)



Mobile Traffic System

Gley ★★★★★ (36) | ⚡ (472)

\$60

Taxes/VAT calculated at checkout

Product Information

License agreement Standard Unity Asset Store EULA

License type Extension Asset

File size 86.2 MB

Latest version 1.3.7

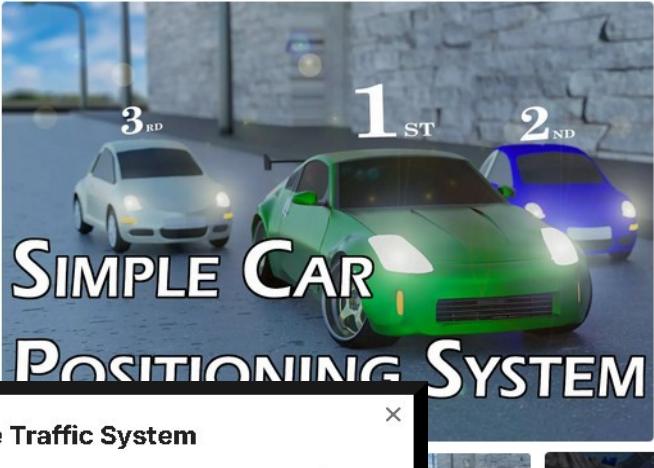
Latest release date Sep 6, 2022

Supported Unity versions 2019.4.40 or higher

Support Visit site

Reviews ★★★★★

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Simple Car Positioning System

N Nanousis ★★★★★ (12) | ⚡ (20)

\$9.99

Taxes/VAT calculated at checkout

Product Information

License agreement Standard Unity Asset Store EULA

License type Extension Asset

File size 83.9 MB

Latest version 2.0

Latest release date Jan 21, 2021

Supported Unity versions 2018.3.0 or higher

Support Visit site

Reviews ★★★★★

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→

NewGen: Urban

R ReversedInt

★★★★★ (27) | ❤ (97)

\$44.99

Taxes/VAT calculated at checkout

Product Information

License agreement [Standard Unity Asset Store EULA](#)

License type Site

File size 3.3 GB

Latest version 1.0

Latest release date Jan 10, 2022

Supported Unity versions 2020.3.14 or higher

Support [Visit site](#)

Reviews [Add review](#) ★★★★★ (27)

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← →

⌚ JAPANESE CITY ⌚ | Modular Pack

SS Sherman Waffle Studios

★★★★★ (16) | ❤ (749)

\$34.99

Taxes/VAT calculated at checkout

Product Information

License agreement [Standard Unity Asset Store EULA](#)

License type Site

File size 2.1 GB

Latest version 1.34

Latest release date Jan 10, 2022

Supported Unity versions 2020.3.14 or higher

Support [Visit site](#)

Reviews [Add review](#) ★★★★★ (16)

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Modern City Downtown with Interi...

LS Leartes Studios (not enough ratings) | (28)

\$149.99

Taxes/VAT calculated at checkout

Product Information

License agreement [Standard Unity Asset Store EULA](#)

License type Site

File size 2.3 GB

Latest version 1.0

Latest release date Aug 10, 2022

Supported Unity versions 2020.3.37 or higher

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Japanese House Package

RS Reberu Game Studio (not enough ratings) | (50)

\$69

Taxes/VAT calculated at checkout

Product Information

License agreement [Standard Unity Asset Store EULA](#)

License type Site

File size 77.0 MB

Latest version 1.0

Latest release date Feb 24, 2022

Supported Unity versions 2019.4.17 or higher

Support [Visit site](#)

[Add to Cart](#) [View Full Details](#)

Easy Minimap System MT - GPS, M...

MA MT Assets ★★★★ (24) | (215)

\$18.90

Taxes/VAT calculated at checkout

Product Information

License agreement	Standard Unity Asset Store EULA
License type	Extension Asset
File size	212.5 MB
Latest version	2.4.2
Latest release date	May 24, 2022
Supported Unity versions	2019.4.36 or higher
Support	Visit site

Reviews

[Add to Cart](#) [View Full Details](#)

- Easy GPS navigation system
- High customization
- Generate map from scene
- Highlighting distant items
- And much more...

1/15

Easy Minimap System Creating Test Minimap Display or on Routes

PIXY ROADS ECONOMY

CASH OF CHAIN TOKEN

HOW PLAYER GET CASH?

- Play as DiDi driver
- Win race
- Buy CASH with PIX Token

WHAT IS THE USE OF CASH?

- Customize Vehicle
- Pay rent and Vehicle installments
- Buy race tickets
- Buy garage furniture
- Pay traffic Violation
- Buy music tracks
- Upgrade NFT race battle cards
- Manage Vehicle (Wash car/Change Oil/Fix parts)

PIX ON CHAIN TOKEN

HOW PLAYER CAN GET PIX TOKEN?

- Buy with crypto currency
- Air drops

APP EARN MONEY FROM?

- Ads in game
- Remove Ads subscription – 3 PIX a month
- Players Buy PIX Token
- Fees from players trading Race Cards

PLAYERS EARN MONEY FROM?

- From selling race battle cards as NFT

E N D



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