



A Deep Dive Into Kite & Lightning's Workflow

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Kite & Lightning

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What this talk is about

- Most advice talks are about the tip of the iceberg, the obvious stuff that you see but completely ignore the crucial hidden parts that everyone doesn't mention
- This is about the hidden part



What this talk is about

- Lessons I wish we could give to ourselves two years ago
- Concrete actionable steps
- High level direction + concrete examples
- Highlight places where to improve

Want to give talk of everything I wish I could go back and tell myself when we started. And what I would want to hear from other high end studios like Blizzard, Bungie, Pixar. Also a bit of "startup advice" mainly advice around hard learned lessons on being "non-manager"

Concrete actionable steps.

High level direction + concrete examples

Also highlight places where we want to improve

Basically, how to make awesome shit on a two man team

So how do you
make awesome
shit on a two
man team?



First, some context...

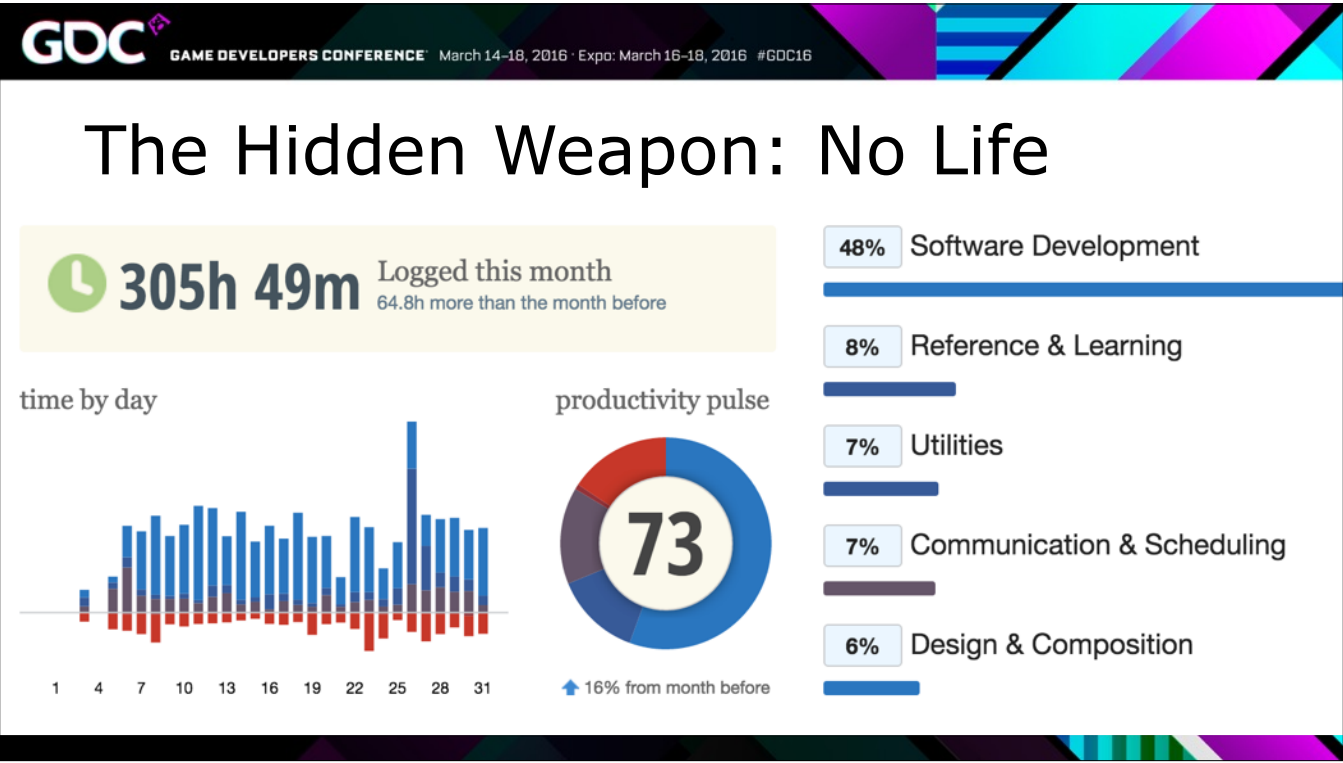
Background: Cory

- Two time Emmy award winning VFX artist
- Working in the industry for 20 years
- Technically gifted

One of the smartest people I know. Set up LAMP for confluence

Background: Ikrima

- Gamedev at 12
- Graduate graphics at 18
- Conversationally fluent in Max/Maya



This is my time tracker for one of the months during Insurgent project.....and this is the month where I took 7 days off to celebrate my 30th in Brazil.

Workflow



- Setting Triangle/shader complexity counts from the beginning [we can improve here too]
- Near optimal performance at all times [VR helps enforce this because it's hard to edit in low perf]

Artist time = most expensive long pole

- Creative inspiration is limited. Don't let artists waste it on frustrating tools
- Make Blueprints over code b/c easier for artists/designers to extend
- Always think of optimizing for global maxima (team's efficiency) vs local maxima (personal efficiency)

I remember watching Keith on Insurgent setting up stuff in Cascade and I just groaned b/c how much the tool got in the way. There was so much manual clicking. I was just watching the maximum quality potential sliding away with every hour of tedious data entry. Curl noise implementation

Artist time = most expensive long pole

- Caveat: Longer time windows => dev time potentially long pole but on 1-3 month windows, you better be very careful on being a dev bottleneck

Artist time = most expensive long pole

- Another reason to hire artistic technical folks: when programmers do art stuff, they won't tolerate 90% of the stuff that artist will put up with and things magically get fixed

Tools



Code Tooling

- Perforce: Project Source Control
- Github: Engine Source Control
- No continuous integration
- Visual Studio (fuck emacs/vim, it's 2015)
- Incredibuild on Raid-0 SSDs
- Result: 5 min full engine compiles, 1 min project recompile

Production Tools

- Slack: Communication
- Workflowy: Todo list/reminder
- Onenote/Evernote: Note taking
- Box: File storage
- Excel: Finances
- Notepad: Production task list

Camera Gear

- 14 360 Heroes GoPro Rig [outdated]
- Two Blackmagic Pocket Cinema Cameras

Team Pedigree



T-Shaped people: Generalist Specialist

- Everyone has to be technical & creative
- Cory in our Unity days was writing C# code for gameplay. I was fixing/fracturing the train tracks in Insurgent

Had a development contractor we used on Insurgent. Couldn't use Maya or Max so simple things like create some spheres and a block level for testing would have him stumped. Or fixing normals on a mesh. That is death for our pace.

Need multi-disciplinary McGuyver specialists even for biz roles. Ex: Andrzej Koloska doing UE4 Shooter Tutorial



- Marriage of creative + technical:
 - Curl Noise
 - PhysX destruction sequence
 - destruction big sequence => drawcall limiting => alembic support
 - Writing just what we need: rigid

VR development is more like a dog sled race
than a group of people pushing a block
down the street

More people != faster better effort



Can only run as fast as your slowest person



What type of team are you?



Seal Team 6



Alexander The Great

Seal Team 6 vs Alexander The Great

- Adding another person slows Seal Team 6 down
- Adding another person to Alexander The Great's Army is just more manpower

Learned This Lesson The Hardway

- Some people may be super excellent generals but will fail miserably as a member of spec ops
- You can have an exceptional developer or artist but if they're used to operating in a big company or AAA studio, they might fail miserably at our company.
- Let them go; doesn't mean they're bad

Rules Of Development

Ship it: Execution is king for Technical & Creative

Make It Easy To Change

- Creative endeavors, how long your iteration time is determines the quality of your final output.
- Make things local, not global
- Small + composable
- Concrete first, then generic

Prototype > talking/arguments

- Snap turning
- Stereoscopic video plugin in Senza

Speed + Accuracy Of Iteration Is Crucial

- Accuracy of Foresight = Experience from failed attempts
- Speed = skill
- On a 2-man team, this means 1.5 tries to get it right
- Art redo = death

Hill climbing analogy: On our team, value people who are fast at executing over people with lots of experience! Execution speed vs experience. A) We're working in VR so we need people who are fast to explore the problem space, not draw on 30 years of experience that may or may not be detrimental B)Easiest way to end long drawn out arguments is to make something. If it takes you 1 day to make something that takes someone 7 days, then that's a Saturday that you can do in your spare time if you really want to push for something

Somethings can't be done slowly

- If you send up a rocket at half of escape velocity, it's not going to take twice as long to get where you want it to go. It's going to take infinitely longer.
- Elementary school: Shoot for the moon, you'll land on the stars => terrible advice for software b/c software is non-linear. You'll never reach critical velocity

Caveat: Some things can only be done slowly

- 9 pregnant ladies != 1 month baby
- Know when to go fast & when to go slow

Mnemonic: Hammering nails vs laying foundation

- Hammering a nail? Grab whatever you can to get the job done, even if you have to reach for a dildo.
- Building skeleton frame of a building? Better do that with steel not straws.

Managing Your Creative Energy

Creativity/Inspiration is limited resource

- Remove impedance mismatch
- Make shit easy to re-export. Ex: UE4 - days before VR Preview, being able to live edit config variables, hot reload.

Creativity is limited resource (cont)

- Sometimes you have to pick your battles.
UE4 renaming => Hell and a nightmare to actually keep clean.
- What do we do? Just ignore it and deal with the pain of disorganized project

Energy Hours

- 15 energy hours a day. On magical best days, I can work those 15 hours no problem. Sometimes forgetting to eat lunch/dinner.
- Different activities burn different hours

My Energy Hours

- Good programming: 1 hour = 1 energy hr
- Dealing with bullshit programming: 1 hour = 3 hours (e.g. have to install this framework, setup this machine, figure out why the build is broken, touch perforce in anyway, etc)

My Energy Hours

- Interacting with other people: 1 hr = 0.5 energy hr to 4 hrs depending on who I'm talking to

Cory, excited and re-invigorated. = 0.5 hrs
Giving direction to other teammates/producers/etc 2 hrs.
Dealing with incompetence = 4 hrs

My Energy Hours

- Answering Emailing/Business Tasks/Legal/
Answering Meeting requests/Payroll/
Recruiting/Marketing/Project
Management/Status reports: 4 energy
hrs. (P.S. IF you like doing this stuff, come
work with us)

Areas To Improve

- More feedback loops/more telemetry.
Comedy example
- Art vs Biz: Biz ppl look at analytics for solutions while Artists want to completely ignore it
- Data shows you how people react. It can only reveal problems, it will never tell you solutions

- Best class of people who use data: Comedians.
- Imagine if comedians didn't want to hear audience laughter/feedback.
- Imagine another scenario: if comedians asked their audience to write the punchline of the joke if they didn't laugh?

- We do a good job of treating our code like data. Need to treat our data like code by validating (scene hierarchies, rigs, sanity check vertex counts, normals, etc)
- For consoles, would be nice to write a script to tally up how much all resources will take in memory

Take With Grain Of Salt

- This is what works for our work style
- We're very much self driven. We don't expect you to wait for people to do things. If you think an idea is cool or want to try something, just do it.
- If you expect process and procedures and project management, you'd hate working with us.

And now the Creative Deep Dive...

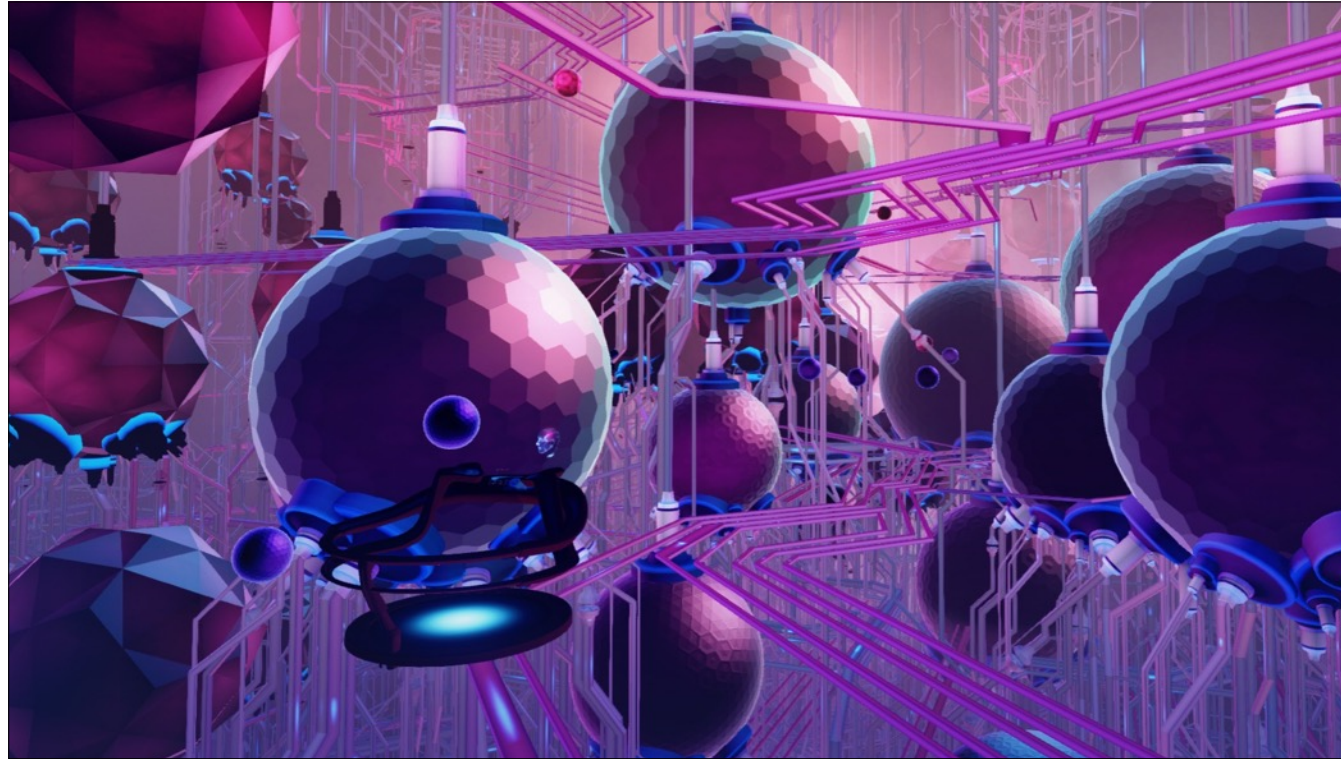
So yeh, I'm Cory Strassburger, the other half of Kite and Lightning.

I'm a big big fan of **making** VR experiences.



I really love every aspect of it from coming up with crazy ideas, world building, experimenting with new techniques, modeling, lighting, animating characters, music, programming... it's all these things that you can control and harmonize into a powerful experience that makes people feel really awesome.

and so Ikrima and I have been having a lot of fun over last few years making VR
and we had the opportunity to work on some really great VR experiences for some really amazing clients.



I want to start by walking you guys thru the creative process for our latest VR experience called GE Neuro VR
This should give you a chance to see how I approach ideas for VR experiences and whats involved in starting an idea and taking it into production.

Across all of our projects we've managed to pull off some high quality VR with small teams within relatively short time frames.

The ability to do that all hinges on this concepting and pre-production stage. Its like going into production on a movie with a bad script. All the money and talented actors in the world won't be able to save it.



GE Neuro VR

Client: GE (Katrina Craigwell)

Timeline: 3 Months

GE Neruo, Its a 7 minute VR experience centered around taking a journey through the mind of a musician.

Really fun, got to spend time talking with brilliant neuro scentists, got to check out Redbulls neuro training facility, we worked with Method studio who helps with some of the VFX, and also AMD, who got us their bleeding edge GPU cards so we could hit 90fps.

Wonderful learning expereince.

Lets check out a cut down version of it.

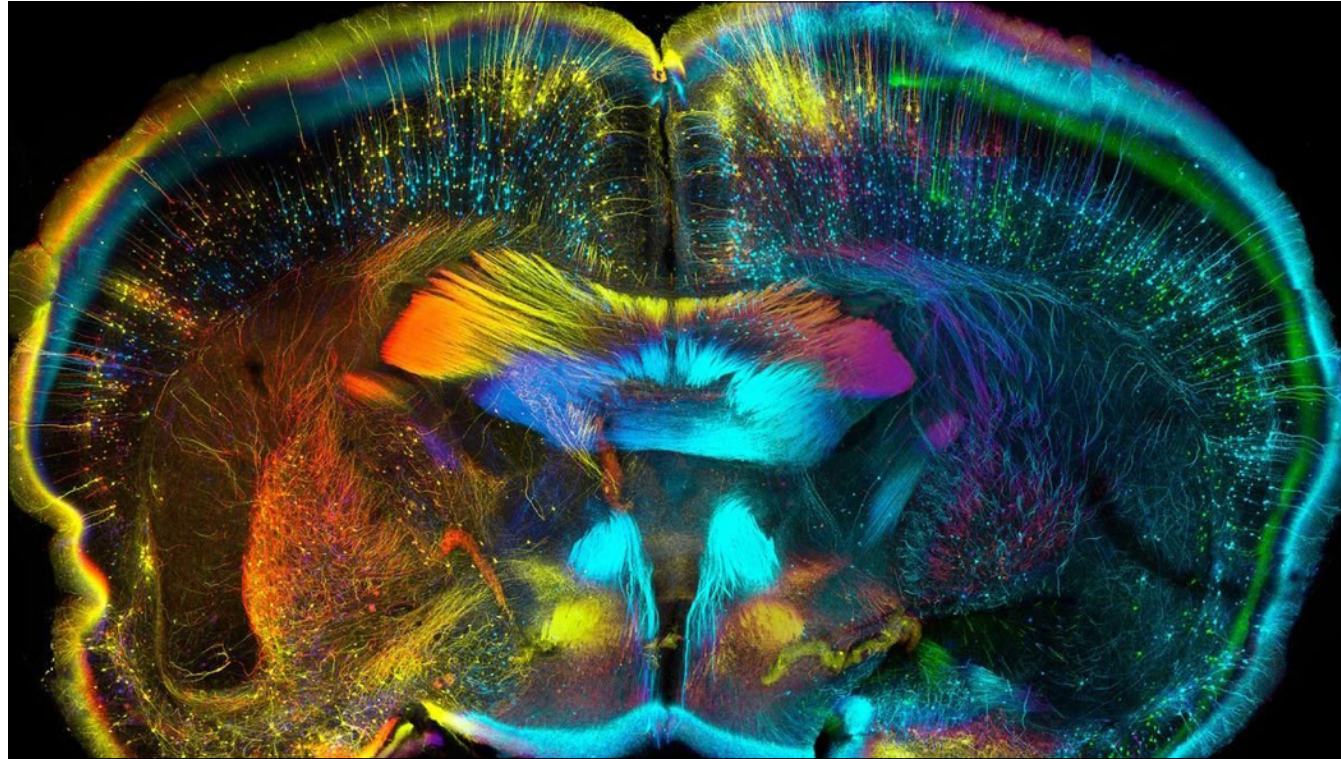


TEST

GE's VR Initiative

To use VR to take people into
the amazing places GE operates.

Places most people wouldn't ordinarily be able to go.



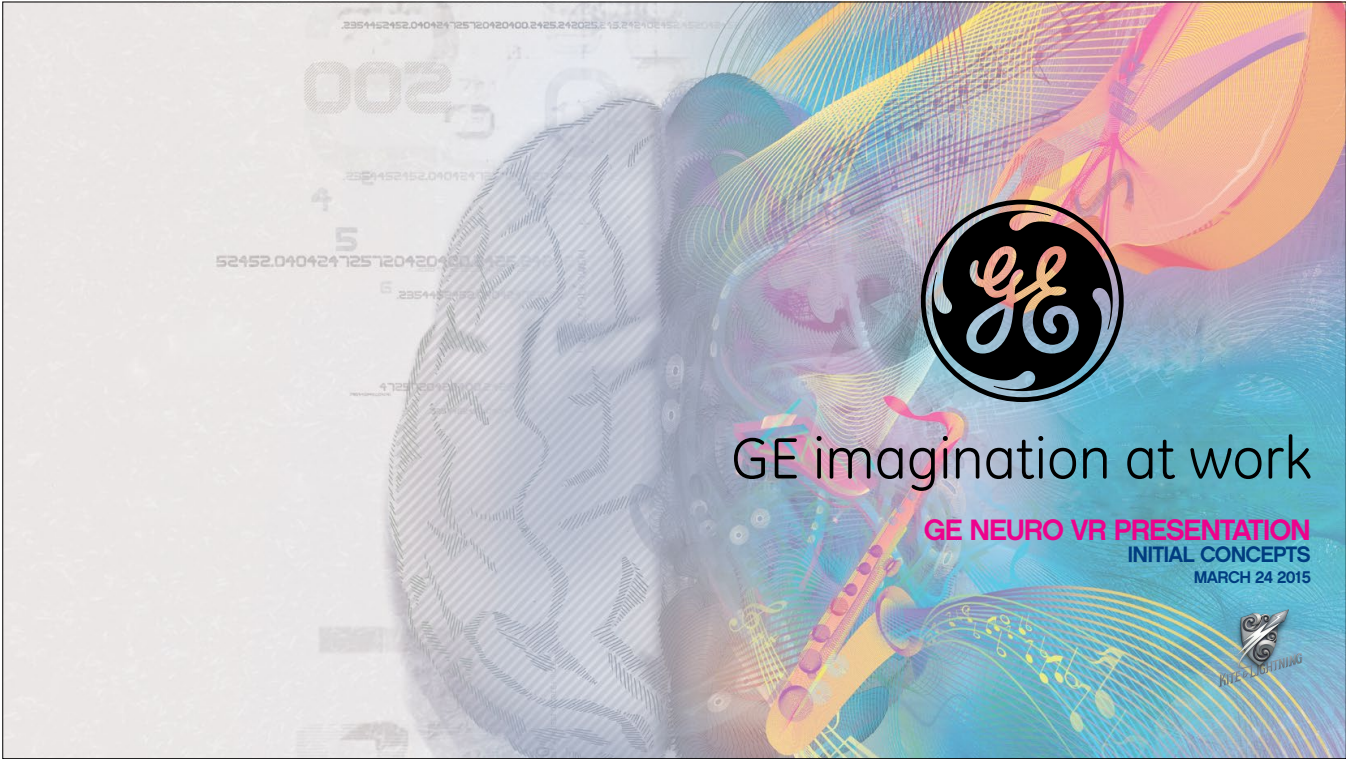
One of those places happens to be the ridiculously complex world of the brain...

So our starting point for the creative process is to conceive something educational and entertaining
A journey through the mind

Typical Pre-Production Process

1. Come up with initial concepts
2. Develop Chosen concept
3. Start designing
4. Script and Storyboards

What I'm going to walk you through are all the creative and concept documents I created during the Pre-Production stage of the project.



PRESENTATION OUTLINE

- Creative Approach
- Visual Inspiration
- 3 Directions
- Additional Ideas

THE NEURO-SCAPE

CREATIVE APPROACH

When it comes to the beauty, complexity and mysteries of the brain, there are endless opportunities and directions to explore using Virtual Reality. After getting a taste of this vast landscape and given GE is intertwined at every level, we began to think about this first GE Neuro VR experience as a pilot to a series of future experiences.

PILOT EPISODE

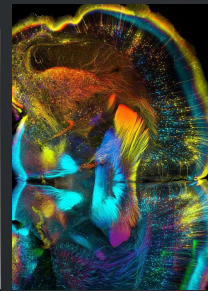
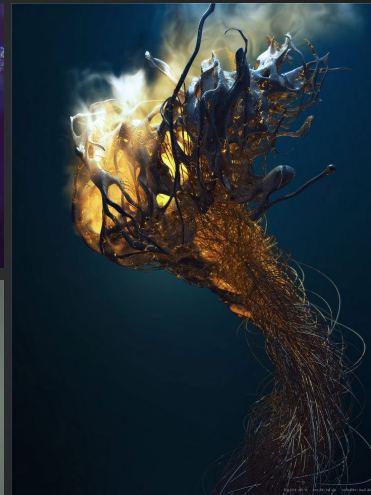
This initial experience is meant to inspire, create a sense of awe and wonderment and leave the person with a blown mind and wanting more... and to know more is coming. We propose that we craft this first experience to be simple and focus on the sheer beauty of the brain and the benefits of unraveling it's mysteries. Future episodes would take the viewer deeper into the mind of a musician, a gamer, a person with Alzheimer's, and GE's evolving quest to visualize every aspect of the human brain. As GE learns and can visualize more of the brain, the viewer will see and learn more as well....

VISUAL INSPIRATION

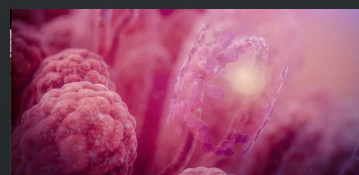
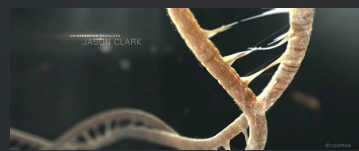
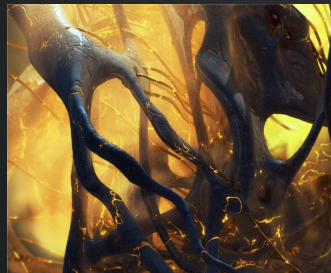
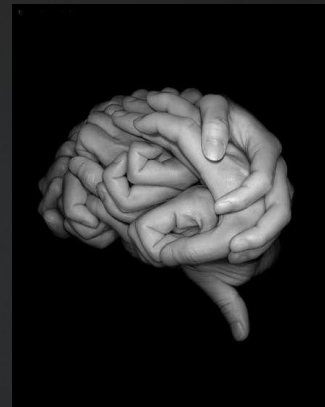
From a literal moment witnessing the synapses of the brain to a three headed dragon representing Alzheimer's, these images represent the visual quality bar and inspiration for our direction.



VISUAL INSPIRATION



VISUAL INSPIRATION



DIRECTION 1

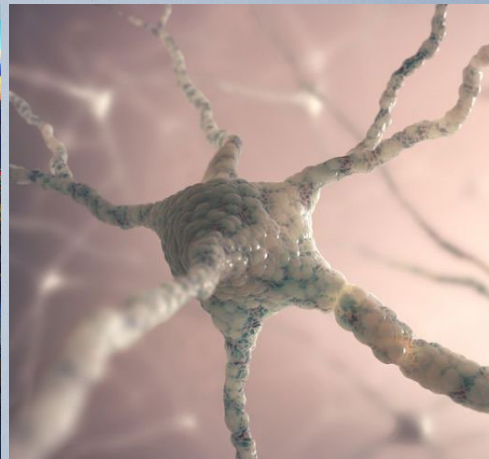
Through the doors of the mind! A left & right brain journey

- Epic, Fantastical & Beautiful (Starting more artistic and evolving to more realistic)
- A journey into the brain to explore amazing facts and debunk myths
- Musically driven



DIRECTION 1

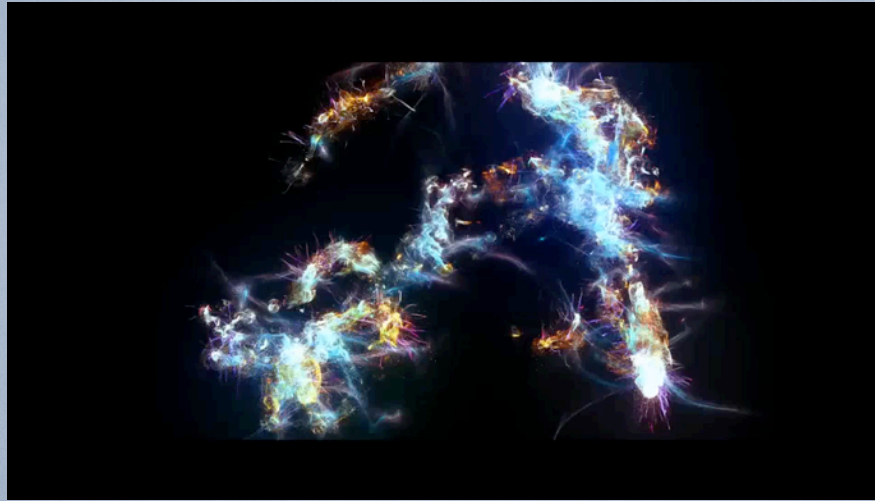
An incredible journey into the mind.



The human desire to understand the brain is more than curiosity... why do we yawn, what goes on inside the brain of a musician while their playing? Its also empathy, the need to understand brain dysfunctions so we can help people who develop them.

DIRECTION 1

Musical tone.



There are trillions of connections happening in the universe in our head.
GE is working to visualize them all.

Beautiful Reference from Matthias Müller - I think this was something he made for that movie Lucy.

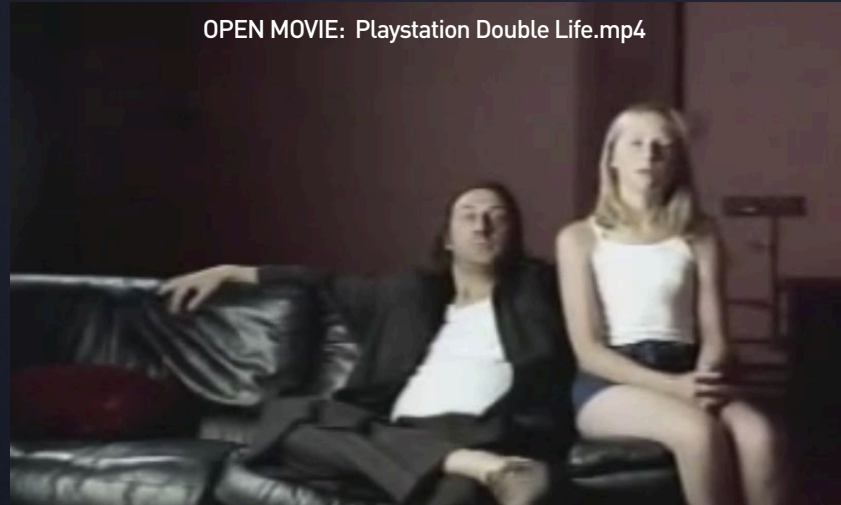
DIRECTION 2

- A human story
- A look into a series of different minds and perspectives.
- A combination of fun and emotional.

DIRECTION 2

Cutting between a series of different people and their perspective as well as going inside their different brains to witness a fun and emotional experience

OPEN MOVIE: Playstation Double Life.mp4



DIRECTION 3

Redbull collaboration. Witness the mind of an athlete, gamer, musician.

- Exciting potential to collaborate with Redbull
- Beyond Athletes they sponsor professional gamers and musicians.
- Great opportunities for future Neuro experiences.

DIRECTION 3

Exploring the mind of a Redbull Athlete.



INTERACTIVITY

- HTC / Valve HMD & Controllers *This new headset allows for a stand up experience along with two hand controllers for interacting with the environment.

- Explore the idea of a stand up experience.
 - Recognize the dynamic of floor space needed to have a stand up experience.
- Explore the hand controllers for interactivity with an eye on the following:
 - If the user has interaction abilities the experience needs to still be the same duration
 - If the interactivity is dramatic, this will effect the GearVR + Cardboard versions.
 - Recognize the added dynamic of controllers at an event.



ADDITIONAL IDEAS!

LIVING ART

Because VR inherently fosters presence and focus (little to no distraction) it could be a prime project to do a secret study, meaning we collect the EEG data from everyone's experience. We would extend this into a growing, living art piece that exists outside of VR. A massive monitor showing the collective of people's minds / thoughts or cool procedural art derived from the EEG data. This could also live on the web and be updated ever time a person experiences the VR.

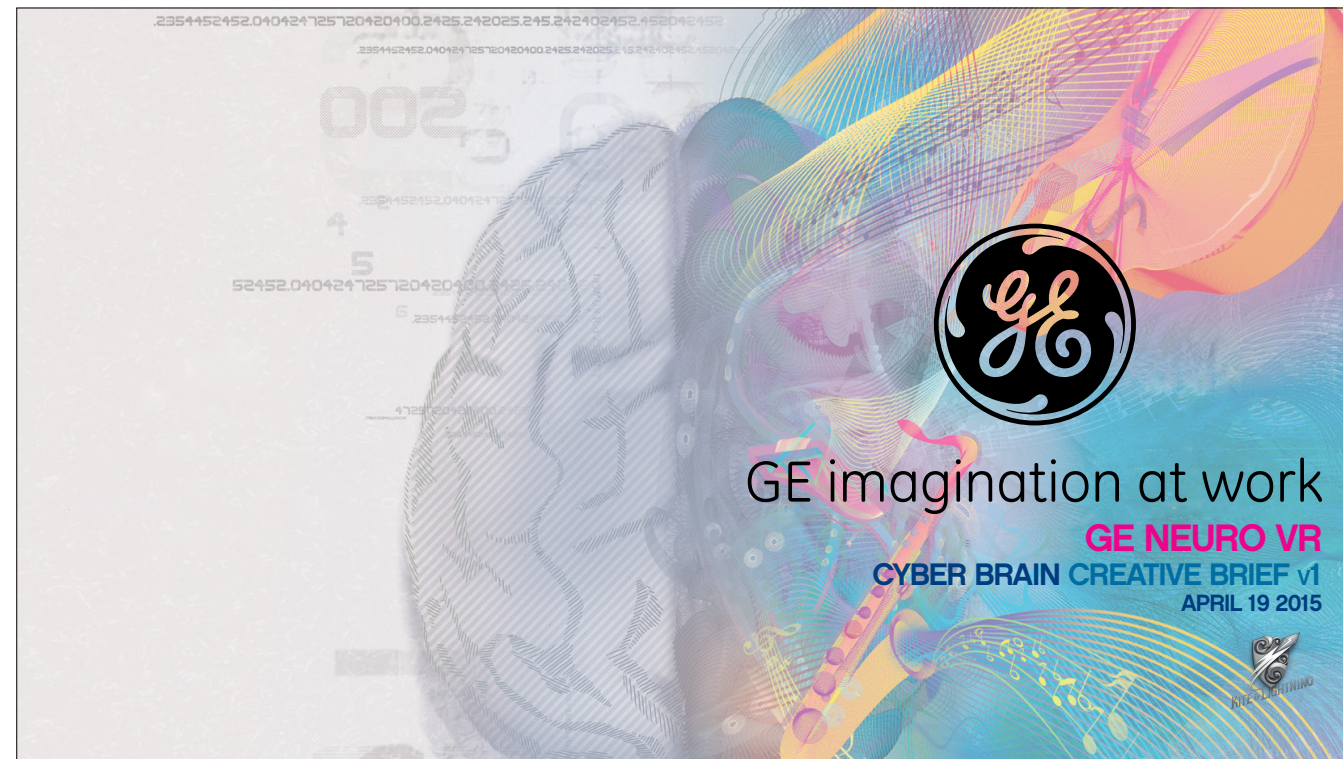
Extended Idea: At the end of the brain exploration the person gets the opportunity to create a piece of 3d sculptural art with the hand controllers, thats whats being recorded with the EEGs and incorporated into the work of living art. The sculpture they make along with their brain activity is blended and incorporated into the work of art.



The background of the slide is a complex, abstract composition. On the left, a grayscale image of a human brain is visible, overlaid with faint, semi-transparent numbers and lines. To the right of the brain, there is a vibrant, colorful area featuring a stylized musical instrument, possibly a saxophone or flute, rendered in bright orange and yellow. This instrument is surrounded by flowing, multi-colored lines in shades of blue, green, and purple, which resemble musical notes or data streams. The overall effect is a blend of scientific and artistic elements.

THANK YOU

GE acknowledges that this presentation is intended for internal "GE" use only, and that some material contained in the presentation may not be cleared for public distribution.

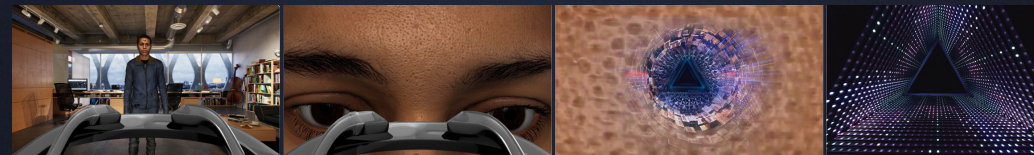


About 3 weeks later

CYBER BRAIN

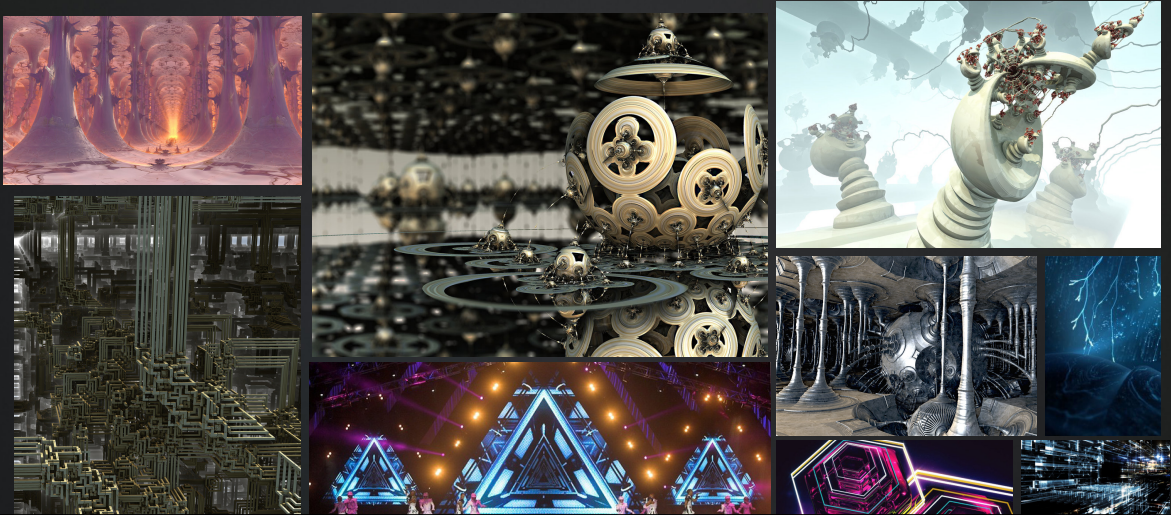
Entering the creative mind of a DJ.

Imagine you've been involved in a crazy, scientific experiment where you are reduced to the size of a single brain cell. You begin in a hip, cool music studio, where before you stands world renowned DJ and musician Reuben Wu. With a jolt of magical technology you shrink to a nano scale and accelerate toward Ruben's forehead like a Tie-Fighter entering the Death Star! You are so small, his facial hair seems like massive Dr. Seuss buildings protruding sideways from the porous wall before you. You enter an enormous skin pore and it gently ripples into a geometric tunnel. Light rings echo towards you provoking glowing rods to dance through the dark tunnel like its a portal to the TRON world. Beautiful music streams in from the glimmering exit ahead. As you drift towards the light you realize all your expectations have been shattered... you have no clue what marvels and mysteries lie ahead!



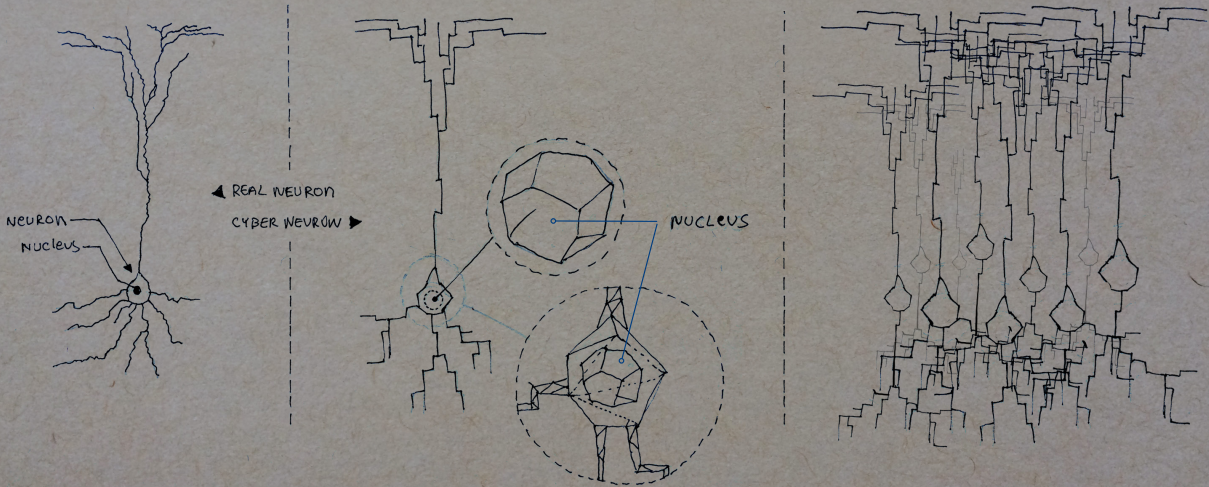
CYBER BRAIN | CONCEPT

The Cyber Brain world is a spectacular interactive show of music, lights, animation & information. The core structure of this world is a stylized “cyber” version of a view inside the brain. A mega-city of cyber neurons as far as the eye can see, active connected and pulsing with life.

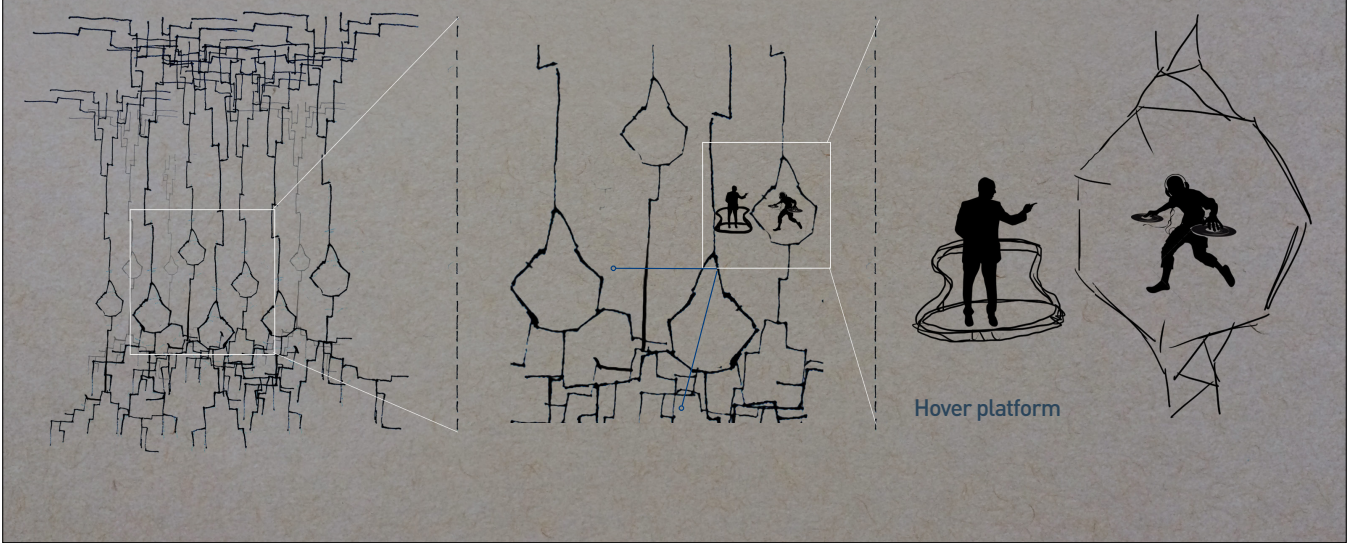


CYBER BRAIN | CONCEPT

It's core structure is a stylized "cyber" version of a typical view inside the brain. An active mega city of cyber neurons as far as the eye can see.

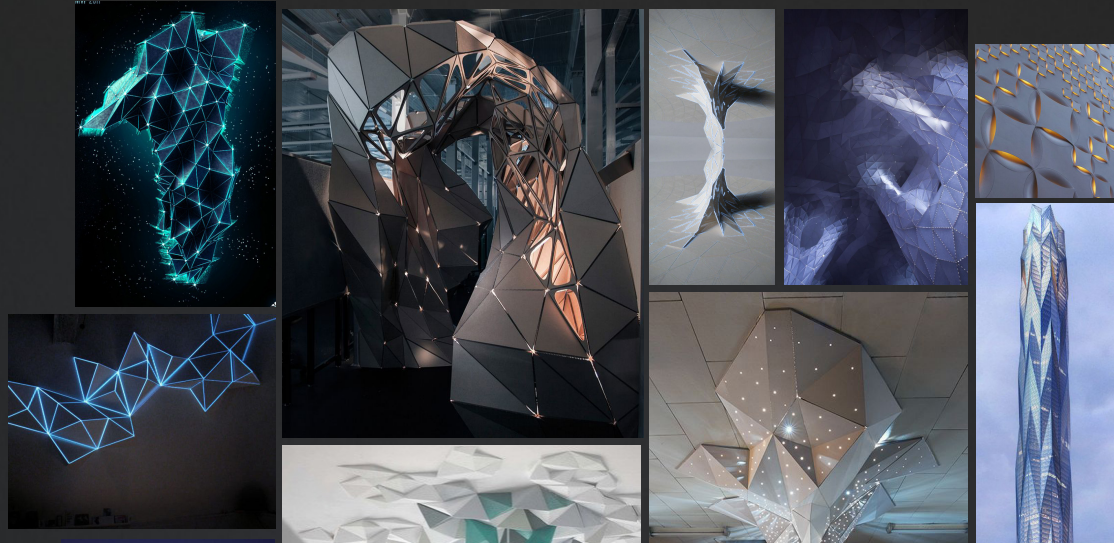


CYBER BRAIN | WORLD SCALE



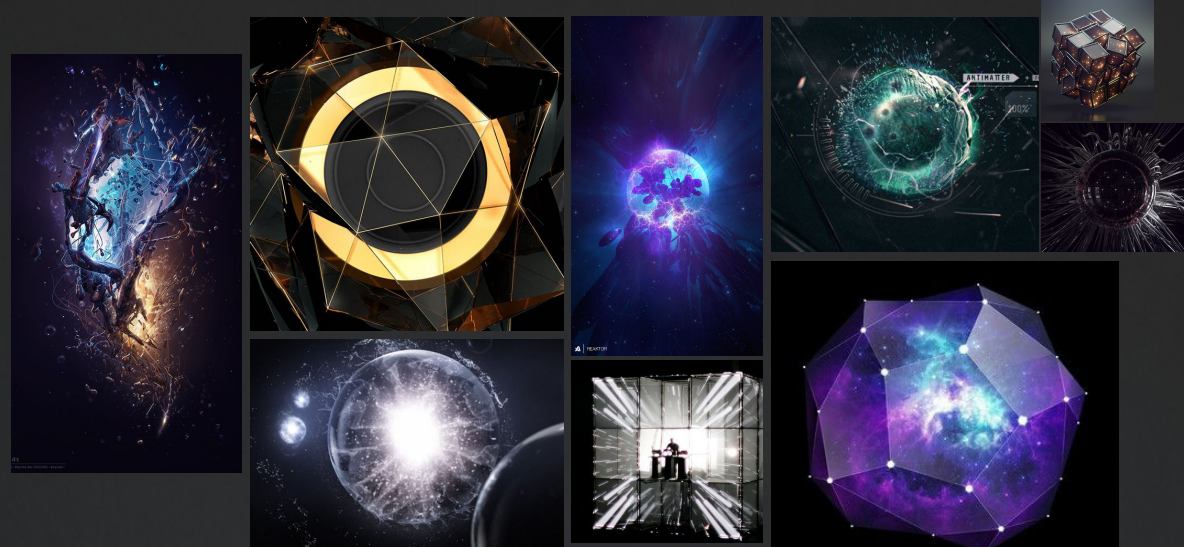
INSPIRATION | STRUCTURE

The cyber brain structure is made up of beautiful geometric & polygonal surfaces. Synaptic light and pulsing energy flow seamlessly through the architecture.

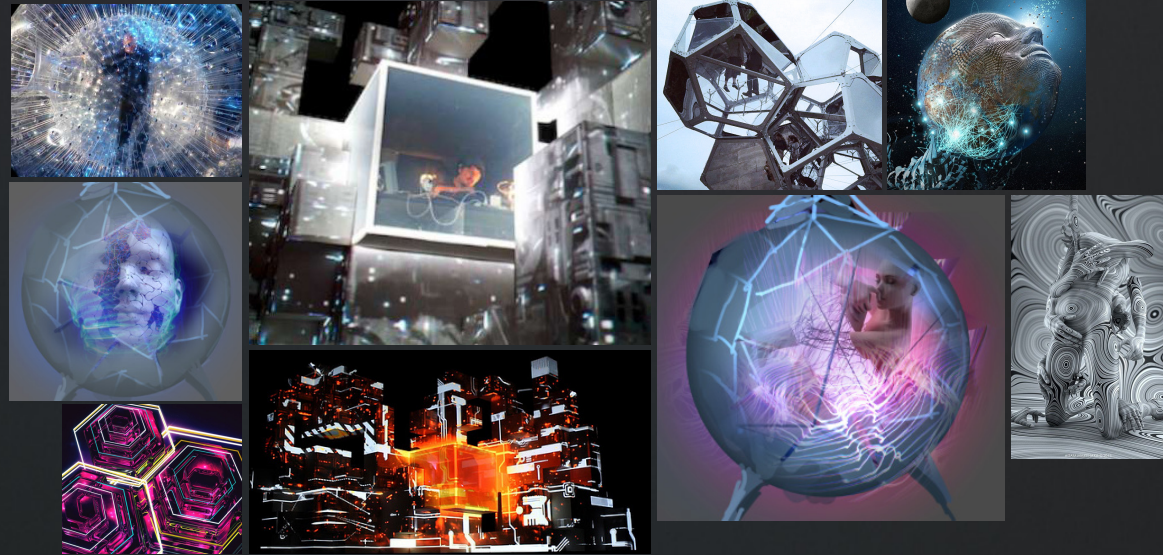


INSPIRATION | NEURON + NUCLEUS

Inside each of the zillion Neurons is a Nucleus. In the cyber brain the nucleus are windows to the inner mind of our host DJ Reuben Wu. Constantly active, the power of thought and imagination pulses through them at synaptic speeds.

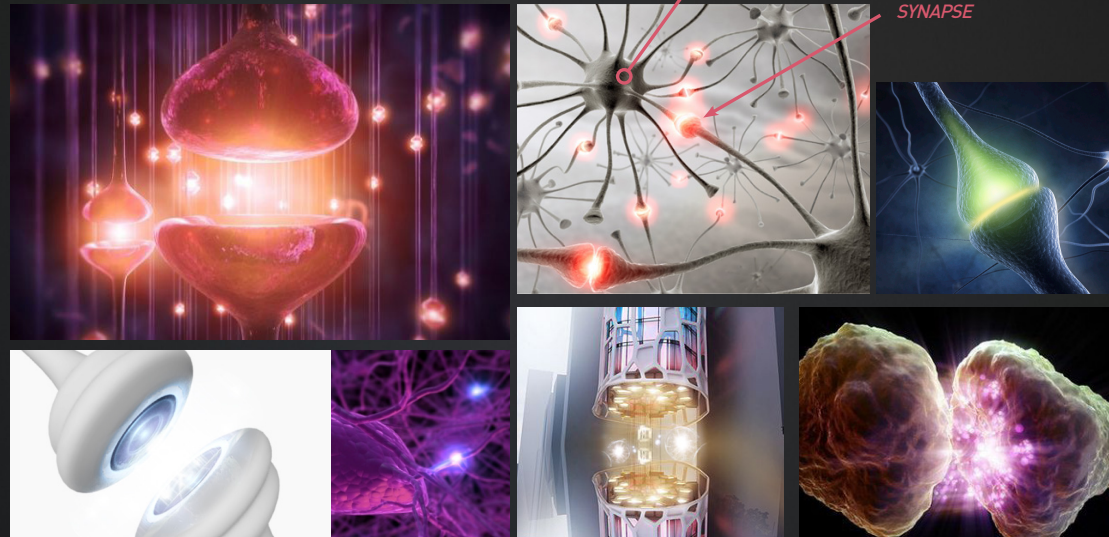


The nucleus can take on many mesmerizing forms but its whats inside that steals the show! Some might contain the DJ himself in surreal form and inside others might be a galaxy or musical wonder.



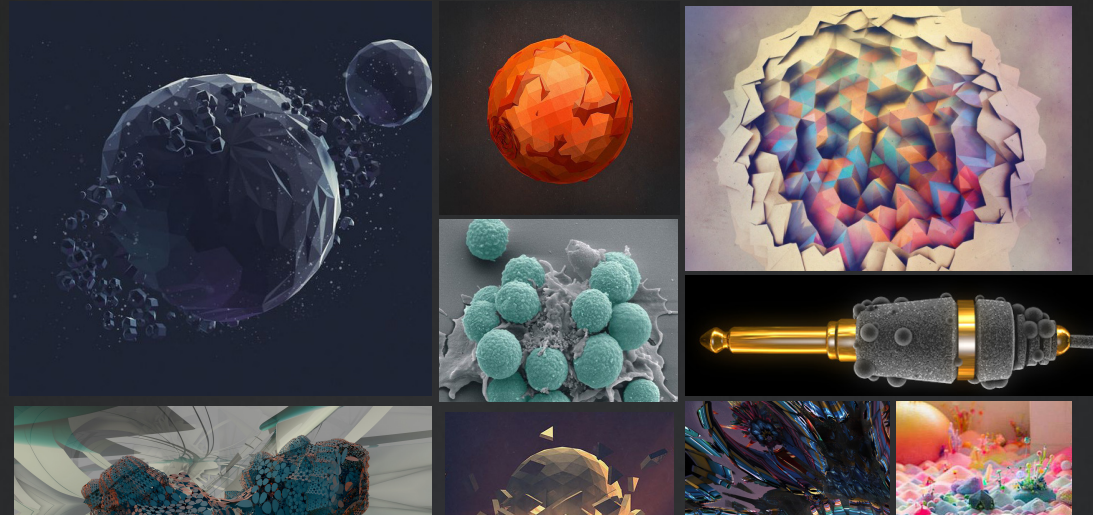
CONCEPT | DIGITAL SYNAPSES

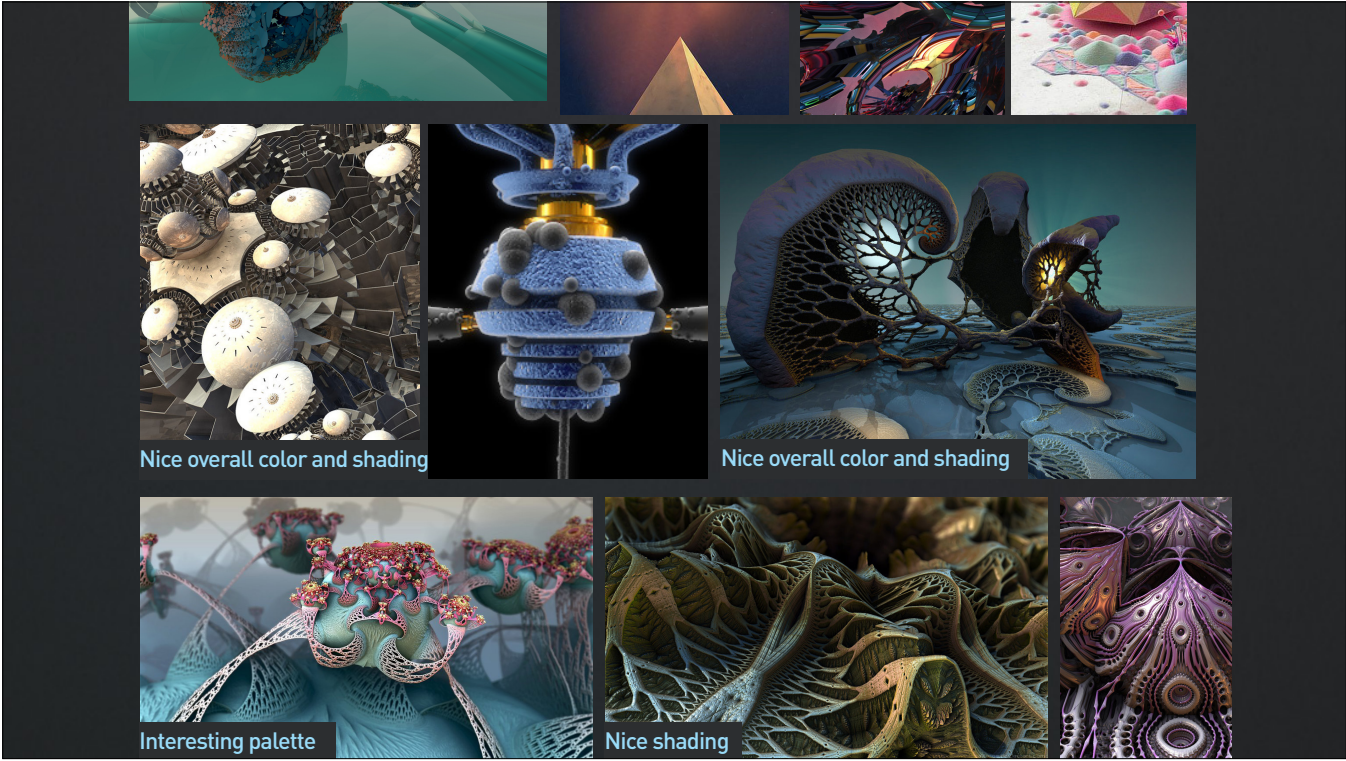
At the end of each Neurons stem (Axon) there is a synapse point where information is transferred from one neuron to another. The cyber brain version will show this functionality using our cyber language.



LIGHTING & SHADING

The goal with lighting & shading is to have this world still look and feel microscopic or “Electron Microscopic”. To contrast the polygon / digital nature of the architecture, perhaps a velvet type shader would push the micro feel? (Check out “microscopic” reference folder) The base palette would want to be lights, whites, greys to play on the brains actual colors with splendid pastel accents. note: none of these references represent the light integration which can be seen in the structural references

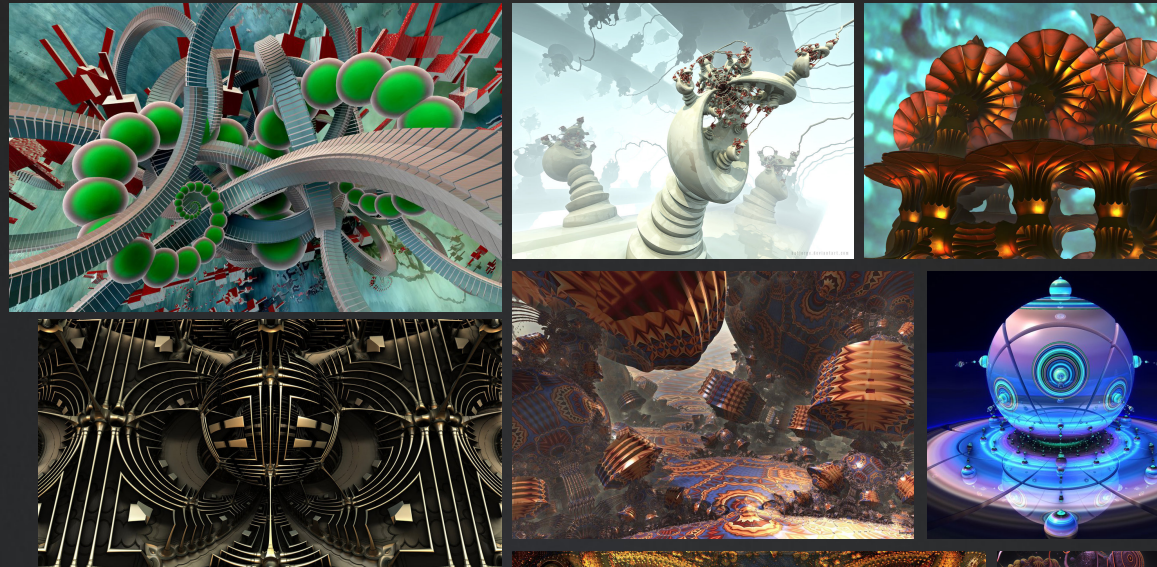


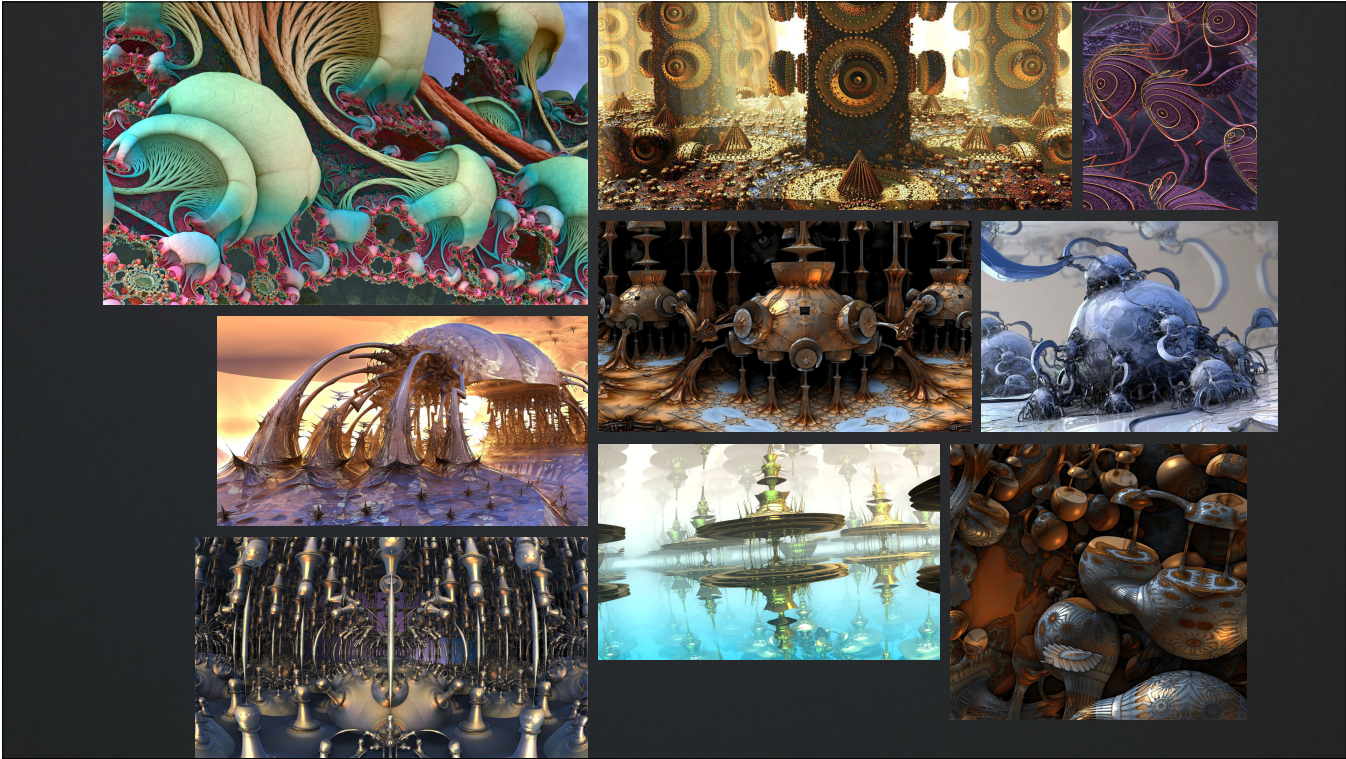


Curio

INSPIRATION | SPIRIT OF FUN

While we don't want the look of the cyber brain to be a fractal, these renderings embody a sense of wonderland, music, connections and fun that we would like to capture.





Curio

DESIGN TASKS

DESIGN COMPOSITION + LOOK & FEEL

- Create frames that represent the overall look and feel of the environment
- This includes structure design + lighting and shading
- Wide & medium shots as well as POV shots (From the view of the VR user)

SPECTACULAR SHOW CONCEPTS

- What creative and wonderful things live inside the nucleus of each neuron?!
- What spectacular and unexpected wonders live inside our hosts imagination?
 - * Anything goes within this section of the world so long as its amazing and ties into the brain conceptually.

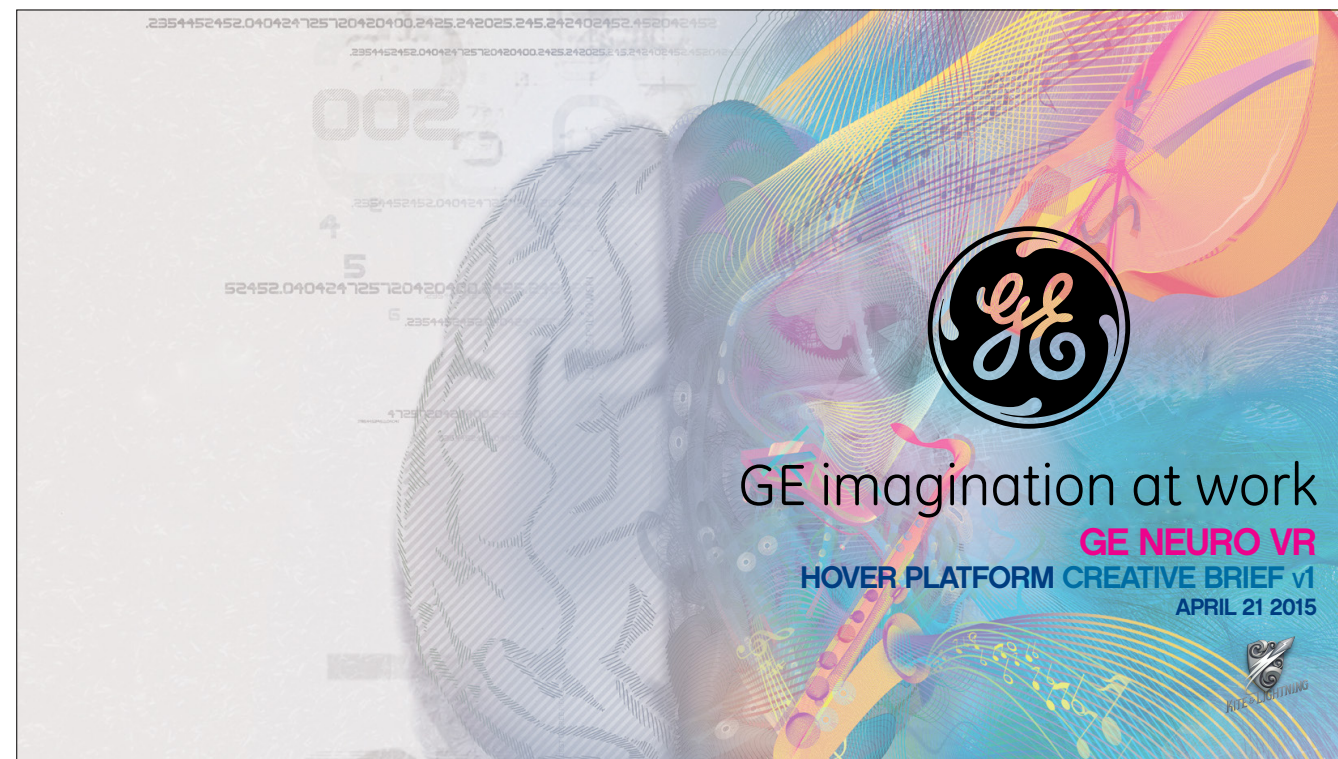
The best way to think about designing this portion of the VR experience is from the perspective of a Disney Imaginer or the director/creator of a Cirque Du Soleil experience like the “O” show. Our audience member gets to glide through our cyber brain world and we want to delight them with amazing and relevant visuals that they can almost reach out and touch. Like Pirates of the Caribbean your surrounded by stories but in our case your much closer to the action and we’re not limited by reality!

INTERACTIVITY

Consider interactivity while designing. As the VR user glides through the world they can use hand gestures to instigate changing, morphing, they can trigger animations, lights, sounds, etc... They can pull objects near or push them away. They can shoot energy into the world or paint new neurons in 3D space. They can paint more brain connections into the environment. The more all the design and interactive concepts tie into the “Brain” in some smart way, the better!

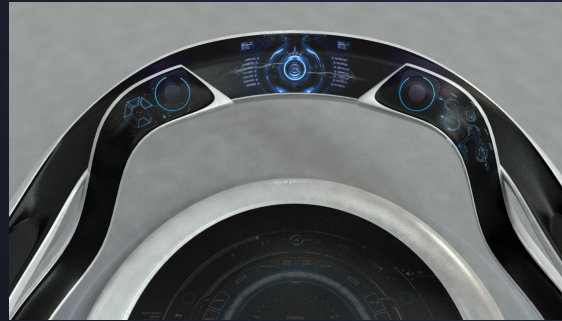






GE MAGELLAN

The GE Magellan Micro-Scout, defines a new era of Bio-Vehicles. By combining Quantum Levitation and pico technologies the Magellan is capable of miniaturizing itself and it's pilot to the size of a brain cell. This powerful new vehicle gives the pilot unprecedented abilities to travel throughout the body. It features integrated Holographic projections for information display and the new Dyna-Drive system for navigation.



note: These renderings are rough concept sketches and not final designs

MAGELLAN FEATURES | INTEGRATED DISPLAYS

The Magellan's interactive displays blend seamlessly within the dashboard and contain all the information and navigation feedback required for Bio-Travel.

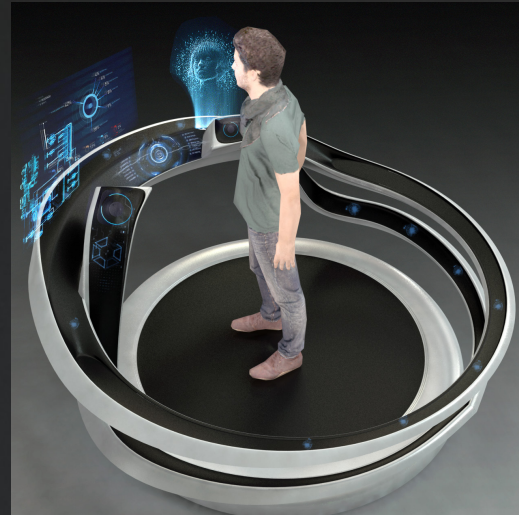
© 2014 Ford Motor Company. All renderings are rough concept sketches and not final designs.



MAGELLAN FEATURES | HOLO-PROJECTIONS

Seamlessly blended within Magellan's framework are a series of holo-projectors capable of Holographic heads up displays, Interactive Holograph manipulation as well as full holographic immersion.

Holographic Heads-Up Displays



Full holographic immersion.



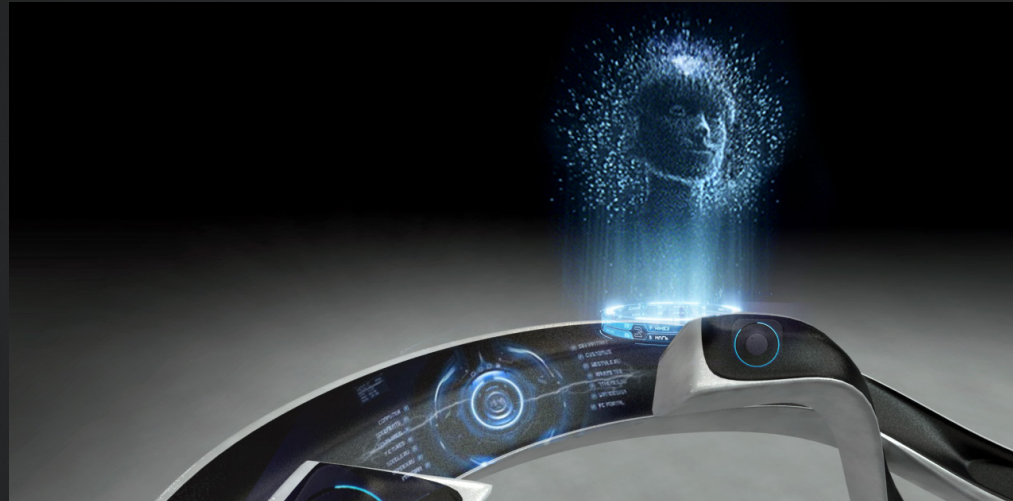
Interact with animated Holographic Objects. The user can grab a 3d Holographic object from the dashboard and pull it near, scale it up, rotate it around, stick their head into it for a closer look, shake it for a surprise! What a great way to analyze an active brain as well as seeing your exact location within the brain!



MAGELLAN FEATURES | HOLO-HOST

Magellan is the name of our holographic host who gracefully walks us through our journey into the mind. Full of insight, humor and interesting knowledge Magellan is an entertaining host that can really knows how to inspire.

note: not the look of the hologram, visual for concept only



MAGELLAN | DESIGN DIRECTION

The Magellan wants to read at first glance as a high-tech medical device.



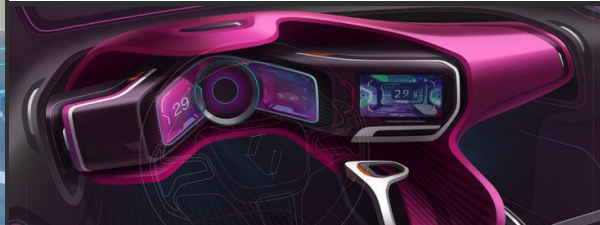
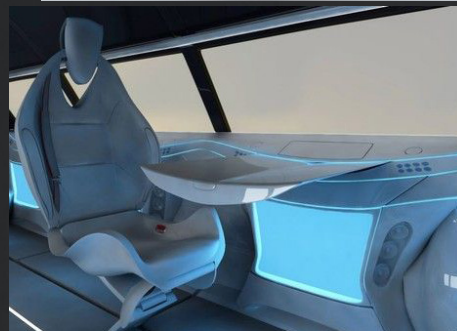
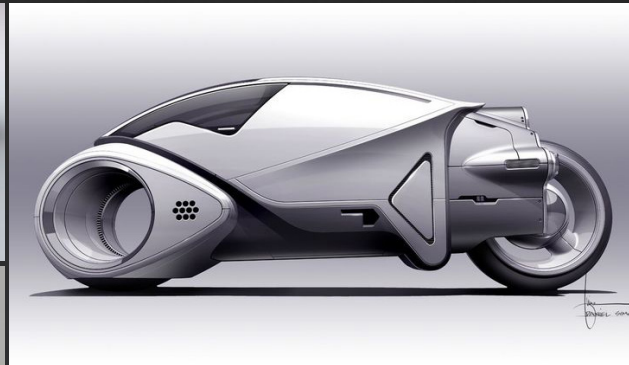
Along with the client this document was heading to a talented artist and modeler named Fausto De Martini who was going to model it for me.

MAGELLAN | DESIGN INSPIRATION

Dashboard and integrated hologram material inspiration



MAGELLAN | DESIGN INSPIRATION

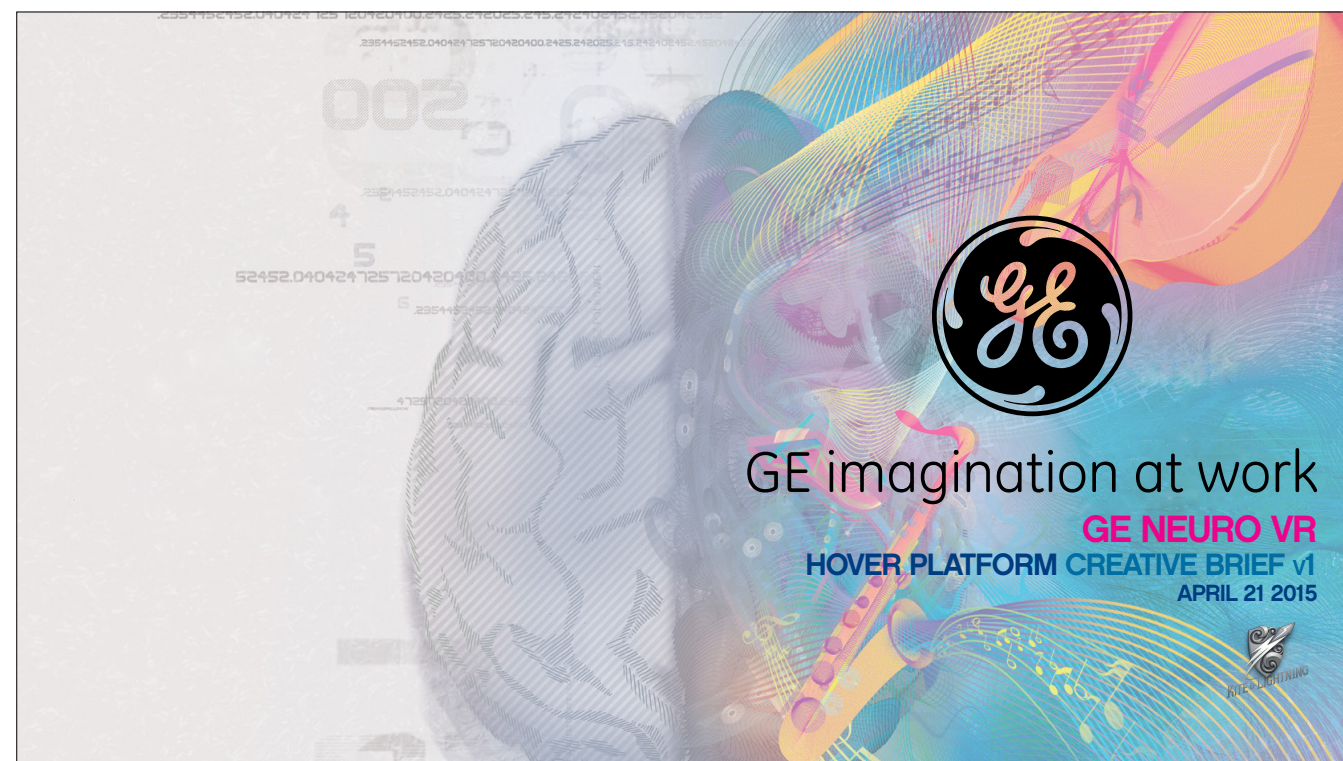


DESIGN TASKS

Design the look, style and materials of the Magellan Hover Platform. *Use the rough 3d model (Depicted on the first few pages) as a guide for general scale.

One function the Magellan needs built in is the front must open and close as shown below.







GE Neuro VR
STORYBOARDS + ROUGH SCRIPT IDEAS

April 21
Draft 1
Kite & Lightning



INT. LOFT

[Friendly, hip sound VO welcomes you to the experience]

Welcome to Reuben's loft!

You probably noticed you're invisible and Reuben is frozen...

Don't worry, thats perfectly normal and necessary for this experiment to work.

WHAT experiment you ask? Let me introduce you to Reuben Wu, an incredibly talented musician and DJ who has remarkably agreed to let us enter his brain and experience the world inside his musical mind.

Just before you, are two glowing controllers that will help you navigate this experiment. Go ahead and grab one with each hand.

...Excellent

Make sure you stay on the hover vehicle at all times. Take it slow and relax, this is going to be an exciting experience. One like you've never had before.

Ok, look into Rueben's eyes. The experiement begins in three... two...one...

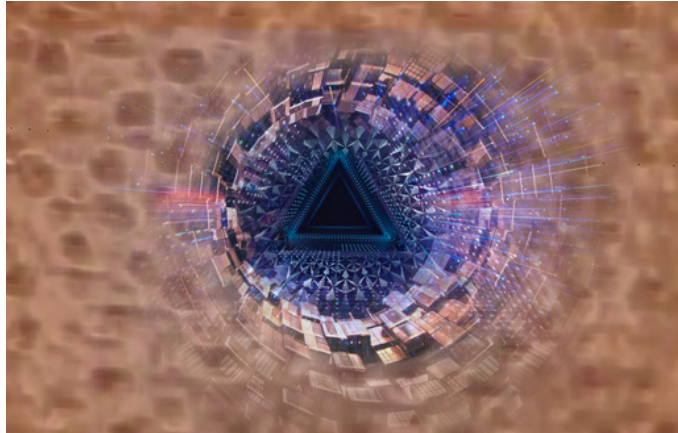
(as we shrink, the world enlarges around us)



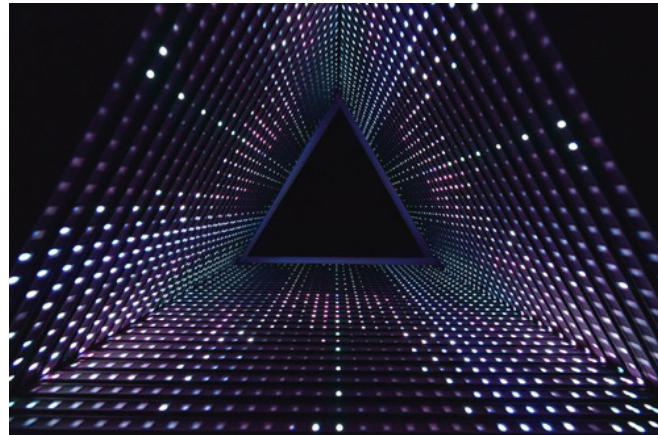
Reuben is now the size of a giant and you're approaching his forehead like a Tie-Fighter entering the Death Star.

[VO continues] This is still fun every time I do it! Here we go.

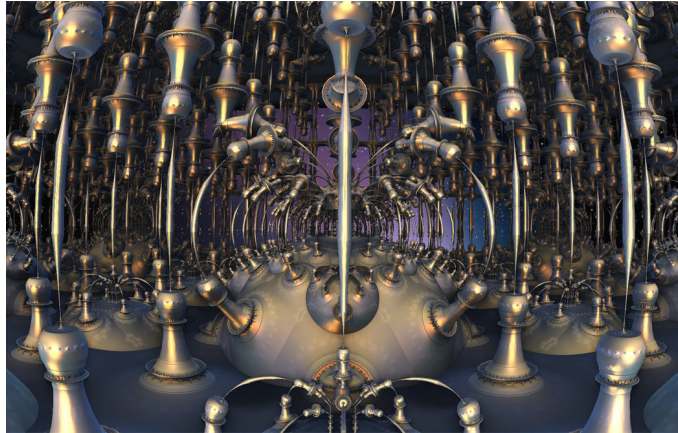
(The hover platform approaches and enters the brain.)



The hover platform enters an enormous skin pore which gently ripples into a geometric tunnel.

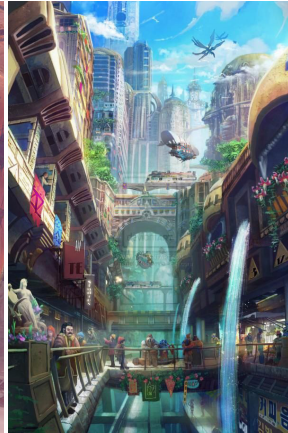
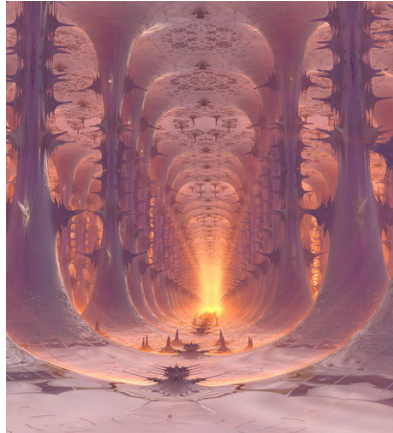


Light rings echo towards you, creating a TRON
-esque portal with beautiful, glowing tunnels
of light. Gorgeous music streams in from the
glimmering exit ahead. As you drift towards the
light you realize all your expectations have been
shattered... you have no clue what marvels and
mysteries lie ahead!



You enter a massive energetic city of connections that closely resembles what you imagine the inside of the brain is like, but with every new glance you realize you are not in Kansas anymore!

[VO] Welcome to the crown jewel of the human body!
(long pause)



Reuben's imagination delights in welcoming a new spectator. Gliding in, you feel like a King being welcomed back to his kingdom. You're surrounded by a spectacular show of music, lights and animation, all magically imagined in the tone and language of the brain's connections and synapses.

[VO] Well I have to admit I wasn't expecting this! We're not exactly witnessing the inside of his cerebrum, but certainly a great example of what the brain is capable of imagining.



This amazing and gorgeous brain surrounds us with its marvel and mysteries.

[VO] It's inspiring to be here in Reuben's Amygdala.

Its right here where his emotional learning is processed as well as his fears, social interactions and believe it or not...his political and sexual orientation.

Imagine being right here leading up to and during his first concert. This place would have been quite a show.

Go ahead, reach out and make music. Maybe we can prove inception is possible. If Reuben writes a masterpiece after this, then we both get 10%!



Alas, it's time to head back.

Thanks for joining us on this amazing journey.

TAG LINE

There are trillions of connections happening in the universe in our head. GE is working to visualize them all.

OR

There is another universe for us to explore. The human brain... The next frontier

OR

GE is using advance imaging technologies to visualize the next great frontier.

Once all this was signed off we'd be heading into full production



Im going to rewind us back to the beginning but this time instead of looking at the results of an actual project
I want to go over what i think for us, are the key ingredients needed to achieve high quality VR in a short amount of time with just a few people.

And pre-production

It's this **beautiful** and **serine** time and **space** where your coming up with a **great concept** and preparing for Production.

As I mentioned before this is the most important stage.

Pre-Production has too ROCK!

3 Reasons Why

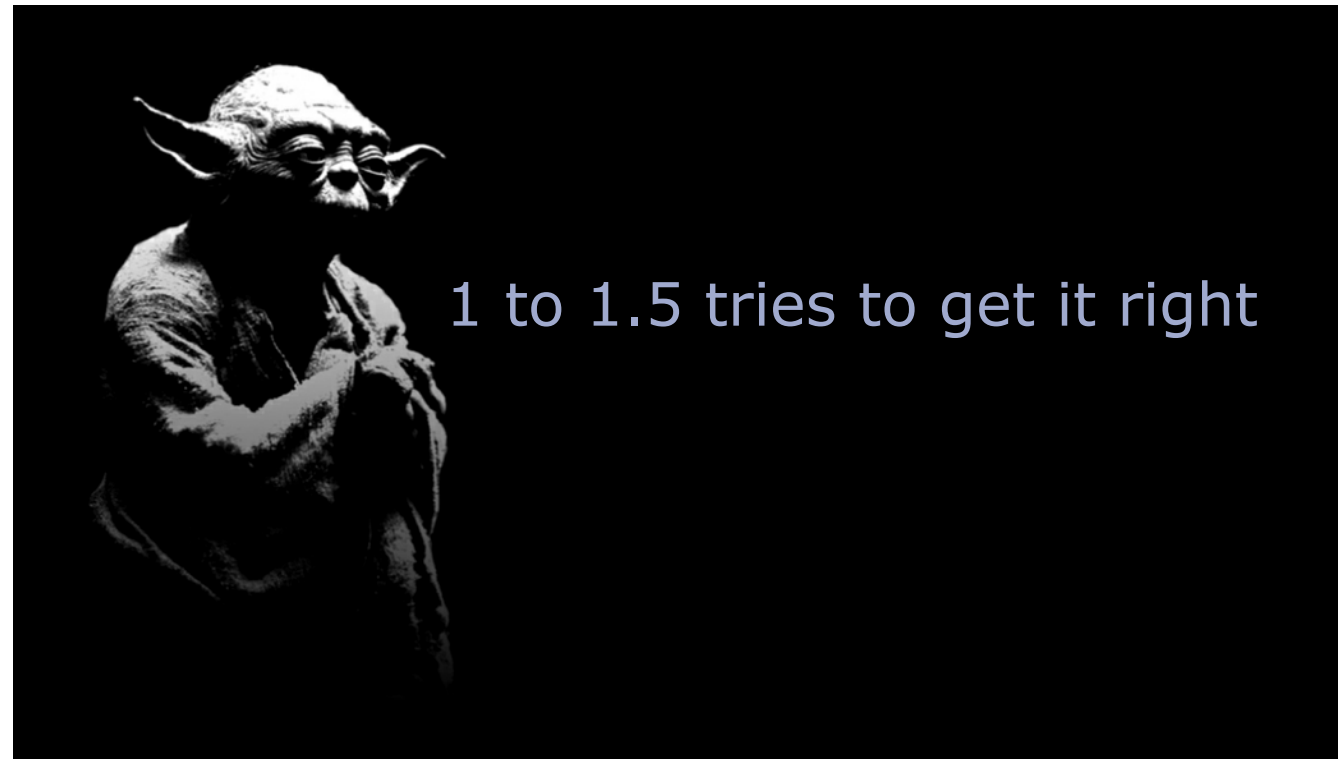
1. Production is Next
2. 1 to 1.5 Shots to get it right
3. Shifting Gears is slow

So your out here is this beautiful and serene place and then production kicks in...



1. PRODUCTION

Once production **starts**, everything gets **really really fast** and picks up **a lot of momentum**.
And when you have short timelines, you only want to be **making minor course corrections** if you can help it, **not** major ones.
You don't want to find out that one of your **core ideas** is not fundamentally working...



Under these time and resource constraints you really have to come up with a concept that just works. It works as a good concept and it will work in VR. Doing that means you're not iterating something into being, you're basically just thinking up an idea (In Pre-Production) and then making it.

so getting the idea right is critical because there are no re-dos.



Usually with small team many members have to wear many hats.

What i've noticed with myself is when I'm in the creative space of pre-pro my brain is in a low gear and I can easily come up with cool ideas and solve creative problems

but when I shift into production and put on my 3D artist hat or my motion capture hat, or my Blueprint Hat, or if were doing live action, my director or DP hat.... my brain and focus shift into a totally different gear. My head becomes filled with faster paced thoughts about techniques, how I'm I going to build an entire city in 3 days....

(It's why on movie sets a director is not also doing the cinematography, which is the right way to do it, but for us small teams thats a luxury we don't have)

How to make Pre-Production ROCK!

6 key ways that work for us

1. Time and Serenity
2. Go Big or go home
3. Find the heart and soul
4. Iterate in your Mind
5. Organization
6. Develop New Skills Fast

How to make Pre-Production ROCK!

1. TIME & SERENITY



This one is really easy but super important

You have to give yourself enough distraction free time as possible.

This is your creative space.

Weather its just you or a few of you, you need time to get down there, where all the juice is.

How to make Pre-Production ROCK!

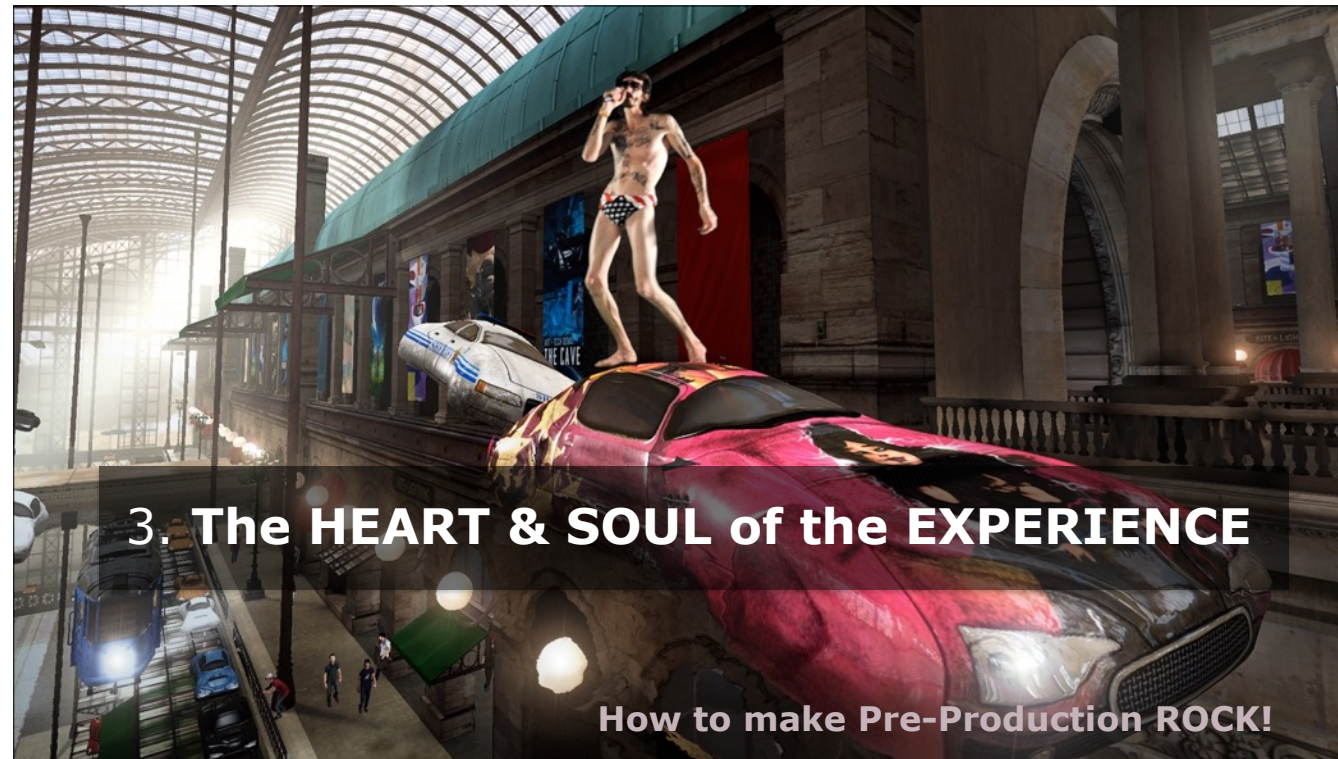
2. Go BIG with IDEAS

- Ideate with no constraints
- Focus on story and emotion



This may not be great advice but its something we do and have gotten away with it.

- Dive into ideas as if there are no constraints.
- You don't want to be concerned about technical aspects or even resource constraints this early on.
- You really want to focus on the story and the emotional content of the experience.
- Even if one of your ideas ends up being unrealistic but it nails the emotion for that section, its usually not difficult to find a do-able alternative. The key is nailing the emotion.



3. The HEART & SOUL of the EXPERIENCE

How to make Pre-Production ROCK!

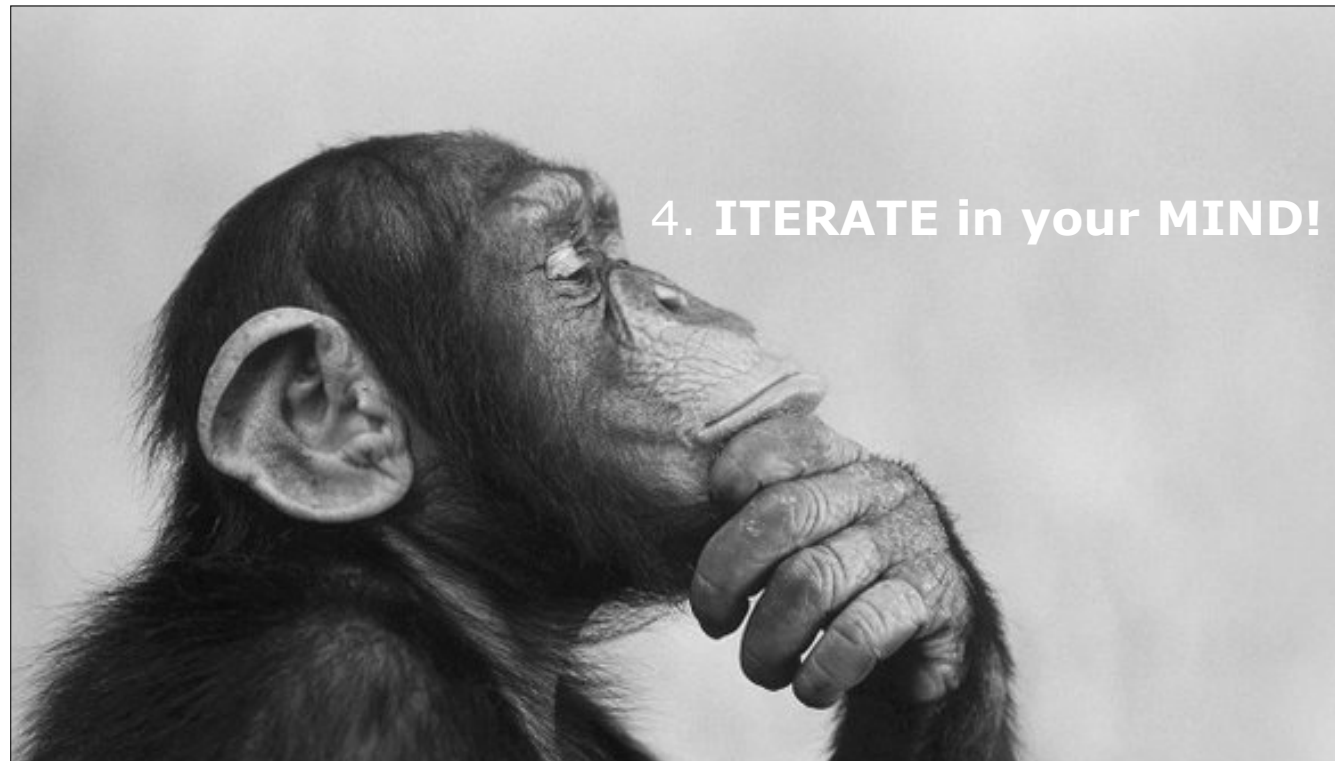
If you can you want to find the HEART of your idea early on and spend a lot of time just thinking, researching , writing, gathering references, baking and baking on the core.

HELPS - Instincts - Fires up your internal guidance system (You're instincts and not always just there, you have to feed your brain a place you want to go/what you want to build, then your instincts will point you the way there)

HELPS - avoid temptations and VR power to derail you during the process

Heart & Soul questions to consider

1. What is the emotional slice
2. Whats the Rhythm / pacing
3. Does this idea support immersion
4. Is it as pure, simple and clear as possible



2) Iterate in your Mind

- Simple and Obvious but very powerful and necessary especially for these short timeframe projects.
- Its not so much imagining what will or won't work in VR, its about what will or won't work for the story or experience.
- A lot times people have an idea and jump right into VR, sometimes its really cool, just as they thought, but somehow as the other pieces start coming together it just doesn't seem to work quite right for their overall story.
 - Thats what your trying to eliminate having to iterate in VR.
 - OK, Duh... your saying just visualize everything?

Iterate in your Mind

1. Imagine as many details as possible
2. Play things out in Realtime
3. Sit or Stand depending on experience
4. Feel and Follow the feedback
5. Do it a lot

Iterate in your Mind

PACING

1. Use Stop Watch
2. Make sure your ideas fit the time

2) PACING

- When it comes to pacing your imagination is a great tool for getting you into the ballpark and help eliminate ideas that won't work.

- Grab a stop watch and visualize a scene in all its glorious details. If a scene feels really good in your imagination but clocks out at 3 minutes, and your whole experience is 3 minutes, that's not going to work and you don't want to find that out after having built a rough draft in VR. A lot of times certain emotions take time to build towards so you can't just chop something important out and expect not to lose something important. A building exploding around you in one quick explosion is dramatically less dramatic than seeing the floor start cracking, then the glass, then one explosion followed by another. Obviously the second more dramatic option takes more time.

We've had our fair share of bandaids. The weakest things going into production were definitely the weakest things that ended up in the final piece. Of course there is a certain amount of things that just have to be tackled in production so all of this is really....



- I'm a maniac for organization
 - Everything from my maya scenes, to the way blueprints are laid out in Unreal Engine
- It's essential, especially for a game to not hit that tipping point where you can't get anything done
 - Do it as you go.

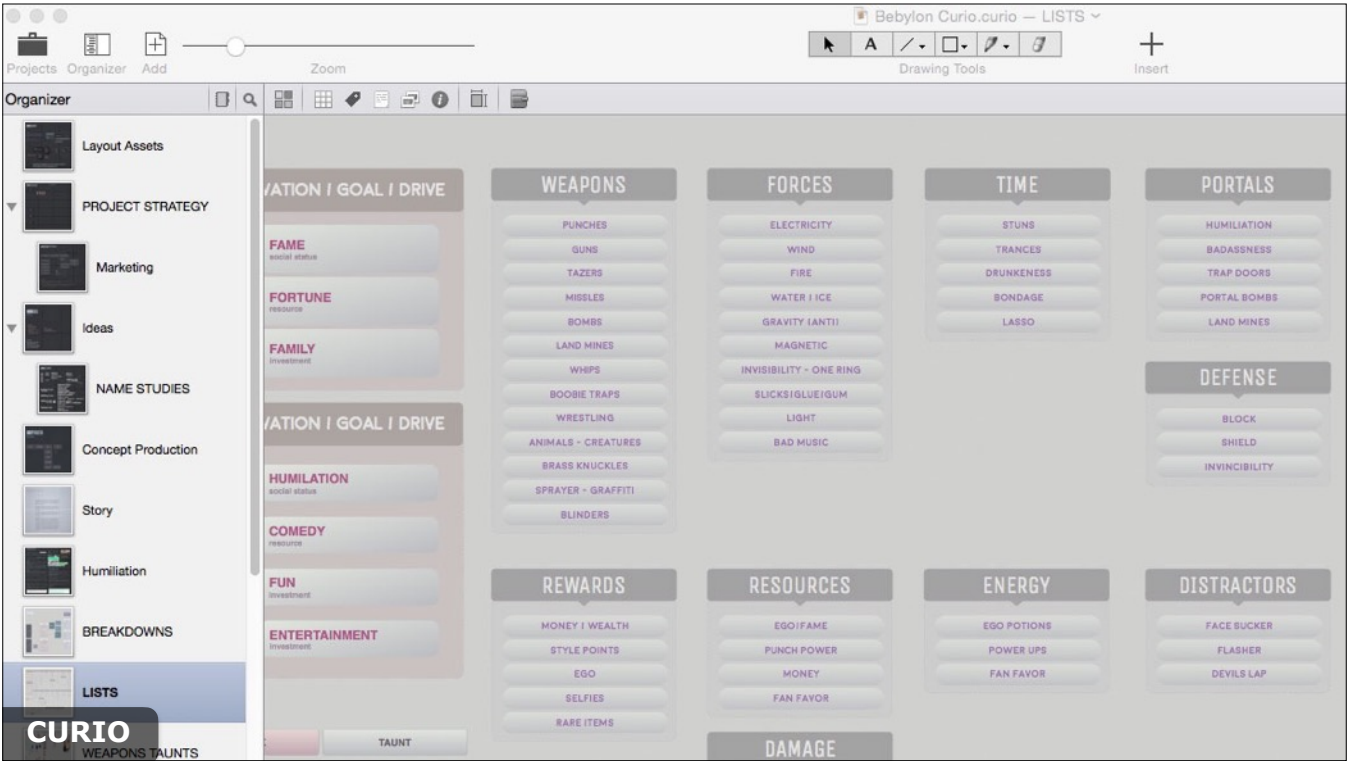
** If your VR projects just are not hitting a high enough quality mark and feel thin, I would almost guaranteeing your organization is shit or not organized enough.

Pre & Production

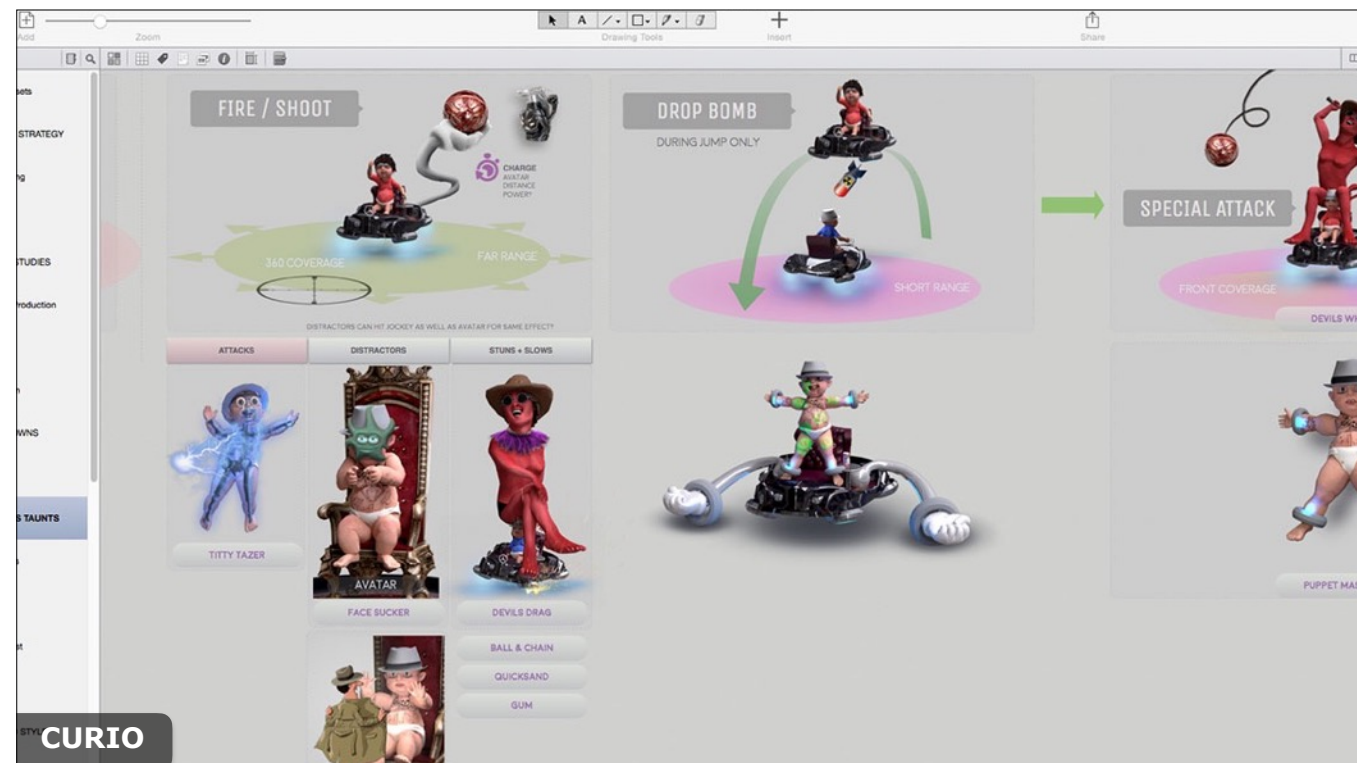
Software

1. Curio
2. Confluence
3. Shotgun

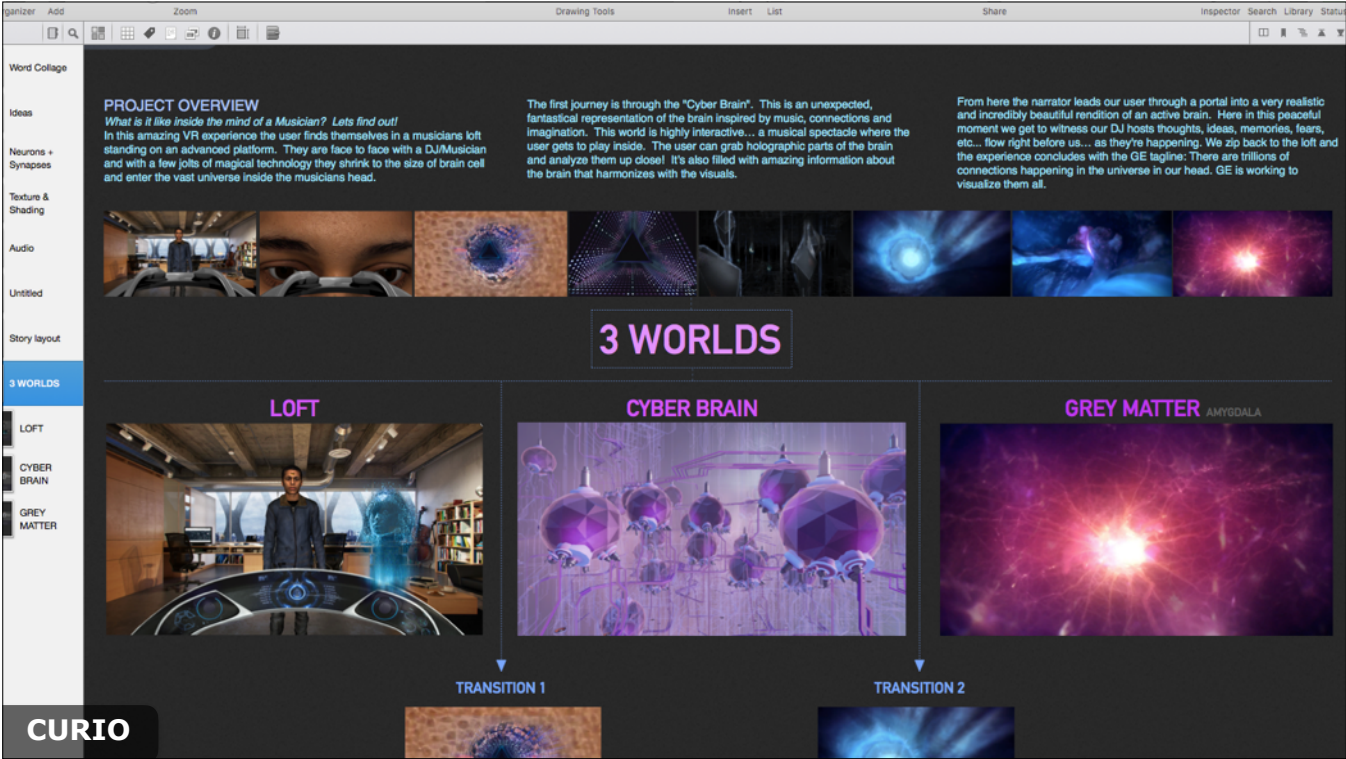
- Software we've found that's really great
 - Curio for creation dev
 - Confluence for Design docs
 - Shotgun for asset management



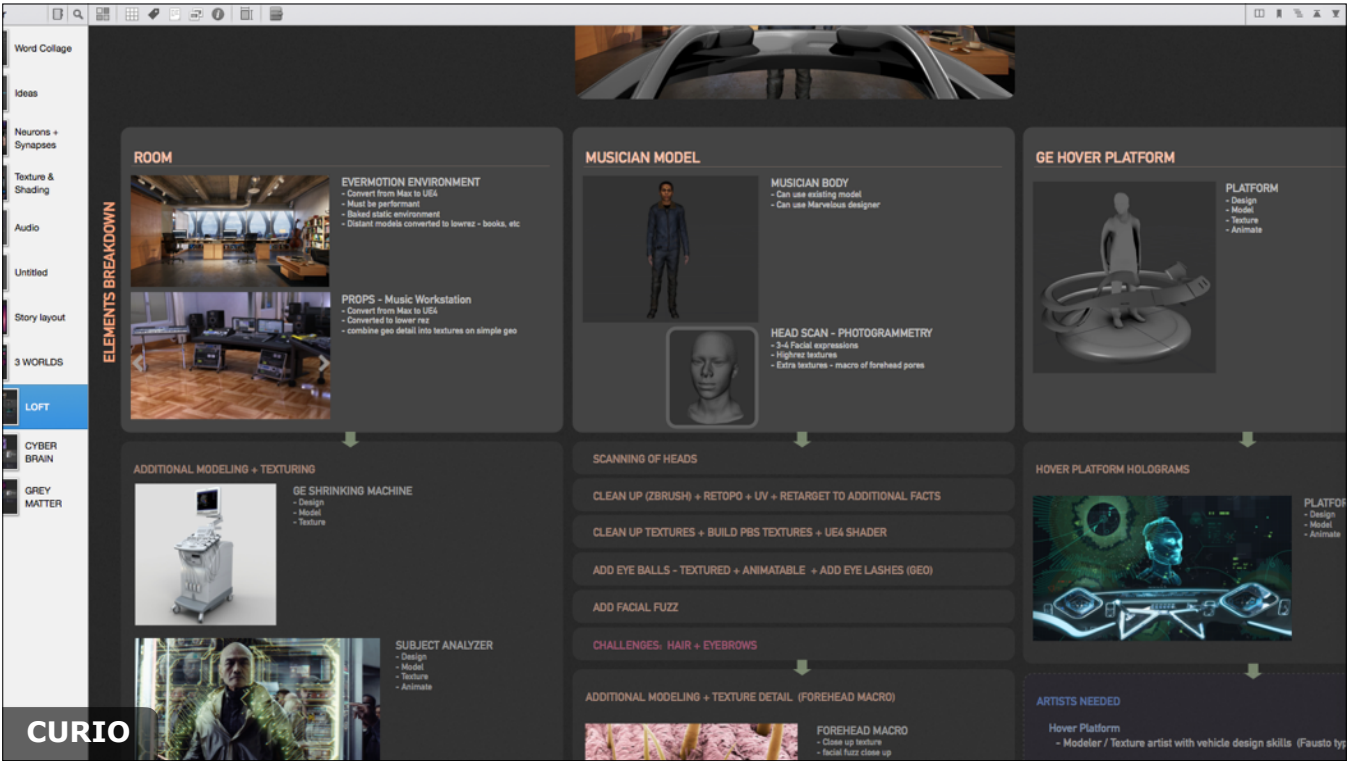
Curio



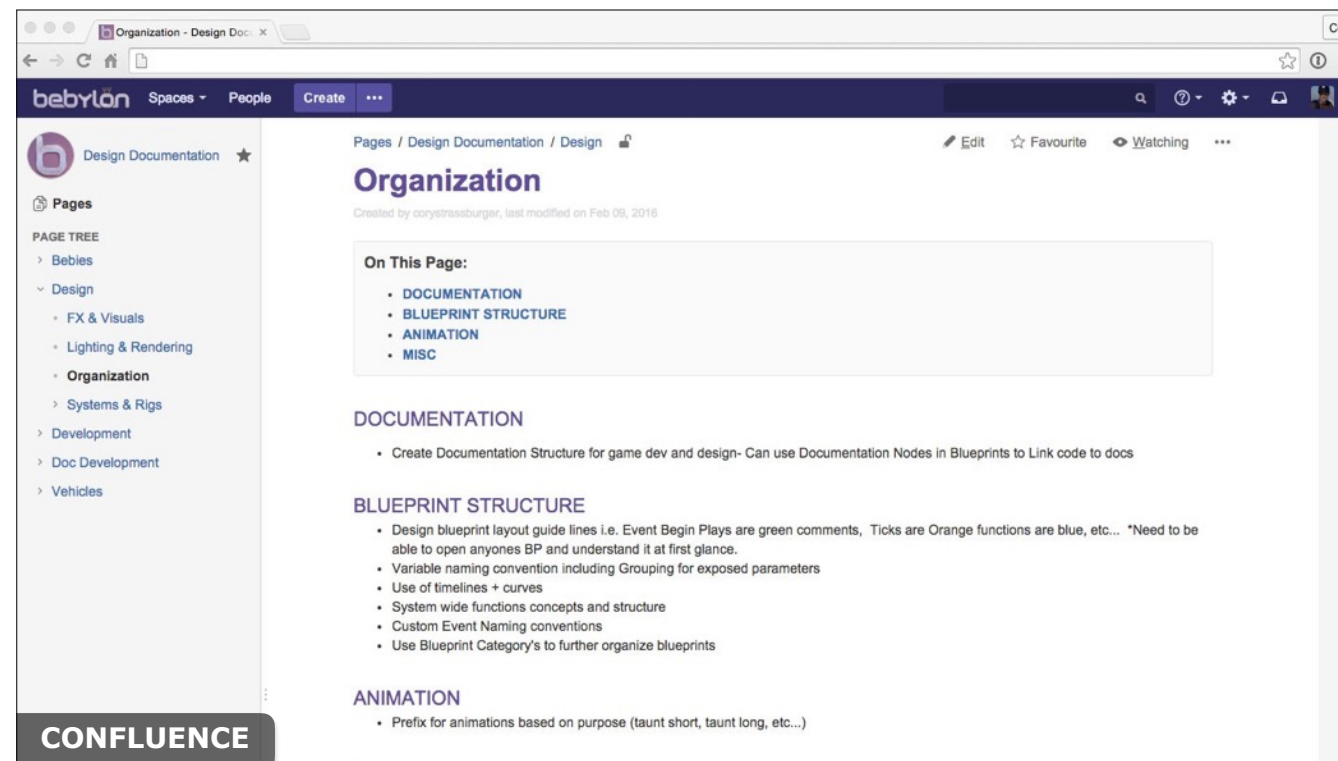
Curio



Curio



Curio



Curio

bebryl™

Spaces ▾

People

Create

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b

Design Documentation

★

📄 Pages

PAGE TREE

> Babies

> Design

- FX & Visuals
- Levels
- Lighting & Rendering
- Organization
- Systems & Rigs
 - Audience Rig
 - Reaction Engine
 - Stage Lighting Rig
- Development
- Doc Development
- Vehicles

CONFLUENCE

Pages / Design Documentation / Design 📄

✎ Edit

☆ Favourite

👁 Watching

...

Systems & Rigs

Created by corystrassburger, last modified on Feb 15, 2016

On This Page:

- Systems
- Rigs

Rigs are self contained units that function within the game. i.e. The Stage Lighting Rig or the Avatar Rig. Engines are typically invisible and control several Rigs (and potentially other engines) based on gameplay such as the Reaction Engine which controls the Lighting Rig, the Audience Rig based on the mood of the game play.

Systems

Name	Description
Reaction Engine	A.I. who determines Game Play aggressiveness and orchestrates MC, Audience and Theatrics to respond accordingly.
MC Engine	An AI based Commentator system + creates Highlights with video and stills for the Lobby
Fashion Engine	Visual Customization system for Bebys & Vehicles (Attire, accessories, bling, Car paint, car groundFX projections, etc...)
Style Engine	Customize Taunts, Weapons of Humiliation, intro and fatality animations, beast mode outfits, Summons Characters etc...
Audio Engine	System for game audio

Rigs

Curio

bebylon

Spaces

People

Create

...

Pages / ... / Levels

Edit

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Watching

...

b

Design Documentation

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Pages

PAGE TREE

> Babies

> Design

- FX & Visuals
- Levels
 - SubLevel1 Mixlab
- Lighting & Rendering
- Organization
- Systems & Rigs

> Development

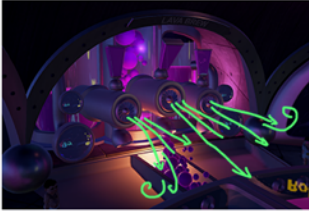
> Doc Development

> Vehicles

CONFLUENCE

Lab Activation States

Lava Brew Intake (Blow)

Name	Description
	CONCEPT This is the moment where the MixLab is bringing in raw Lava for mixing. The exhausts blow out air as the nozzles pour lava into the trays. The platforms don't rotate. However, the platform configuration changes to make the level more difficult. *See below
	** Note: There are 3 different sections in the MixLab with these "Lava Taps" we can start with activating one, then followup by activating up to all three so wind is blowing from 3 different areas.
	CENTRAL PLATFORM The platform will form a negative Pyramid (With the center elevated) and above the middle ring will fill with toxic yellow lava forming a river mote that the player will have to jump. Bubbles will spawn in a few pockets as not to create a wall of bubbles but more like sporadic columns that you'll have to jump between to keep safe.

Curio

If any of this resonated with
you, come work with us!

bebylon[™]

BATTLE ROYALE

A Gentlemen's Game by KITE & LIGHTNING

hello@kiteandlightning.la

