I, Game & Robot Hackathon

AI-Land Mobile Game

Design Planning

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Background

The year 2022 in a random, nicely-cloud agglomeration.

The epochal change can be felt in the air. And the robo-vehicle you joined the party to be tested in real road challenges.

The player has been chosen to supervise them.

Theme

Hyper casual mobile game

Fully digital, AI-driven world of the future has their challenges to achieve so all robots, people and robo-vehicles can live together.

Players will become **the creators and supervisors** and will be involved into introduction of robo-vehicles and their goal would be to teach and test those NEV rob-vehicles so they can become fully AI-driven, autonomous and can help all citizens in a daily life

Unfortunately, though, because it’s a complete paradigm shift, the guiders of the traditional world like cars’ manufacturers and other monopolists won’t go away freely to lose their power and money, what worse they will monkey the players’ efforts by attacking software and modifying city’s items arrangement.

But **by engaging the creativity and supportive community**, the players will have the power to win this play.

Narrative Framework

The story should be told in a linear fashion, made up of separate sequences in the form of missions or quests.

The player should have some freedom through the exploration, though, and they can choose the order of the missions to complete, and also some side quests that are given throughout the world.

The narrative comes **in the form of skippable cutscenes and brings the player a story behind**, what the players are supposed to do.

So players find out that they have been chosen to, together with their in-game friend, supervise the works and tests of new NEV robo-vehicle in the AI-Land city to make them fully AI-driven and autonomous.

A warning is done that they may expect some troubles, but **the details are not revealed yet,** to keep players intrigued and excited about the story. The game relies on the power of the narrative to hook players during FTUE.

This way, the game ties the narrative to the core and gives purpose to the actions players are about to complete.

Concept

The ultimate goal of the game is achieved a full level of autonomy of the NEV robo-vehicle. The player achieves it once completed all levels of the game.

The upcoming world represented as the robo-vehicles on their way to become AI-driven, autonomous vehicles in a fully digital cities fights with the leftovers of the traditional world, personified as a traditional cars' manufacturers (in-game bots).

At the beginning of the game, they are in charge of industry. The latest technological discoveries, though, made possible for all ordinary people to start their own production of multi-functional robo-vehicles, which are also under tests to become autonomous.

It's a player who is supposed to supervise the works in a way described later. But during a gameplay they quickly discover that autonomous, ordinary man-made vehicles are not the dream of those who keep the power and money in their hands, and want to destroy all the efforts.
But due to tireless efforts and community's support will be able to overcome them.

It's an idea of paradigm shift from few monopolists **to many, small creators powered by technology.**

with all tasks located there **to keep the game simple and doable in a reasonable time.**

In the longer perspective, the monopolists' predominance can be shown by splitting the city into areas which are under their control (eg. all districts have monopolists' color). To make the game more visually-attractive to players, we can also design the city's district in their specific way with many local characteristics (eg. different style, different buildings).

The concept is **NOT about making a GTA-style game** with a user's ability to drive through the whole city, but keep everything **on one board at a time**.

Through the gameplay the idea is that the players **teaches the NEV robo-vehicle how to proceed**, so to drive and do different tasks in the city. In that way, we would be able to give the players an overview of what obstacles we face in reality with autonomous vehicles.

Some examples may be: huge money resources are required, different road obstacles which needs to be solved so the vehicles can become fully autonomous like detours, traffic lights, proper infrastructure and vehicles' communication, other drivers' behaviour and the unpredictability of this, fast reaction, smooth and undisturbed connection between all vehicles, road signs and road rules, hackers activitity)

The **core mechanics** would be then the following:
drive through the city, with social mechanics, time mechanics, idle mechanics, share and collect mechanics, customize the NEV robo-vehicle, and then do city's daily tasks to reach the goal of being fully autonomous (a trained AI is ready to work fully independently)

then, we could consider **the alternative-mechanics** to achieve the same goal - eg. providing a player with medium level riddles to be solved which mimic the algorithmic problems regarding the AI that need to be solved.

This concept, though, needs a target users' confirmation if it's appealing enough to be worth doing.

social mechanics would fit the common truth that alone you are slow (=weaker) than your opponents. As the concept of the game states, that once your task is done (=you completed teaching the NEV robo-vehice a specific task so it's ready to do it on its own) your enemies can **easily manipulate the road to surprise the AI or can hack the software** , so you have to repeat the steps from scratch (or from some point)

So in a game, apart from updating software security, the way to overcome your enemies is to build a network of supporters and share your efforts with them (as you would be able to share the resources and abilities with each σther)

It's crucial to highlight this social aspect of the cooperation to present that the community is the power itself, but also it should be possible to give players an ability to play, or at least start alone.

The idea with those small tasks to complete is because of the need to split a whole game into other smaller parts inside the game. The smallest game loop is like a little thing that a player can do (drive straight, drive left, stop at traffic lights, tap to put the package into NEV robo-vehicle, and then tap to take out)

This is supposed to be a part of a larger game loop. In this way, it would be possible to provide **a first version of this game quicker and then develop it with the help of DAO members.**

Characters

Player - you who drives, and tests the NEV robo-vehicle

Player is responsible for:

- **moving through the city and complete the missions using the NEV - a robo-vehicle,** which has to be customised,
- **building infrastructure and buying required resources**,
- **building the network of supporters to stop opponent's destructive actions and move faster.**

AI developer - a game narrator, and in-game helper which is a friend of the player.

He spends his days in a car's garage, the game narrative says that he codes and debugs the AI. He explains the tasks, and guides and give hints to the player with a step-by-step tutorial and in case of troubles, and he also solves the riddles in an alternative game mechanics (the more below)

Enemies are **in-game bots**, there are not visible to the player, just the results of their actions can be seen, and they are responsible for:

- **destroying what a player does to slow you down (=slow the AI market launch)**
  eg. a player taught the NEV robo-vehicle to use road X which includes a roundabout, pedestrian crossing and the task was to deliver the groceries to an old lady, but once completed a bot-enemy puts a gate on the road, which is unknown thing for the NEV robo-vehicle,
- **alternatively also: setting other traps** on the road during the gameplay, like fallen tree on the road while the NEV robo-vehicle doesn’t have the tool to remove it.
- **attacking via software (eg. a virus, a hacker attack)**

Other players - (if it’s played together)

They have the same tasks what a main player. The idea is that each player has its own state of achievements (= level of autonomy, skills and resource wallet) which they can transfer through the gameplay

It should possible to play max 3 people at a time, but due to this share mechanics the players can easily switch between the gameplays.

Plot

It would a basic story which shapes the gameplay. The big goal (to reach full-autnomy of robo-vehicles) and to do that a player needs to accomplish a bunch of little goals first (test the vehicle in a road/task challenges), is the reason why the players do, and there isn’t a lot of dialogue or exposition, but then a plot twist is revealed progressively to the players to keep them engaged and intrigued. Step by step they discover that someone is sabotaging their actions, but it will take them some time to find out who and why.

It’s also the first moment, where the actions of the opponents are involved (the opponets can change the direction/progress of the game, stop a player out of sudden or make some other troubles a player needs to deal with)

Game’s type

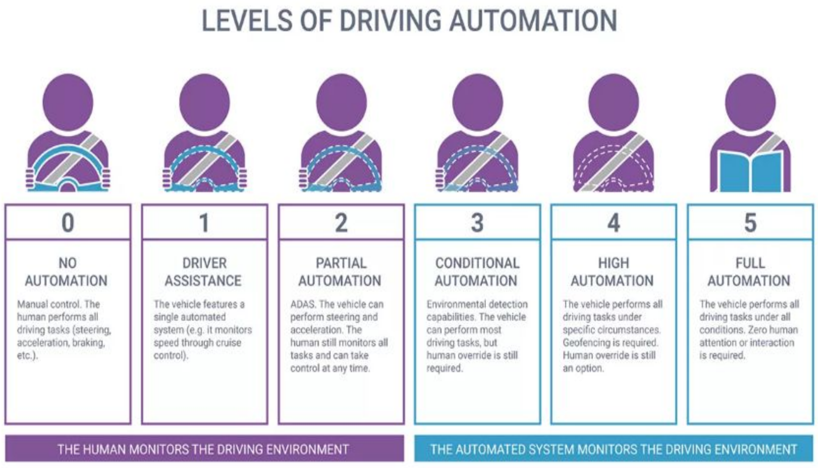
It would be hyper-casual and simulation genres with **6 main levels of them game**, as explained below, each includes a bunch of new skills) Gaining each of them is a very little one, well fitted for a hyper-casual-style game as it can be completed quickly and give the players the feeling of achievements..

A plot seamlessly intertwined with gameplay to explaining what’s happening and guiding the player.

Levels

Levels are called missions in the game nomenclature. The inspiration for this could be the levels of driving automation. 0 is where the player starts the game, while the level 5: full automation is our target.

It would be possible to progress to a new level only if a full mission is completed.



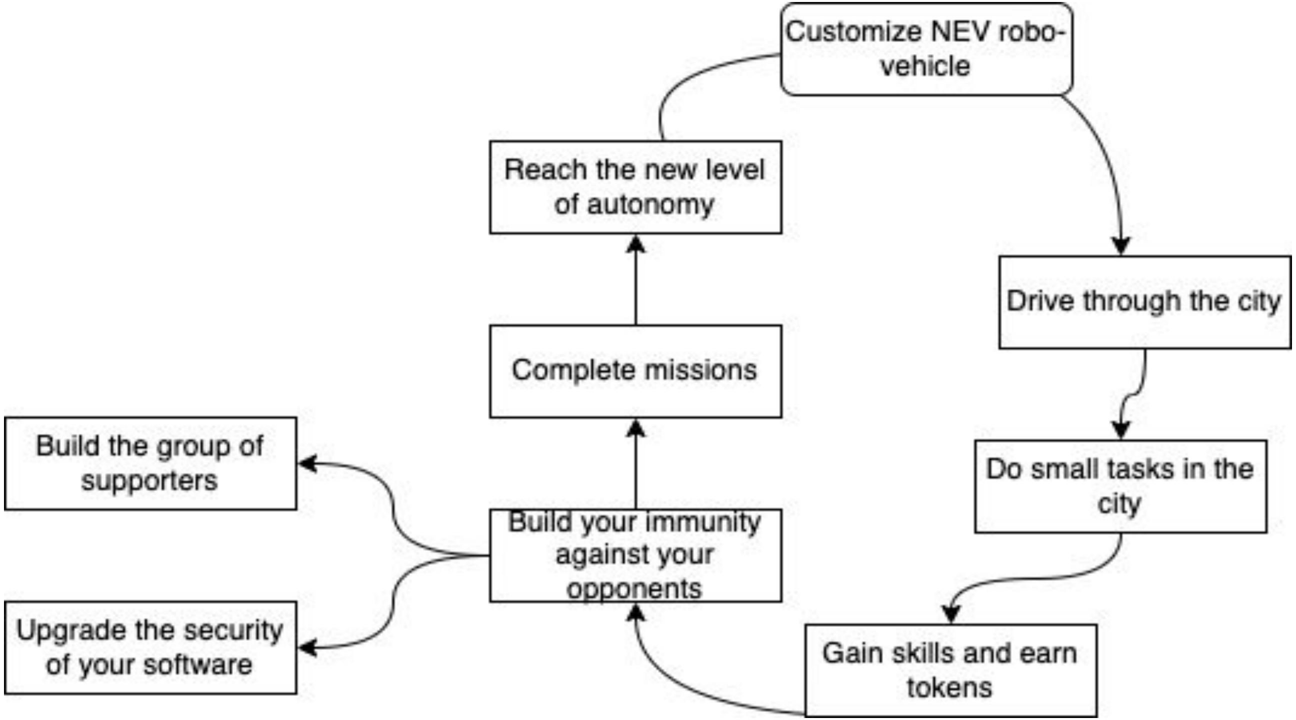
LEVELS OF DRIVING AUTOMATION

0	1	2	3	4	5
NO AUTOMATION	DRIVER ASSISTANCE	PARTIAL AUTOMATION	CONDITIONAL AUTOMATION	HIGH AUTOMATION	FULL AUTOMATION
Manual control. The human performs all driving tasks (steering, acceleration, braking, etc.).	The vehicle features a single automated system (e.g. it monitors speed through cruise control).	ADAS. The vehicle can perform steering and acceleration. The human still monitors all tasks and can take control at any time.	Environmental detection capabilities. The vehicle can perform most driving tasks, but human override is still required.	The vehicle performs all driving tasks under specific circumstances. Geofencing is required. Human override is still an option.	The vehicle performs all driving tasks under all conditions. Zero human attention or interaction is required.
THE HUMAN MONITORS THE DRIVING ENVIRONMENT			THE AUTOMATED SYSTEM MONITORS THE DRIVING ENVIRONMENT		

Vehicles with Level 6 Autonomy are **capable of driving fully autonomously without the assistance or intervention of a human driver**.

This concept would need to be a bit modified for the needs of this game though as the idea is that the NEV robo-vehicle **increases the level of full autonomy after each mission completion but limited to only the place in the city and the tasks learnt.** Still it's worth considering to follow this number.

Core game loop


Customize NEV robo-vehicle
Drive through the city
Do small tasks in the city
Gain skills and earn tokens
Build your immunity against your opponents
Build the group of supporters
Upgrade the security of your software
Complete missions
Reach the new level of autonomy

The playing world will be a modern, digital city, with multiple screens representing the different places in a city to complete the mission.

At the beginning player **creates the NEV robo-vehicle and right after that it uses it to complete different daily tasks** so to teach the vehicle how to navigate in the city and which customizations is needed to complete these tasks on its own in the future, as the main goal of the game is to make the fully-digital AI-driven city with the autonomous devices which can do the daily tasks for the people on their own. **(It's the simulation of work on the implementation of AI worldwide)**

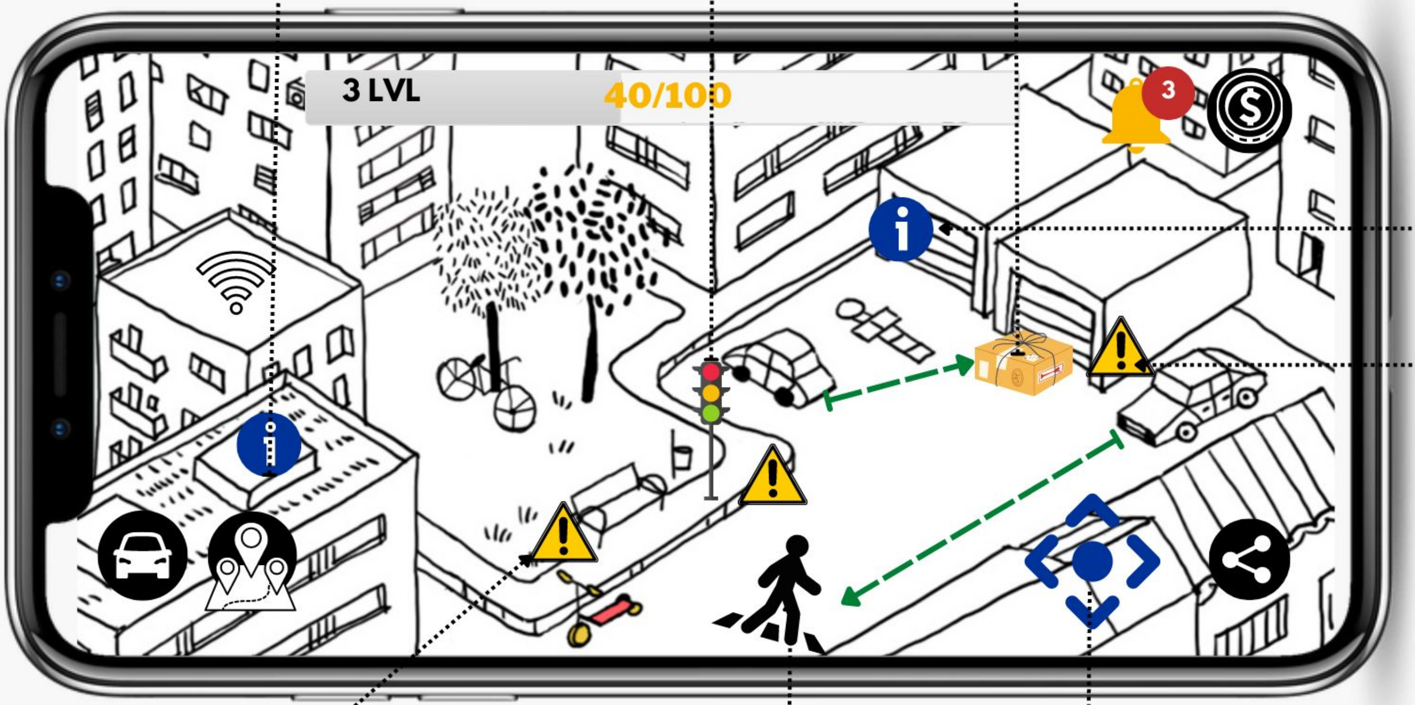
Then, the player needs to repeat the NEV robo-vehicle customization process to each roads setup and tasks' specification.

But the core gameplay in a “AI-Land” **will be more than this, and rather a mix of teaching, but also adding some elements of AI-friendly infrastructure in the city and becoming immune to the enemies and their traps,** all of them serve the players’ progress in the game.

Teaching in the game will be done in a modern digital cities filled with people, cyclists, σther vehicles etc. It’s basically **driving by the NEV robo-vehicl**e, so it needs all the buttons to do it (taping left/right/brake/speed) and is surrounded by the different building infrastructure which matters because each of them is an occasion to acquire a new skill: eg. driving on the roundabout, speeding up, speeding down, pulling of at the traffic light, stopping at pedestrian crossing - it’s all considered as a new skill.

The road’s challenges would be the standard, like pedestrian crossing, bicycle path, traffic lights, roadworks, hole in the road, a high curb, lack of parking space, speed bump, wall, gate, traffic jams. There is no need to present them in the sophisticated way, **only to inform the user each time it does something the first time which means acquiring a new skill.**

The daily tasks include different activities, like delivering letters and packages, delivering groceries, food, picking up a child to school, and adult to a work like a taxi, delivering an old lady to the market, transporting a blood or organs or medicaments, transporting a pet, etc, basically all city’s activities which may be done by but nσt a big vehicle. They will be done by taping the specified places on the board, or σther way suggested by game’s guide.



01 SOLAR PANELS PLACE

02 TRAFFIC LIGHTS

03 DELIVER PARCEL

04 SENSOR SPOT

05 WARNING SIGN

06 MOVING CONTROLER

07 PEDESTRIAN CROSSING

08 OBJECTS ON THE ROAD

All tasks are located within one board and there could be multiple boards which represents different districts/places of the city. The may vary with the level, the background and they can be launched one by one to keep players’ attention.

Becoming immune to the enemies’ trap requires acquiring and updating software on regular basis and inviting other players to play together to share skills easier and complete tasks faster. That should be possible to do at any time of the game via a special link or qr code or via choosing a player from the list of active players.

The game works on the concept of huge volatility in that case that the enemies are not visible and all the players can see are the results of their actions, which make the progressing in a game more difficult. Also the origin of failures are not clear from the beginning, but revealed step by step.

eg. a player completes all tasks, does all steps and is almost sure that they achieve the next level, but suddenly they realise that new circumstances (=objects) occurred on the road, and the NEV robo-vehicle misses the skills required to repeat the path on his own, so does the player.

So the player can repeat the steps/mission (or solve riddle, or buy or get the missing skill from the co-player) and end the mission but only until the enemies put another (kind of) trap.

It’s also based on the idea that it’s not clear at the beginning what is responsible for all of what doesn’t go well (eg. a player is stopped in a gameplay because of the virus in the software of NEV robo-vehicle) That results in the case where the countermeasures are not taken immediately. (That’s how the narrative in the game should evolve)

Completing each mission means that the player acquires a bunch of new skills, and awarded with an experience (=level of autonomy) which can (together with skills and tokens) can be kept and transferred via gameplay (eg. if you play with your friends you can start from scratch or reuse what you gained in a game previously)

Core game mechanics

driving by & customizing the NEV robo-vehicle

=learning a bunch of skills and earring $AUT tokens,

Driving will be useful from the start to the end of the game, and be **the key element in gameplay. The same applies to customizing the NEV robo-vehicle**

The game consists of missions (eg. section of the road without traffic lights but with a roundabout and without pedestrian crossing so to deliver a small cargo to the post office) **and skills includes** like (pulling off at the traffic lights, driving by the roundabout, stopping at the side of the road to collect the package, etc.)

The missions have different levels of complexity.

As the the main goal is to make the NEV-vehicle fully autonomous which will be able to complete daily tasks on its own, **the user needs to teach it all the roads and all configurations (customize it) in the city and how to customise itself to do the specific tasks.**

So Eg. at the beginning the NEV-vehicle requires user's control, so the player is within the vehicle, and once a mission in a specific part of the city is done successfully it means that the NEV robo-vehicle can repeat the road A to B all by himself and then player can move forward to the next mission)

Each skill acquired during the mission is recorded at the player's wallet together with a $AUT token earned and those are the skills which all create the level of autonomy, and also the player can share with co-players

The example mission described above, the player does with a car by using buttons (left, right, brake, gas) and does what's is supposed to be done by tapping on the notification/object/items showing up on the board (eg. a package/groceries/food) which waits eg. on the pavement to be taken and delivered to someone, or taping on a person on wheelchair waiting for being picked up)

At the beginning a player is guided through the mission what to do it step by step, but once the tutorial is finished the player is supposed to move alone.

The players also does all NEV robo-vehicle configurations required by clicking a “GARAGE” button (it opens a configuration panel which is located in a vehicle’s garage view).

They do this before each mission following the instruction being displayed, but also during the mission once the unexpected issue occurred and there will be a need for a specific item (eg. a hook or a shovel).
Example of such customization would be to deliver a frozen lunch (in such case the player needs to set up a trunk and a regulate its temperature)

Whenever a character completes a task, this takes away their energy.

Once did all the steps, the player is moved to the garage view, and a there is a quick video-recording displayed to the player which presents the NEV robo-vehicle doing this task fully autonomously, but **it still won't be able to complete the other ones until it has been taught to do so.**

Mission can success as described, but a mission can also fail.

The reason why it can fail are a lack of resources to customize the NEV robo-vehicle or enemies' activity explained later.

Examples of the objects on the roads to be implemented in a game:

traffic lights, road holes, roadworks, parking lots, road signs, crossroads, pedestrians, parcel lockers, info points, pedestrian crossings, bus stops, trees, fire, oil spot, broken glass, roundabouts, flat tire, road accidents, an overturned basket, sand on the road, snow on the road, wet road, a person on a wheelchair, a baby in a stroller etc.

building infrastructure

On the board, players have to install energy stations, sensors, BTS and add solar panels. These operations can be done in the pointed-out places, and and each of these investition cost some amount of $AUT tokens, but on the σther hand there are also the source of the $AUT tokens in the future as the return of the investment.

They allow the AI to gather more data from the traffic lights, crossing, road traffic, and temperature, so to move forward.

Charging stations are also required in the city to recharge the vehicle while playing a mission, as the level of energy decreases all the time.

Solar panels, while more expensive while investing, allow the player to charge the vehicle batteries without spending $AUT token. Cheaper but not least will be sensors and BTS. They are only the way of investing and getting some $AUT tokens in return, and are necessary to proceed but don't carry any other value..

Costs may be lower with the other players in a shared game, as they don't need to repeat this in all city's mission, as some part of them is being done by other players. The price of the items increase with each level.

The NEV robo-vehicle customization

Each mission is announced/showed with the prerequisite to complete it. It basically means that the player needs to have the sufficient $AUT to buy the special tools (=customizes itself)

There is no strict order of the missions, but the only dependence here is that the more complicated it is, the more funds it requires. The price of vehicles' tools also increase within the levels.

sharing with other players

While driving through the city on the board a player gains skills which are required to progress on the level of autonomy. A skill is every single thing which the NEV robo-vehicle does as described above.

The the idea is that in case of mission's failure the player can ask any of co-players for a skill to use it (like copy & paste code without the loss for the owner) to skip the need to repeat the mission. It would cost of course, but would be much cheaper than repeating the missions (or specific parts of the mission) Also, it speeds up the completion of missions as the gameplay is divided by the number of players.

time mechanics

There are different moments in the game where the players may be stopped during a gameplay to wait for a some period of time.

That could be running out of energy, $AUT tokens, a virus or a hacker attack (explained below)

In such case the player needs to wait for a specific period of time and/or pay some tokens.

collectible mechanics

every action the players take in the game will bring them **wheels (or any other indicator) (=skills)**.

The wheels collection is what tells how far the player are from completing the mission.

It also bring $AUT tokens.

social mechanics

built-in game friend AI developer

share/stream on social channels and invite others to join your game,

make progress quicker with a friend (=share resources on-demand, complete less missions to win as the rest do your co-players)

2 or max 3-player mode at a time, but players can switch between different gameplay, as they keep skills and transfer them between the games

alternate mechanics

solving riddles as a phone call to a friend (an AI-developer)

A player can teach the robo-vehicle a new skill also by implementing a proper software which is done by solving medium level quick and appealing puzzles which may be something like sudoku, maze, or similar. It could be only used once the mission is failed so not to repeat the steps on the board. (to be verified)

The thoughts evolves around this concept, though, because according to deconstructor of Fun 2021 predictions, puzzle games will become the top-grossing genre on mobile this year. In casual games overall, puzzle games account for just over 50% of all revenue for 2020.

enhancement mechanics

moving faster (by default it increases level by level, but can also be bought)

higher amount of energy (by buying the energy save enhacements)

independence of external resource of the energy (by buying solar panels on the roof)

independence of external Internet resources (by buying the internal Internet resources)

opposition mechanics

A mission is completed successfully when two conditions are met together

1. the robo-vehicle did a mission with a player,
2. it “repeated” it on its own, while the repetition is presented as a cutscene, a quick video-recording to the player, which shows the whole mission.

Otherwise it ends with a failure.

It’s presented in a video-recording as an extra thing which wasn’t there while teaching (eg. a fallen tree on the road, with a visually so if the robo-vehicle doesn’t know how to overcome it it stops and the player needs to return to game to gain this skill, unless they could get and apply this skill from another player (awarded with a few $AUT tokens).

So to sum up, **a failure means that the progress is stopped** (a player cannot achieve a new level of autonomy, and it can also mean that they lose the time, resources)

But it also means that if they have the co-players they are more expected to win and before they can quicker and easier complete the missions (because by loaning/sharing the skills, tasks and expenses)

a virus

it means that the software of the robo-vehicle has been hacked. In such case a player is stopped in a game (a wait time) and to retrieve it they need to pay $AUT (according to the narrative to the AI-developer to fix it) So it also slows them down, because tokens are needed to buy different things on the marketplace. During the gameplay a player can upgrade the NEV robo-vehicle software by buying it on the marketplace to become more immunized to the viruses.

A virus may happen in any time of the gameplay, and it is thrown randomly depending on the level of security.

a hacker attack

While progressing on the game, there is anσther trap which is set by the player’s enemies, and it’s a hacker attack.

It basically means that the player i**s stopped in a gameplay** for a some period of time, and can’t do anything, **and the only way to progress is to have the co-player which can move forward independently** (in that sense, the players are a team, which works together on a common goal to make NEV robo-vehice fully-autonomous.

The hacker attack happens randomly and it’s announced to the user with a full-width screen pop-up red cross button.

The immunity from the hacker-attack is being built by upgrading to safe and safer, more sophisticated software which can be bought on the marketplace and which vary depending on the level, but in contrast to a virus, there is no 100% certainty that it won't happen nonetheless.

Concept art style

The gameplay happens on one board, it’s because a player spend most the time doing the city’s mission, which present the city view (casual art style 2d view) as presented on moodboard.

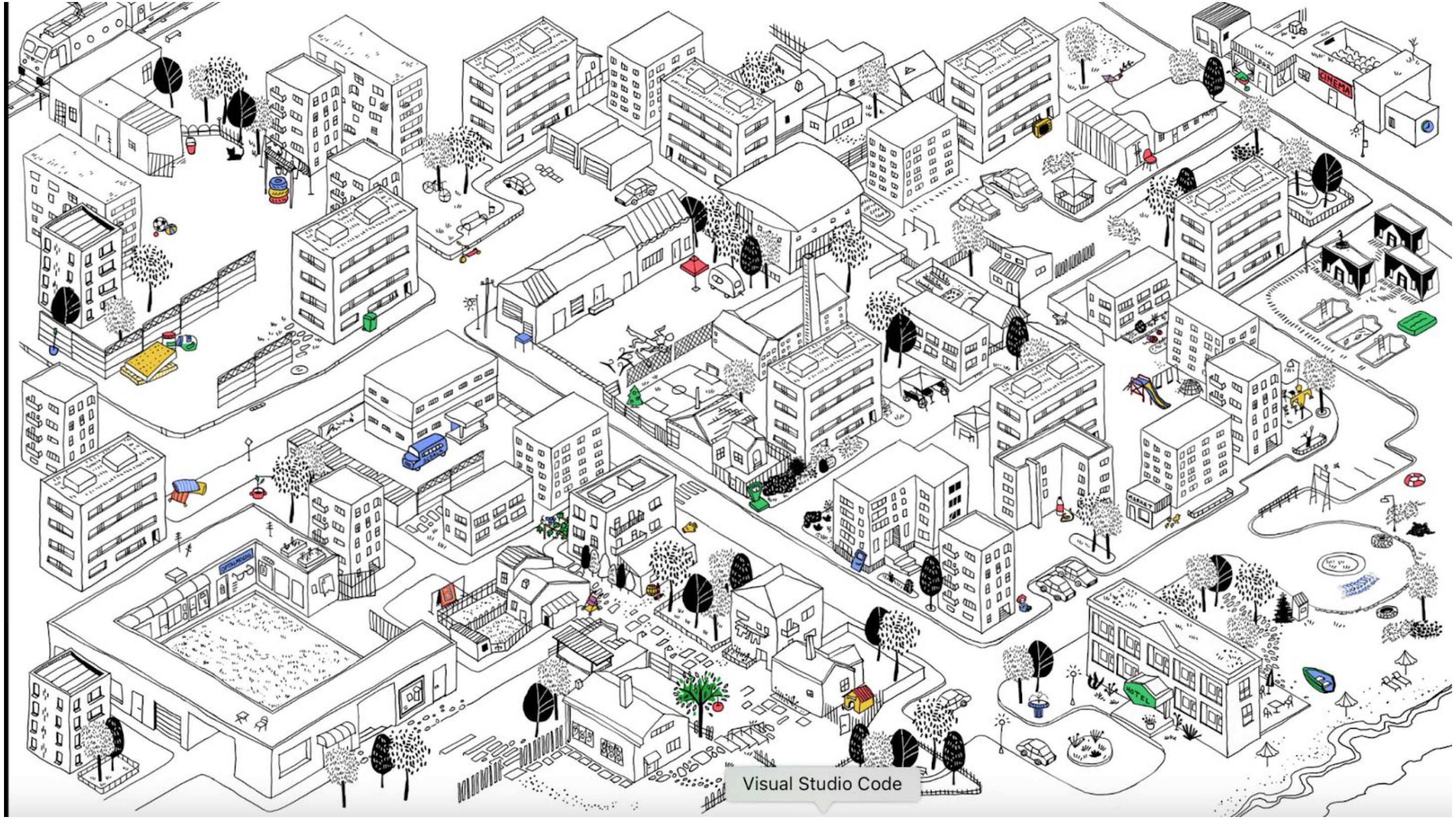
There could be multiple boards with different styles which would represent different districts of the city. A player can choose the place (a board) they start with, but it can’t move to another one without completing the chosen one. The entry view is a map (below, but it should be in color), and then when a player clicks a pin on the map (with a place of the mission) it’s redirected to the most detailed view of the city, like presented on the below screenshots.

Art (should match the vehicle project and be easy and basic enough to be able to be used on mobile devices) The interesting improvement in the next stages of the game, could be to have a different styles of the cities, where each resembles a city existing in a reality.

The authors want to highlight the light and nice design of the game as presented on next pages. The main idea behind was, that In today's games, **almost all feature some cute characters and lovely animations to add up to the** relaxing visuals of the board and bright pieces**.** The coloring makes it easy to distinguish between pieces of different types, so it's easy for the player.

Some ideas:

- a city view (roads, crossroads, traffic, pavements, pedestrians crossing, pins, bumps, roundabout, gates, work roads etc)
- a nic garage
- deauto
- bright colors and light shapes,
- three buttons always visible on the screen (wallet icon, map icon, and a garage icon)



Resources:

1. Diana Stanciulescu

Resources:

All images from the moodboard are designed by other artists, found on Behance and Dribble, and they are only the inspiration how the authors of this game’s idea see its design.

1) MUTI
2) FAGOSTUDIO, Agent Creaseanso
3) Flavio Remontti
4) Felic Art*

AI-LAND
MOTOR GARAGE
PARTS
OPEN NIGHTS
BEECH-RUT
100% HYDROGENE

Persona

The first though about the gamer would be the statistic one, but the gamer nerd has nothing to do with today's modern gamer. Because the typical hobby gamer is on average 34 years old. The mobile gaming gender split is 51% female and 49% male. 43% of women play mobile games more than five times a week, whereas only 38% of men play that often, as quoted by Forbes. Also gamers spend an average of 6 hours 20 minutes each week playing games. And 68% of mobile gamers play their favorite game every day, with an average of 47 minutes for one session, according to 2CV.

The casual game, in 2020 dominated download activities, as according to AppAnnie, accounting for 68% of all mobile games, driven mainly by the popularity of easy-to-use games such as Among Us, ROBLOX and My Talking Tom Friends.

On the other hand, core gamers generate 66% of ad spending and 55% of time spent on mobile games. **For the purpose of the project, though it seems to be crucial to provide an easier and quicker to implement game without the huge story behind and complicated plots**, still the one which gives the users fun. **That's why the initial idea evolved to simplify the plot and provide the highest fun possible.**

Market

It’s around 1400 blockchain games in the industry, most are quite fresh, also many big players are involved yet, most games are the productions of the indie developers or small software team. Worth noticing that the mobile game industry itself is worth more than PC and console market together, while in numbers it’s around 2.0b mobile gamers, so essentially every third to fourth person in the world.

A mobile as a gaming platform dominates the gaming industry by every metric, active users, revenue and growth.

It was expected for mobile gaming to generate revenues of $95.4 billion in 2022 and account for almost half of the entire games market. This will be driven predominantly by smartphones, with revenues of $79.7 billion by 2022, while analytics expect that up to 2024 the game industry will be worth around 218.7b $

Although mobile is indeed still the world’s fastest-growing games market segment, growth is slowing in mature markets such as North America, Western Europe, and Japan. **Emerging markets, including Southeast Asia, India, and Middle East & North Africa, will contribute most to the segment’s growth.**

However, a range of other factors are also contributors, including more cross-platform titles, more smartphone users, and improvements to both mobile hardware and mobile Internet infrastructure, including the rollout of 5G networks. Moreover, the growth in mobile game revenues will continue to outpace growth on PC in the coming years. **Mobile will also outpace console's revenue growth**

According to We Are Social and Hootsuite, 5.22 billion individuals have a mobile phone, accounting for 66.6% of the global population in January 2021. And this figure is increasing at a rate of around 1.8% per year.

Meanwhile, the number of internet users globally has increased by 7.3% since 2020, to 4.66 billion. More than 90% of these major groups of internet users are also online gamers. In addition, 75% of these internet users use their smartphones to play video games. According to all estimates, there are roughly 3.5 billion mobile gamers.

According to AppAnnie, publishers released 2 million new apps and games in 2021. The total number of apps and games available on iOS and Google Play now exceeds 21 million. Consumers have shifted more of their entertainment and gaming to mobile devices.

There were over 230 apps and games with yearly consumer spending above $100 million, with 13 of them exceeding $1 billion. This was up 20% from 2020, with 193 apps and games exceeding $100 million in annual spend and only 8 over $1 billion.

Mobile games remain especially attractive to users as profits can be made not only because of e-sport tournament, but also play-to-earn, which exploded intensively recently or digital items selling.

The known issues which are mentioned, though are that a user **onboarding is too difficult, play-and-earn are considered as ponzi schemes, there is often a high entry price, and they are not fun**.

That's why the idea of this game to avoid all of those disadvantages and **create the top game.**

Other issue involved into mobile blockchain developing to consider is also a Google and App’s policy and that they both have extensively developed rules to secure their business model of in-app purchases. The so called “store tax” is a 30% cut that both Google and Apple charge their publishers for any in-app transactions. They slap this 30% tax on everything: subscriptions, in-app purchases and paid apps. To be prepared for a mass adoption of the people who are not necessairly thigly tied to the crypto industry it could be worth thinking about the alternative solutions apart from distribute it via Apple Or Google.

Marketing

The analysis taken to identity the main players in the industry **clearly shows that no game with a similar gameplay exist,** the most similar cryptocars is focused on the racing itself and all cars' customisation without a wider story behind.

However, it has to be carefully taken into account, as some elements can be quite similar, no matter of the AI-Land narrative, tso o avoid repetitive things which may discourage users from take part in, and especially **offer them the better experience and more fair rules to join**.

Our brief summary of the popular games on blockchain can be found here, as to provide an analysis of all is a huge task, but what is visible, though is that most of them, in their concept are similar **focusing mainly on collecting, looking after and battling**.

The truth is though, that this kind of game is the easiest and quickest to implement, while the development on bigger titles is much longer. My neighbour Alice can be a good example, while the road map is designed until the end of 2023 (and it started in 2020)

Unfortunately, most of blockchain developers had zero game development experience and presumed their games' tokenomic appeal was enough incentives to trump a fun gaming experience. Ultimately creating a rather infamous *boring* reputation for web 3.0 games.

First, and foremost a game should be a fun first. The big challenge is to put a bridge between the reality and the crypto-industry, and touch non-crypto users which play to relax mainly.

The concept play-to-earn while can be valid and appealing if designed properly **it can't rest the only reason to try the game,** so it is necessary to give the players fun.

The goal is more to play to have fun than simply play to earn. Mass market adoption is only possible if it would be easier enough for a standard users to join without the necessity to have and experience or know the blockchain technology, also that’s also the must-have for a new game studios to compete with bigger AAA studios.

While the top crypto games currently average around 500,000 to a million unique users monthly, according to DappRadar, games such as Fortnite, Minecraft, and Roblox attract millions every day. Simple mobile games such as Among Us and Candy Crush can fare even better and have attracted billions of downloads. So despite massive potential, crypto gaming has yet to attract either hardcore or casual gamers.

There are multiple ways to attract users and keep their attention, and as it's seen the competitors follow various ones. Eg. cryptocars.io **added a survey about car's customization so users can decide which style would be the most appealing for them.** Surprisingly "muscle car" won, so it doesn't seem to be likely without it.

To follow this one of the first recommended strategy would be this, a survey directed to the potential players to get the answer from them. To be repeated and done respectively phase after phase. Then, but not less important, a narrative behind, how this game is different than any other game of the world and how **it fits with deauto.io values and ambitions.** Free2Play and a fun included could be ones of the asset to highlight, if such strategy is accepted. It's a potential to attract many non-crypto users.

Stategies

- deauto.io sale
- airdrop
- auction
- stickers / shop with different products from the gameplay eg. https://t.co/8QPXlAwH44
- create a new tab on deauto.io page for a game, also add a notebook (diary)
- via FB or TwitteR, Instagram, TikTok fanpage (so to meet the players where they are instead of forcing them to use one platform)

- twitter social campaign, talk to influencers, maybe reach partners' companies
- drops to people who will subscribe to your apha or even pre-alpha list
- pre-saling
- video content,
- tale of the dev team, diary
- **live-streaming -** games-related content alone is consumed by over 600 million people worldwide. In 2021, the worldwide game live-streaming audience reached 728.8 million, up 10.0% from 2020. They are on track for even more growth in 2022.
- in-game advertising - researchers show that players are willing to view advertising if it means getting anything for free,

- according to 2CV. People prefer adverts in games to in-app purchases and game purchases, according to a Facebook gaming report.
- push notification to the players to keep the engaged but only for the players on a specific level
- game industry platforms
- discord channels for players
- prepare a trailer
- medium articles
- we can reach game YT, streamers and email press

Development cycle

Requirement analysis

- **Platform:** according to latest stats around 70% of mobiles use Android, so the initial choice **could be Android**
- **Technology:** There are many, like GameMaker Studio, Construct, Cocos2D, Love2d, Pygame, Unreal Engine 4, or Unity. Unity, though, is fully cross-platform, much more flexible, and offers a wider variety of tools, including custom tools for Android that makes it the best fit for mobile development

Complexity:

- it’s casual, city’s life simulation genre, even more mini & hyper-casual games (something between, because we want some narrative and plot, but on the other hand the mechanics are quite repetitive and simple)
- social player
- target market: Asian countries + USA
- localization: US, IN, PH, CHN, KOR, JPN

Pre-production

1. design document (game concept with all details) - done
2. production schedule
3. prototyping (with a living mockups to get the potential players familiar with the idea and be able to do A/B tests)
4. system and architecture

Production

This is the most prolonged phase, which can **take months or over a year**, depending on the complexity and title being created.

Defining the scope of a gaming project in advance is a tricky business. The game's core mechanics, components, and features all **have to be developed for the blockchain**. It means that it's no longer working within the confines of traditional game design but instead exploring the uncharted shores of blockchain gaming.

This is the art of game creation and **impossible to turn into a precise prediction of X many man months.**

However, there are **some tradeoffs which can be done to speed up the things,** eg. review smart contracts for similar games and then reuse some parts. All of the blockchain things would be quite similar to what's implemented in different games. Also another time-save is that **while developing UI/UX for the game, it's possible to code smart contract in parallel**.

Because the authors don't specialise in a game industry, but work as software engineers so they know how difficult is to design the timeframe of software development they decided not to repeat or create not-trustworthy predictions but rely on experts' blog post in the requested subject.

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Testing, deployment

1. pre-alpha launch
2. alpha launch
3. beta

Then, testing concepts basically, no assumption, only testing. So many steps to reach the final goal, which also fits agile development. So small snippets which helps to test the initial idea, understand better what users wish. Also to confirm what should be the core of gaming experience. So in our case, even if the initial idea is to locate the auto in a digital city, with a bright design, but it should be verified by the end users if they like or not.

Those snippets really help understand how to move forward, and helps the community understand where to get to

Technical requirements

The necessity to choose a proper blockchain to avoid security issues of other unpredicted stories. Most probably a choice would be Ethereum blockchain network, and the ‘Ethereum Virtual Machine’ (EVM) and to implement a smart contract- the Solidity language.

Then a proper game framework to move forward, like Lisk, and then required tools like web3.js, Truffle or mobile specific ones.

Personel

1. Artists: for in-game assets, art deco, characters, and some environmental designs.
2. A web 2.0 game designer: who has successful web 2.0 games in their portfolio
3. Blockchain developers, smart contract developers, android, ios developers,
4. Social Community managers; web 3.0 community managers
5. Blockchain Games Writer/Games Writer
6. Project management (ideally with blockchain development experience)

Costs

It depends on different factors first. These factors include geographical location, target platform, integrated technologies, app complexity, app design, time and personal costs.

The research ended up with a different predictions when it comes to the costs of them game. According to Reddit users' the cost of the blockchain-based game software for Android can range from $45k to $80k, or $50k to $60k, or up. The mobile game's development studio assess that with cost-efficient approach, a hyper-casual game can cost from $25k to $50k.
It can take up to 4 to 6 months to establish an Android-based game platform.

On the other hand though, as in the concept can be a bit more wide than a hyper-casual game and reaches the casual game’s price, and then the full-cycle development of a casual mobile game can cost anywhere between $400k to $1b or even more, depending on the scope and complexity. In such case, the authors of this project recommend to simplify the plot and screens, which is possible to be done with the presented concept, and target to hyper casual.

The End

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