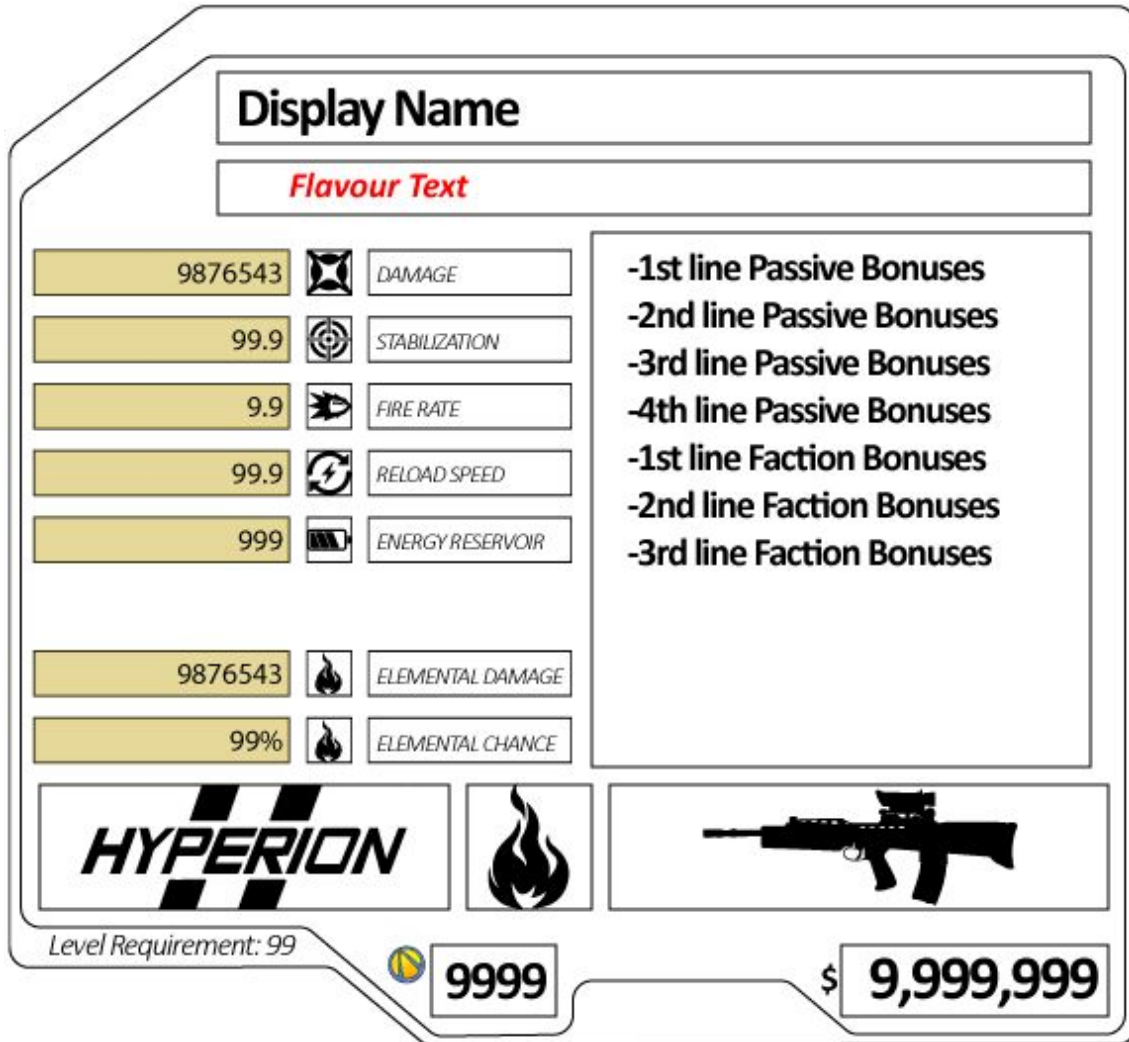


Design Test 1: Create a new item card.

Theme: The general theme for the item cards revolve around chips. The examples I reference are Micro SD cards, Microchips, memory cards, etc. The reasoning behind this theme came from some of the wording in the information provided, specifically the words *energy reservoir*. I took an assumption from this phrase that the guns were going to be more digital in nature with energy as the ammo. Below is the wireframe and a color test of the gun item card.

Gun Wireframe Version 5:



The stats on the left will be the memory chip pins (the yellow bars on the left), ranging in different sizes, aligned right, to signify strength in comparison to the max value. For most stats the max will be simple to set in relativity to what the average of that stat will be; the two values that will be more difficult will be the damage stats, since different weapon types will have different max values and different average values. The stats themselves will still hold the numerical value, this will live inside the “pin.” The other noticeable difference will be the text box on the right of the chip, this will hold all of the bonuses data and any other excess text that may

want / need to be included. The bonuses box was modelled after a data chip, like in credit cards and SD cards, a similar design will be faintly noticeable under the text box.

Gun Item Card, Color Test, Version 10:



Some features are more noticeable in the color version of the wireframe, such as rarity and equipped status. In past Borderlands titles the rarity of the item has always been signified by a set array of colors and in this version the rarity translates to the color for all of the symbols, including element type icons. The logic behind this decision is due to the data lines on the chip. The data lines, the purple lines seen throughout the wireframe, represent a circuit board, connecting all of the data (stats, faction type, gun sub-type, elemental type, etc) to a centralized point, the power value. The power value (the vault icon as of right now) will collect all of the data from the item card and generate a value representing the power value of the item, that will then flow into the monetary value of the item. By default the circuit lines will be a flat color, but when the item is equipped the circuit lines will flow with data, moving white highlights that will travel in the direction towards the power icon and then to the dollar sign. If necessary, the idea of data flowing representing equipped status is not understood through testing, the space between the

power value and the money value will house text that will say “Equipped” when equipped. Obviously this is not desired, but has been planned in case testing proves the text essential.

#### Side notes:

- The text colors for the bonuses, values, level requirement, flavor text, and stats are based off of past game color schemes. Same goes for background colors used in color test. Any Borderlands icons used in the design are used strictly for design test purposes.
- Font face used in design is Calibri. Ideally I would like 2, maybe 3, different fonts that all work together, with the display name, flavor text, power value, and money value being a stronger, bolder font, while the others should be thinner, but still readable.
- The elemental type section, (icon and corresponding stats) are left spaced from the other stats for two reasons: not all guns have an elemental stat, and the break will allow for easier separation between base stats and elemental stats at a glance.
- Alternatively, if the size of the chip is dynamic to the information in the chip the space between the base stats and the elemental stats will be reduced, but still existent (the bonuses text box will also be reduced in size vertically)

#### Reference Images:



Comparing Gun Cards:

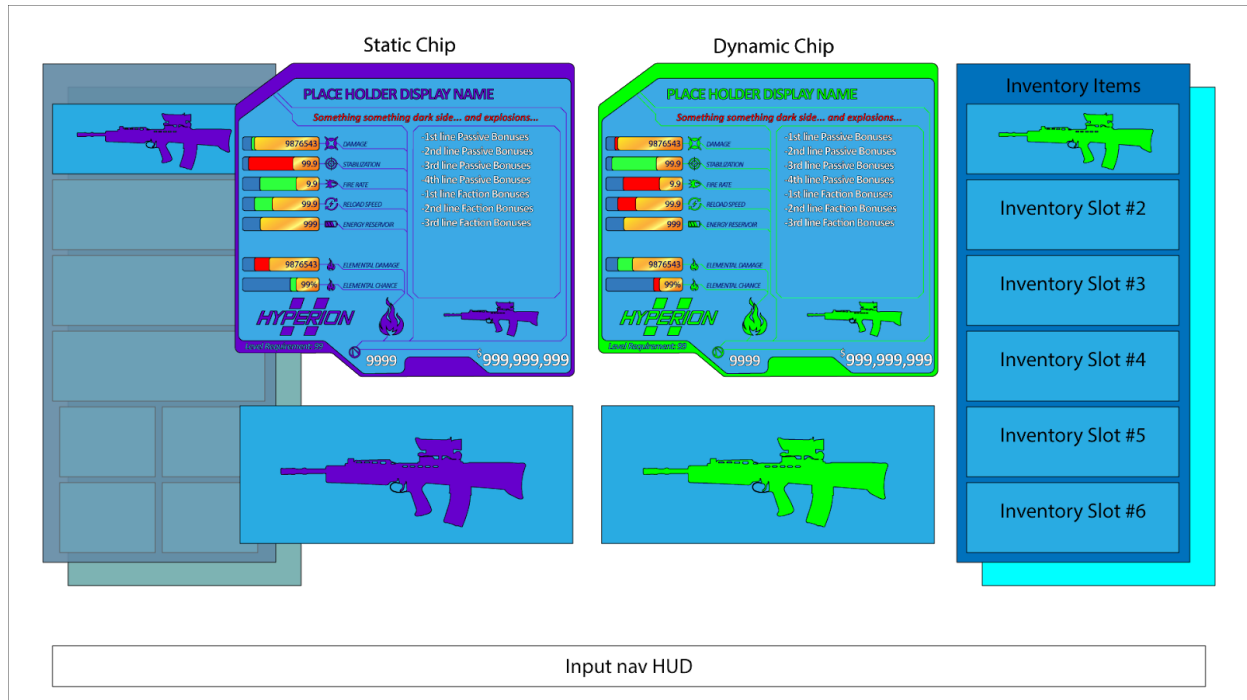
Compare Card Base Color, Version 5: Static card, left side.



When comparing guns the base stats and the elemental stats (if applicable) get compared between the two. I took some inspiration from Destiny and how they compare their guns. In Destiny, the gun stats don't have numbers associated with them, just 5 bars that change in size relative to the stat power. This is a similar concept to the pins in this design, where the size is relative to the stat maximum. This representation of the difference in stats will give an easier quick reference to which is better or worse for each stat, instead of relying solely on numbers and the arrows that would appear next to the stat. Ideally the cards being compared should be close enough to each other to where the player doesn't have to shift eyesight to see both cards.

Side Note: When an item does not fit the level requirement or the class type the border will be a slightly dark red color and the inside will be a lighter red, signifying the item cannot be equipped yet.

See wireframe below for full scale prototype of screen.  
Compare Screen Wireframe Version 3:



In the wireframe there is a static chip and a dynamic chip. The static chip is the first chip that is selected when going into the compare state while in the menu, this chip will not change during this state unless the player backs out of the state and returns to the menu. The dynamic chip represents the currently selected chip in the inventory. It is dynamic because the player will be able to cycle through the different chips in their inventory and see them update in real time. When in the compare state the menu associated with the static chip will be greyed out, with the exception of the chip being compared.

The two boxes below the static and dynamic chips are the 3D models of each chip being compared. The player will be able to use the R-stick to rotate the items (both items will rotate in sync of each other). If the chips being compared are both guns, clicking R3 will enter into a side by side comparison view of the guns being used in game. The player will have control over both guns at the same time in the side by side view to fully test the guns and compare simultaneously.

Nano Chip Card:

Nano Chip Color Version, Version 6:



The Nano Chip is set up to be thematically similar to the other item cards. The majority of the information is in the same spot on the nano chip as it is on the gun chip, and will be with all other item chip cards.

There are three differences between the nano chip and the gun chip.

- First, since the amount of stats for the nano chip is severely decreased there is not a need for the same amount of stat pins. The cooldown stat exists near the bottom for better data flow and readability.
- Second, the space where the old stats were will be replaced with a short looping video that will demonstrate the ability, allowing players to see what the ability will do without having to equip and test it out.
- Third, the bonuses text box will house the movement description and information on how to use the mechanic, the space between the description and bonuses is for easier readability, breaking on the text so it is not one large block text.

Side note: The mask icon represents the class that is needed to equip the nano chip.

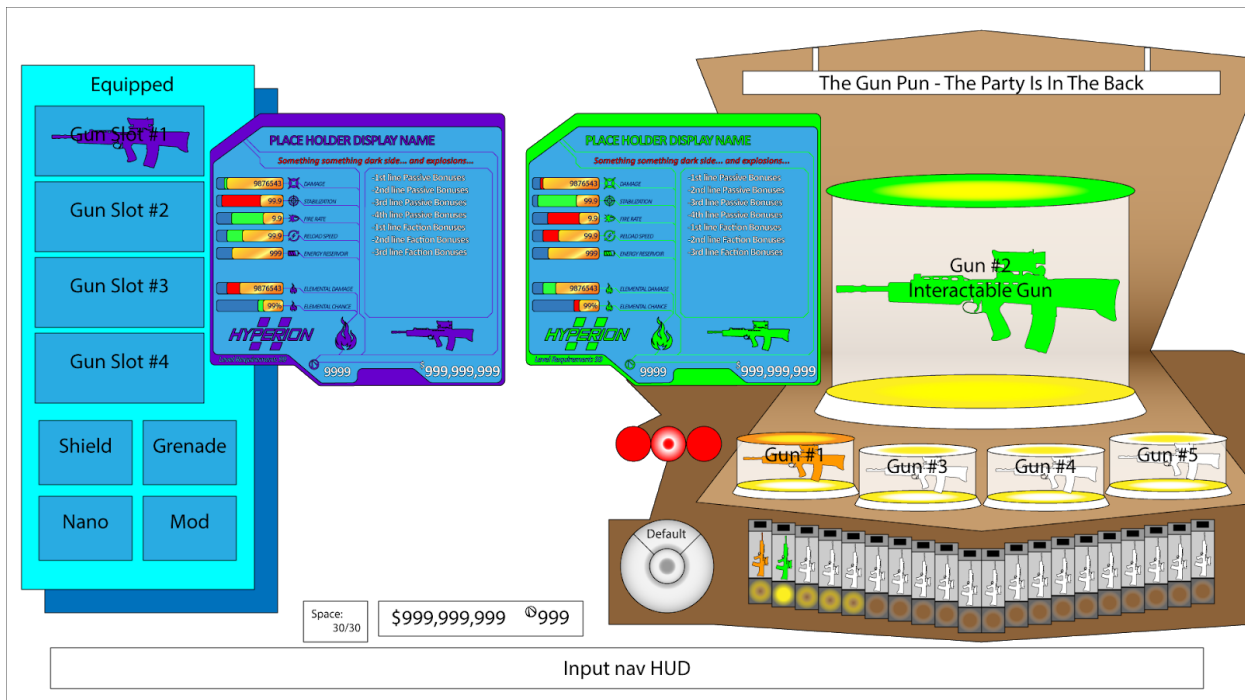
## Design Test 2: Design the UX for a new in game vendor.

Theme: The theme for the vendor layout was inspired by the old Cadillac 59. The Cadillac 59 had an enormous trunk that could hide a lot of illegal merchandise, and the outside of the car screamed unnecessarily extreme. The car looked like it was from the retro-futurism age and idea of buying guns illegally from a trunk reminded me of the old gangster mafia motif. I decided to incorporate both of these aspects into the design and layout.

An issue I have found with inventory / compare / store systems in other games, was that there were too many screen that needed to be explored to do simple tasks. Having a separate screen for each system (One for the buying state, one for the selling state, etc) felt like too many unnecessary clicks. For the layout I decided to have the option for the three main states (buying, selling, and comparing) visible at all times. The player will only be in one state at a time (minus comparing which is handled in a separate way) to avoid accidental actions; the layout will reflect what state the player is in.

To enter into vendor state player will have to find the store (car) scattered in spots that are hidden from the public, but known to the player (through map). Playing into the theme of back alley shady deals the store locations will reflect that, to open the trunk the player will melee attack the trunk, entering the vendor state. When entering the vendor state the camera will pan to the left of the car, showing dark... the car to the right (at a slight angle) and the space on the left for the inventory.

### Vendor Wireframe - Purchase state - Second Pass - Version 3:



In the layout there are three main sections, the selling (far left), the comparing (center), and the purchasing (far right). These three sections are visible on screen at all times, but the

corresponding state will not be active at all times. When entering the vendor state the purchasing state will be active by default.

- In the purchase state the main focus will be on the main gun (Gun #2 Interactable Gun). This gun is a rotatable 3D gun that the player will be able to move with R3. If the player clicks R3 they are able to go into the test run state (similar to the side by side view in the comparing guns state), in this state they are able to fire the gun and get a feel for it before buying it.
  - When entering this mode the camera will zoom into the selected gun and fade to a different view. This view will look the same as normal gameplay but the player will not be able to move, duck, or jump. They are able to rotate, zoom, fire, and reload the gun. The environment the player is in during this mode is a digital version of a shooting range, with a target in the distance that will move closer or farther depending of gun type. To return to the vendor state the player will press the duck button (Circle on PS4 or B on Xbox).
- The four guns under the interactable gun (Guns #1, 3, 4, and 5) are the display guns. These guns are also 3D models, but are not interactable. The guns are in a glass display window and are angled at a 60 degree angle to show the full gun without colliding with the other guns. When cycling the main gun the current main gun will be replaced by the next gun in the stack, going from 2 to 3 or 2 to 1 and so on.
- The 20 pins below are the total stock of guns in the trunk. Each pin will have an icon that will correspond to the sub-type of the gun and match the rarity in color. When the corresponding gun is rendered on screen, a light under the pin will light up matching the color of the light underneath the corresponding 3D modelled gun.

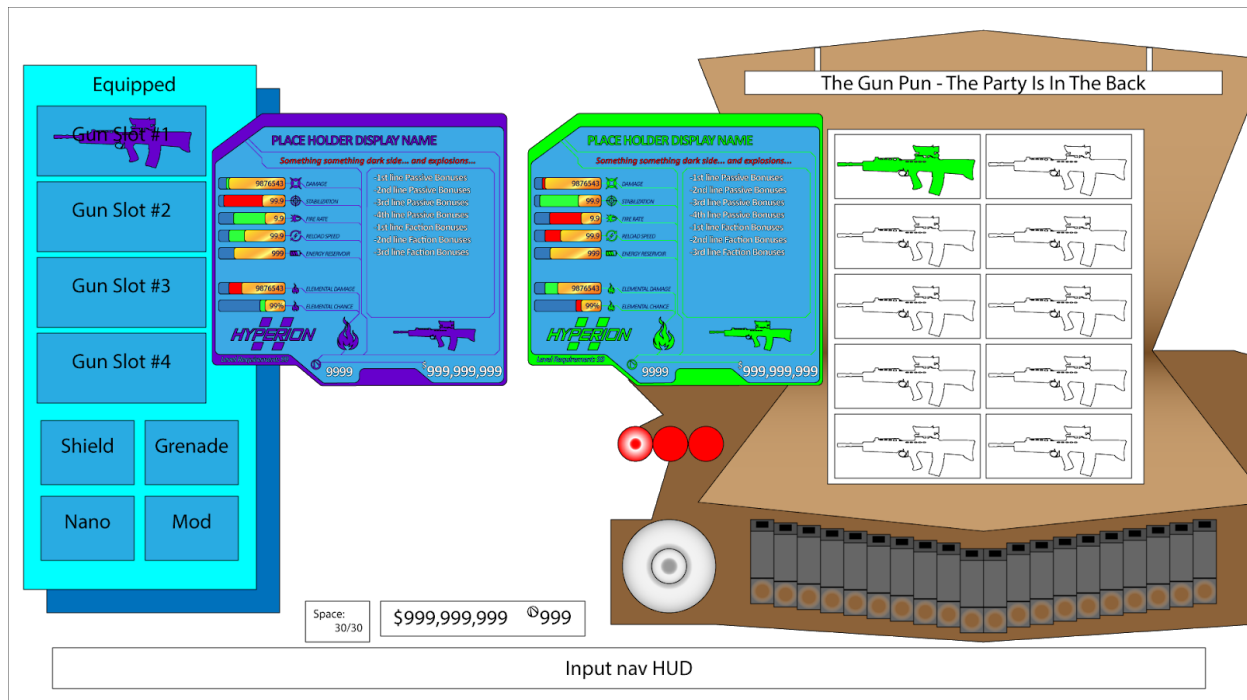
There will only be one “active” gun that the player can interact with and purchase. The player is able to cycle through the guns by using the left control stick, shifting the active gun to the left or right and the display guns will dynamically shift as well. The active gun will have their gun chip displayed to the left of the main gun, this will be automatically compared to the player’s gun that is currently in use. The player is able to sort the guns in the selling stock by using the triggers. The jet engine (The silver circles below the tail-lights) will rotate 90 degrees showing a different symbol indicating how the stock is being sorted.

There are three different states to the purchasing state: default, buy back, and deconstructing. To switch between these different states the player will use the right and left bumpers. The buy back state will have all items that the player sold since entering the vendor state. Every item that is sold will show up as a 3D model, but unlike the purchasing state, these items will just be lined up in rows and columns that the player can navigate through with the left control stick. The state the player is in will change which one of the back tail lights is on, signifying a diegetic affordance.

Side Note: The gun display is set to resemble a gun display showcase mixed with the look and feel of a jukebox. Changing the active gun will feel like changing the record in a jukebox in a old diner.



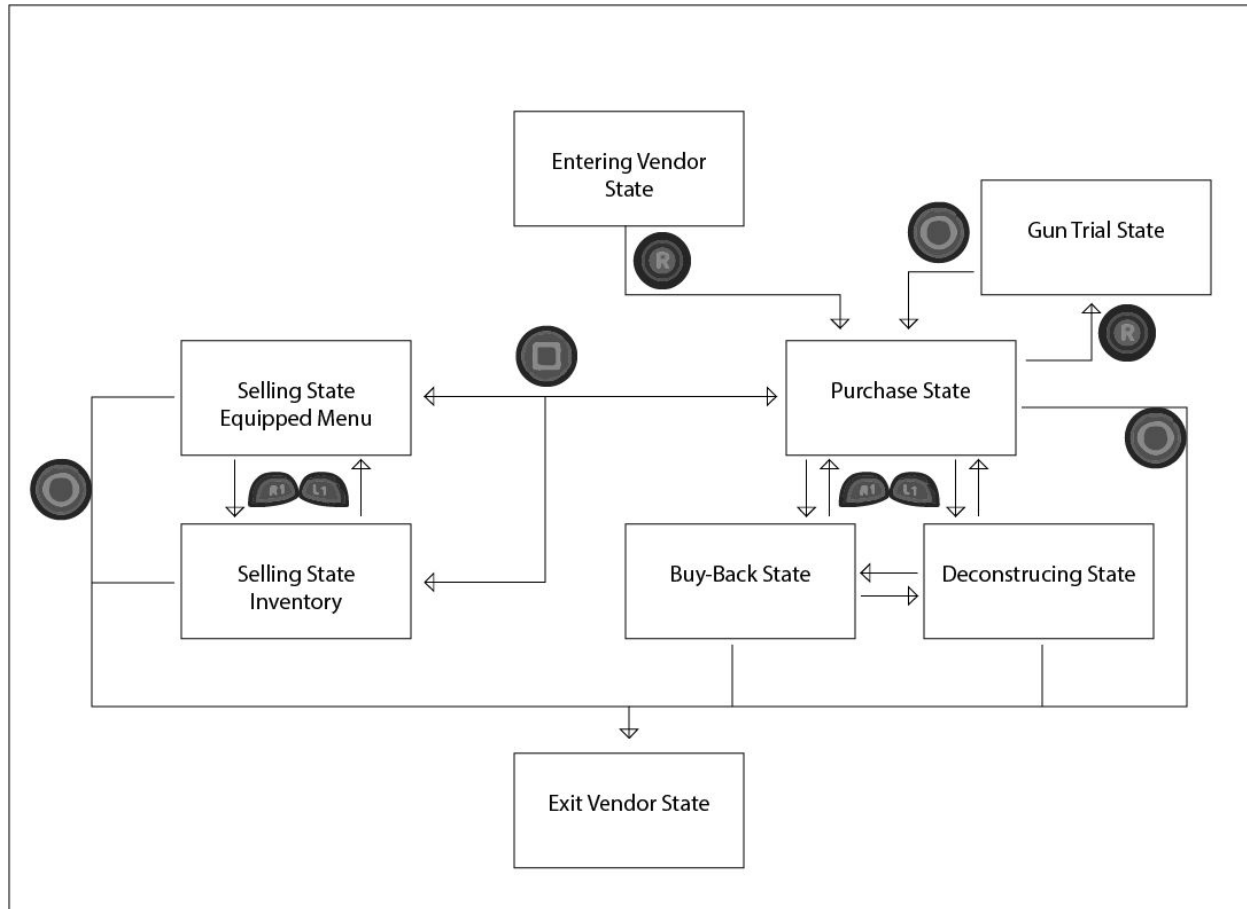
## Vendor Wireframe - Buy-Back state - Version 3:



To switch to the selling state the player will press the square button (X on Xbox), this will shift the focus from the car to the player's inventory located on the left. The area around the state that is not active, not including item chip, will be slightly greyed out to show which state is active. The item chip will also be slightly larger for the item selected in the active state.

In the selling state the player is able to explore and sort their inventory (sorting using the left and right triggers) and sell items by highlighting and selecting them. When a item is sold a 3D model of the item will be thrown into the trunk of the car and put into the buy back stock (in case the player wants to re-buy the sold item). As the player is going through their inventory in this state the item that is currently selected will have their item chip visible to the right of the menu. When the player switches to the purchase state, the selected gun chip from the selling state will remain visible for easy comparison.

Below is the wireframe map of how the different states connect:



What will be needed for the vendor state asset wise:

3D Meshes:

- Car
  - Exterior
  - Interior of trunk
  - Lights and extra details
  - Grill to hold Item Chips
- 3D models of guns
- Glass display stand to house the 3D guns
- Pedestals that the 3D guns sit on top of

2D

- Item chips
- Inventory menu
  - Equipped
  - Backpack
- Menu bar for button GUI

VFX:

- Dynamic lighting for the gun chips

- Lights on the car
- Lights for the 20 inventory pins
- Dynamic lighting for the 3D guns and showcase

Sound:

- Audio quips from the NPC vendor
- SFX for cycling through the inventory and guns
- Selling the gun and having it thrown in the trunk
- Switching states and modes
- Buying items
- Entering and leaving vendor state

Control layout:

PS4:

X - Select

O - Cancel

□ - Switch purchase or selling state

△ - Bulk sell (can be done at any time, sells all trash labeled items)

RB/LB - cycles purchase state menu (between purchase, buy-back, and deconstructing.

Purchase state), or cycles inventory menu (between equipped and backpack. Selling state)

RT/LT - changes category used for sorting items (both states)

R-stick - rotate gun in purchase state

R3 - enter gun trial state

L-stick - navigation of menus

D-pad - navigation of menus

XB1:

A - Select

B - Cancel

X - Switch purchase or selling state

Y - Bulk sell (can be done at any time, sells all trash labeled items)

RB/LB - cycles purchase state menu (between purchase, buy-back, and deconstructing.

Purchase state), or cycles inventory menu (between equipped and backpack. Selling state)

RT/LT - changes category used for sorting items (both states)

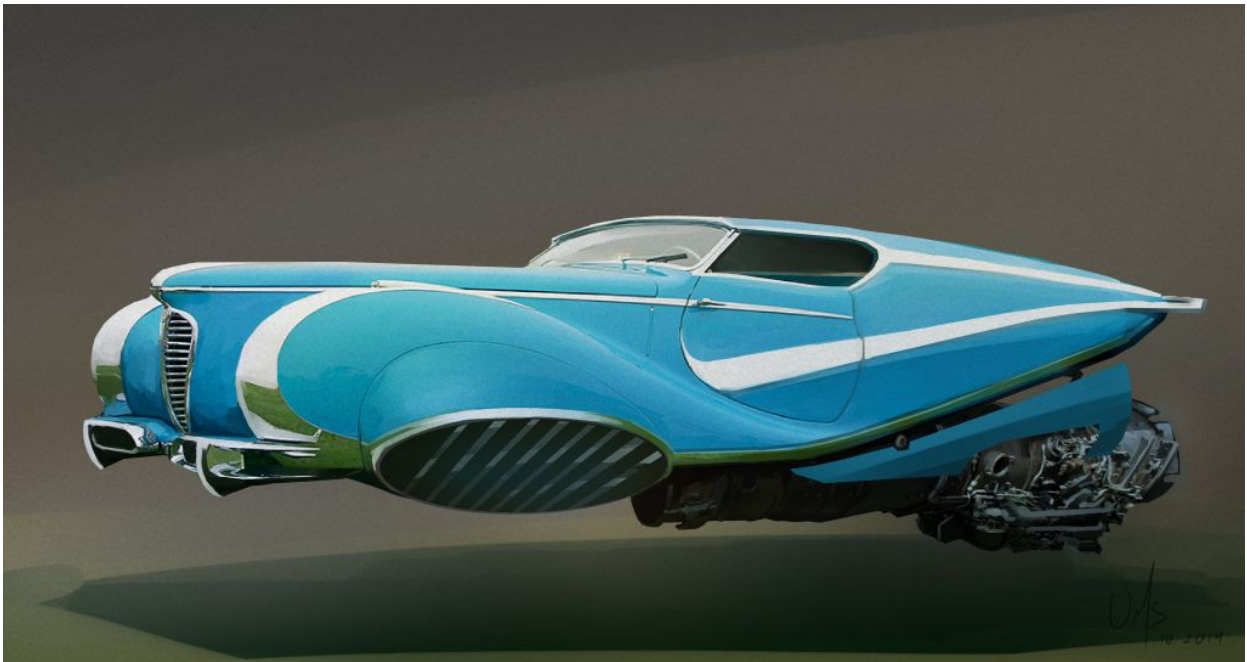
R-stick - rotate gun in purchase state

R3 - enter gun trial state

L-stick - navigation of menus

D-pad - navigation of menus

References:



<https://www.deviantart.com/or1s/art/retro-flying-car-488435913>

## Design Test 4: Create a new movement mechanic, directional dodging

### Mechanic description:

Using the crouch button while moving will activate the dodge ability, this ability will cause the player to lunge in the direction of movement. This ability can be used in any direction and in mid-air. To activate the ability double click Circle on PS4, B on Xbox1, or single press X on PC while moving in the direction you would like to go and the player will lunge in that direction.

By default the dodge will be just a quick lunge in the direction of choice, but through equipping different item chips the type of dodge will change. Some of the options include, quick teleport dodge, time warp dodge, invincible dodge, elemental dodge, etc.

The dodge will be most useful in combat, being able to dodge out of enemy fire quickly or change movement direction at a moments notice. The dodge will also be useful out of combat as an extra movement mechanic to reach certain places. Since the dodge can be used mid-air a player can use it as a second jump or a lunge in a certain direction.

The base dodge will have a brief cooldown, to avoid spamming, and can only be used once in air (player will have to touch ground before they can dodge again). The special ability associated with the dodge chip will have a different cooldown and that cooldown will vary from chip to chip. Player will always be able to do a base dodge, even if the special ability is still cooling down.

### Assets needed for final quality:

#### 2D:

- Dodge ability icon, located next to character's class ability, that will show how much longer the cooldown is for the dodge special ability.
- Item chips for the different dodges.

#### Animation:

- Possible animation rig of camera moving in a way that would express dodge rolling or lunging

#### VFX:

- Depending on the type of dodge/lunge the screen will need to signify that the character is using the dodge special ability, ex: teleporting will show wisps of smoke around where the character is and was, or particle effects for element attacks resulting from dodge/lunge.

#### Audio:

- Grunts or quips from characters as they perform the dodge/lunge
- Spectral noises for certain special dodge abilities
- Audio cues signifying when the dodge and / or dodge special ability can be used again.

### Safeguards that will need to be put in place:

- Specifically with the teleport special ability, making sure that the player is unable to warp out of bounds. Also building in a safeguard for enemy AI to find player and continue fight after player uses ability.
- Speed clamping and minor movement restriction on extremes to reduce the chance of player accelerating off screen or ending up in an unintentional spot.



