SPECULATING EVERYTHING
SKETCHING FUTURE EXPERIENCE SERIES
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>THE LECTURE</td>
</tr>
<tr>
<td>41</td>
<td>G-LAB</td>
</tr>
<tr>
<td>69</td>
<td>KNOWALL</td>
</tr>
<tr>
<td>89</td>
<td>CIRCLE OF BYTES (COB)</td>
</tr>
<tr>
<td>125</td>
<td>ORE</td>
</tr>
<tr>
<td>145</td>
<td>REVIVE CITY</td>
</tr>
</tbody>
</table>
TEAM’S TOPIC
THE LECTURE
Julian Bleecker of NEar Future Laboratory, coined the term Design fiction and has a wonderfully simple definition: design can be a kind of fiction-making.

Critical design encourages designers to re-think the role of technology in everyday life, without dealing with the applications of technology, but rather by considering its implications. Turning away from the commercial aspects of design, they are now engaged with a broader social context. The speculative design approach takes the critical practice one step further, towards imagination and visions of possible scenarios.

Overview

Speculative Design
Science Fiction
Artificial Intelligence
CRISPR
Student Work

Design can also be kind of fiction-making; design fiction.

-Julian Bleecker

Julian Bleecker of NEar Future Laboratory, coined the term Design fiction and has a wonderfully simple definition: design can be a kind of fiction-making.
Traveling to destinations beyond planet Earth involves voyages to hostile landscapes and deadly environments. Crushing gravity, amonious air, prolonged darkness, and temperatures that would boil glass or freeze carbon dioxide, eliminate the likelihood of human visitation. Wanderers, by the Mediated matter group at MIT media LAB explores the possibility of voyaging to the worlds beyond by visiting the worlds within. 3D printed wearable capillaries designed for interplanetary pilgrims are infused with synthetically engineered microorganisms to make the hostile habitable and the deadly alive. Like the next level of a spacesuit for an astronaut.

ames Auger and Jimmy Loizeau are 2 designers who have been collaborating for over 15 years to create speculative design projects. Alternative presents and speculative futures. For this project we re-imagined the robot, shifting away from humanoids and pet-like devices towards forms and behaviours more appropriate for the domestic landscape and the complexities of human desire.

What makes objects or landscapes feel speculative? Here is the set from the SciFi movie Ex Machina: The directors explain: “We chose an eclectic range of mid-20th century designs I think that are classic and everlasting,” “I don’t think he feels that things have to be up to date, it just has to be beautiful design.

To start, we have to build a speculative world. Is it the past? Is it the future? Is it on Earth? Are there humans? Are there robots? Be answering these questions you can begin to build a set for your designs.

Carnivorous Domestic Entertainment Robots

This robot uses flypaper as its means of entrapment. This paper is placed on a roller mechanism. At the base of the roller a scraper removes any captured insects. These fall into the microbial fuel cell placed underneath. The electricity generated by the flies is used to power both a motor turning the rollers and a small LCD clock.

ames Auger and Jimmy Loizeau are 2 designers who have been collaborating for over 15 years to create speculative design projects. Alternative presents and speculative futures. For this project we re-imagined the robot, shifting away from humanoids and pet-like devices towards forms and behaviours more appropriate for the domestic landscape and the complexities of human desire.

ames Auger and Jimmy Loizeau are 2 designers who have been collaborating for over 15 years to create speculative design projects. Alternative presents and speculative futures. For this project we re-imagined the robot, shifting away from humanoids and pet-like devices towards forms and behaviours more appropriate for the domestic landscape and the complexities of human desire.

What makes objects or landscapes feel speculative? Here is the set from the SciFi movie Ex Machina: The directors explain: “We chose an eclectic range of mid-20th century designs I think that are classic and everlasting,” “I don’t think he feels that things have to be up to date, it just has to be beautiful design.

To start, we have to build a speculative world. Is it the past? Is it the future? Is it on Earth? Are there humans? Are there robots? Be answering these questions you can begin to build a set for your designs.
In Stranger Visions the artist collected hairs, chewed up gum, and cigarette butts from the streets, public bathrooms and waiting rooms of New York City. She extracted DNA from them and analyzed it to computationally generate 3D printed life size full color portraits representing what those individuals might look like, based on genomic research. The project was meant to call attention to the developing technology of forensic DNA phenotyping, the potential for a culture of biological surveillance, and the impulse towards genetic determinism.

The Future Day Spa is a personalized, physiological experience, that delivers controlled vacuum pressure to the body. Based on the principles of negative pressure, participants hand their bodies over to a part-human, part-machine process as they are induced into a state of relaxation. The project employs wireless technologies for measuring biometric data, to begin understanding the physiological capabilities of a treatment. video

Here are some more work from this project. The detailed scientific diagrams in this project make this really believable, we might be thinking, well this looks like she has it all figured out, when will this actually happen?
A classic example is the popular TV series Star Trek is another example of future products. For example when the cellphone out it even looked like the communicator. It was almost like we were ready for it. These days it does feel like science fiction is a good place for future product placement as well.

There is a term for these sci-fi elements that are essential to the story. Props in the film that tie the story together, like artifacts of the world in the movie. It is a prototype in the sense that it is a model of something that does not exist today, it relies on the story to make it seem real, but if you were to watch the movie and not think about what is real and what is new, they might all seem like products not prototypes.

Now let’s looks at some speculative designs as they relate to science fiction. All science fiction stories are speculative, and there is a lot we can learn from them as designers.
Something that I am very curious about as a designer, educator and researcher is finding interesting prompts from science, such as CRISPR and AI. What makes certain experiments and branches of science more interesting or more popular? And how can we as the public contribute to this? What applications of science make it more relateable? These are also important elements to consider when building speculative worlds and sets.

Actually branding might be intentional. Sci-fi movies will hire a science consultant to help them make sure that the science part of the story is accurate. In this example, the producers had to get NASA's approval in order to use that logo. This means that NASA somewhat supports this movie or more importantly the image of NASA that the movie is putting forth. If the script made NASA out to be an evil entity that was about to destroy the world, NASA might have said "no you can't use our logo" which has happened. So then the director has to decide, how important is it to have that logo on the astronaut?

Using brands in speculative design can be a powerful and interesting exercise. By putting a logo or icon on an object we are going one step further than designing for example an electronic ring. We are suggesting that Apple will design this ring. This will create a different reaction in apple users, they may feel excited for the launch or confused as to how it will work with their other devices.

Another classic is the interface of minority report is a good example. It was based on a real project called the Luminous room by John Underkoffler at the MIT media lab, a production designer for "Minority Report" came by MIT's Media Lab and saw the luminous room. He thought it could solve the single biggest design problem in the film: What will computers look like in 50 years?
Digitizing consciousness: This image from the TV series Black Mirror is set in a world where when people pass away in “reality”, they can upload themselves, or their consciousness into the Cloud and “live forever in a heaven-like state”, inside that social network. This also invite the idea of a neural network, combining all of our thoughts and experiences in a “hive”.

Digitarians depend on digital technology and all its implicit totalitarianism — tagging, metrics, total surveillance, tracking, data logging and 100% transparency. Their society is organised entirely by market forces; citizen and consumer are the same. They are governed by technocrats, or algorithms. The Digicar is a development of electric self-drive cars being pioneered today.

The united MicroKingdoms project by Dunne and Raby is a prime example of a sci-fi world created for the context of the project. In this alternate world the United kingdom is divided into 4 different entities who have separate political beliefs and different energy resources that they depend on.

The term “artificial intelligence” is applied when a machine mimics “cognitive” functions that humans associate with other human minds.

The car navigates tariffs and markets. Every square metre of road surface and every millisecond of access, at any moment, is monetized and optimised.

United MicroKingdoms

Digitising consciousness. This image from the TV series Black Mirror is set in a world where when people pass away in “reality”, they can upload themselves, or their consciousness into the Cloud and “live forever in a heaven-like state”, inside that social network. This also invite the idea of a neural network, combining all of our thoughts and experiences in a “hive”.
AI assistants are already being developed to help doctors. For example, there are more than 800 medicines and vaccines to treat cancer. This negatively affects the doctors, because there are too many options to choose from, making it more difficult to choose the right drug for the patient.

Ex Machina proposes the idea of the 'Singularity' - a point at which the present human and the first super-human exist in ways we can scarcely imagine.

**Scenario: Future Doctor Visit**

1. You wake up in the morning and already have more information about your health than your doctor does now, between, say, biosensors on your skin, ingestible sensors, even smart toilets.
2. All that data will go to your personal health assistant. It will know when something appears off, and listen to your health complaints.
3. The first stop will usually be to consult an AI "doctor." It will be available 24/7, and will have access to all your data and all the deep learning only AI can accumulate.
4. If you do see a human doctor, chances are it will be via a screen (or VR/AR). They will be the best available expert for your problem; not just locally, but in the world. In-person visits will be reserved for the most urgent problems requiring hands-on care.
5. When you do visit the doctor in person, you'll be ready for your visit, with your unique needs, and they'll be ready for you, cater to your unique needs, and get you in and out efficiently.
6. "Minimally invasive" will take on whole new meanings, from ingestible robot surgeons to reprogramming our immune cells to heal our microbiome.
IDEO created ‘Spirit’ for the London Design Museum “New Old” exhibit. Spirit is a free, open source, artificially-intelligent assistant, designed to strengthen your social bonds as you age. Spirit’s AI based on technology projections for 30 years into the future will build a fine-grained psychological, physiological, and emotional profile of you, a model of your on- and offline community, and how different interactions with people, affect you. Over time, Spirit’s AI will discern patterns: who is a constant companion? Who makes you laugh, or sparks your imagination? Who makes you feel purposeful, or a meaningful member of the community?

when you’re with a friend, tiny nanobots clustered around your cheek and jaw bones will vibrate, helpfully whispering just the right tidbit in your ear, to enhance your conversation. Spirit alerts its user to a good social match close by through a feeling in their stomach, and whether they’re being social enough, as white marks on their thumbnail.

CHRISTOPHER NOESSEL

Interaction design questions for AI

- How are user goals learned?
- How do we provide controls? How do we specify the rules of what we’re OK giving over to an agent, and what we’re not?
- What affordances keep the user notified of progress? Of problems? Of those items that might or might not fit into the established rules?
- How do users suspend an agent? Restart one?
- How easily will people be able to opt-out?

https://www.youtube.com/watch?v=jAhjP4uNFY
With CRISPR, scientists can knock out the pig genes that trigger the human immune response. And they can inactivate the viruses. About a month ago, scientists working for a startup called eGenesis reported the birth of 37 virus-free baby pigs in China, 15 of them still surviving. The piglets will grow no bigger than 150 pounds—with organs just the right size for transplant into adult humans.

If it works, routine pig-to-human transplants could truly transform healthcare beyond simply increasing the supply. Organs would go from a product of chance—someone young and healthy dying, unexpectedly—to the product of a standardized manufacturing process.

Another potential use for CRISPR is editing the genome of animals before they are born. Parents could hypothetically pre-select the eye-color, hair color and even talents of their child. While this might be useful to prevent disability, the actual capabilities are quite frightening.

The first problem is fairly intuitive: Pig organs provoke a massive and destructive immune response in humans—far more so than an organ from another person. The second problem is that pig genomes are rife with DNA sequences of viruses that can infect human cells.

CRISPR Medicines CRISPR is ideal for this use because such drugs could kill a single species of germ while leaving good bacterial untouched. In contrast, regular antibiotics kill off both good and bad bacteria, leading to resistance. If proven successful, CRISPR could become, not just the world’s most effective gene editing tool, but also the best bacteria-killing technology available. While this is a long way off, it still gives hope to thousands.
The applications of CRISPR are almost endless, we could remove allergens from food, combine traits of animals, and potentially cure cancer and other viruses.

In “Cas9 progeny” will decide if and when to edit its own genome, e.g. by ingesting or injecting itself with the corresponding guide RNA. Feasibility of this scenario is shown by the fact that scientific investigations are currently directed to enhance in vivo (somatic) genome editing, while a “Cas9 mouse” bearing in its genome the information to produce the Cas9 protein has been recently described. It will be left to the “Cas9 progeny” to decide if the cas9 sequence should be passed on to their own progeny – or removed from the genome by a reverse editing of germ-line cells.

In Germ-line Editing any genetically modified child would then pass the changes on to subsequent generations via their own germ cells—the egg and sperm.

Biotechnology entrepreneur Brian Gillis in San Francisco is hoping that the tool can help to stem the dramatic loss of honeybees around the world, which is being caused by factors such as disease and parasites. Gillis has been studying the genomes of ‘hygienic’ bees, which obsessively clean their hives and remove sick and infested bee larvae.

CRISPR ZOO
Cas9 Progeny
De-extinct Animals

CRISPR pioneer George Church at Harvard Medical School in Boston, Massachusetts, has attracted attention for his ambitious plan to undo the damage by using CRISPR to transform endangered Indian elephants into woolly mammoths — or at least cold-resistant elephants. Church says that it would be unethical to implant gene-edited embryos into endangered elephants as part of an experiment. So his lab is looking into ways to build an artificial womb; so far, no such device has ever been shown to work.
CRISPR Kitchen is a series of workshops where people image different futures with CRISPR. In CONscious Aesthetics, the team has speculated a wearable that induces packaged and pre-programmed feelings and sensations by altering the brain chemistry by CRISPR mediated epigenetic modifications delivered into the neurons with liposomes. In the scenario, various socio-technical problems become evident, such as addiction, loss of control over oneself, the role of a scientist in today's society and the abuse of technology by profit-driven overselling of a product.

Bioethics

What are the ethical implications of CRISPR? The same technology that might cure genetic-related conditions such as Alzheimer’s, diabetes and cancer might someday be used to promote desirable, but not life-saving, traits such as intelligence or physical strength, with unpredictable long-term implications.

CRISPR Kitchen

What would you do with CRISPR?
Here is another example company PLET, which is the combination of Plant and Pet. These two students decided they wanted to create a new organism that was cute and soft like a pet but doesn’t require much care or maintenance.

PIOPU

Here at Piopu we provide living furry micro-accessories to accompany and complement you in all that you do. Devoted to ethical and loving animal husbandry, Piopu enriches the experience of pet ownership by offering a variety of compact pets lovingly bred to fit your busy life.

This company, called GentiFoods, imagines a future where we are able to grow “boneless chickens.”
Here are different shapes and sizes of "Plet" that one could buy.

What would you do with AI?
The Biodesign Challenge offers art and design students the opportunity to envision future applications of biotechnology in a competition that highlights student work. Our organizers connect classrooms with a team of biologists and experts to guide the students as they develop their ideas. At the end of the semester, the winning teams are invited to New York City to showcase their designs in front of members of the academic, industrial, and design communities at the Biodesign Summit.

Project Brief

Objective: In this project, students will speculate 30-50 years into the future when CRISPR and AI will be embedded into our lives. They will draw inspiration from sci-fi stories and work to develop their own context and setting for their idea. Using methods of critical and speculative design, students will conceptualize and create a new brand that uses this technology in the following sectors:

- Safety in Healthcare
- Mobility / Delivery
- Food / Tourism
- Craft / Fashion

This project uses AI vs CRISPR
Observe the user. Perhaps it is an improved version of a technology we already have. For example, cellphone reception is not always available throughout a whole space, sometimes you have to go to the window. How could this be resolved, do we need a designated phone booth area where there is reception?

Think about who you are designing for

From Cameron Toekomst in his paper Design the Future

Process

1. Identify the problem
   - what limits us now? What causes problems or dangers in these sectors?
2. Speculate solutions
   - what might solve the problems, what new technologies will be developed?
3. Create and iterate
   - Test the scenario, is it a good story? Does it seem plausible?

Project Brief

Opportunity:
Students will prototype and presentation the main products/services of the brand, highlighting the history of how the concept came to be.
You will consider how this will affect power and government, and society’s perception and interaction with science and technology.
You will investigate new design methods for creating products and services for the future.
You will examine older ideas about what we want and need and critically evaluate them.

Guidelines:
To work in groups and share knowledge and skills.
To build prototypes out of electronics and fabrication materials available at SADI.
Use methods or storytelling to speculate and create artifacts for a future world (remember 30-50 years in the future)

Thought questions

How can we think in productively critical ways about our futures, about what is likely?
And within that, what must be resisted as unlikable?
What else might be possible, and how can we make such other futures more possible?
QUESTIONS?
Contact: gulers@newschool.edu
Course website: speculativescience.wordpress.com

THANKS!
SPECULATING EVERYTHING

SKETCHING FUTURE EXPERIENCE SERIES
TEAM'S TOPIC

G–LAB
Once the US exited, other countries followed. From 2017~2057, the world experienced unregulated gas emission and a great increase in carbon dioxide.

In 2015, major countries around the world signed the Paris Agreement, which agreed to lower carbon dioxide emission. However, Our world became the way it is starting from the United States backing out from this agreement.
To be more precise, death from drowning was the only major cause of death that increased.

Since 2030 until 2057, the 4 major causes of death stayed the same, but the ranking changed. The number of death from other causes decreased, while the death from natural disaster increased drastically.

This union is called the 'World Union.' The main language is English, Hindi, and Chinese. The official religion became Poseidonism, which prays to the god of the sea, Poseidon. The geography is divided into Above-Water(AW), which is landmass not submerged, and Under-Water(UW), which is below the sea.

Due to this, all the icebergs melted, resulting in a rise in sea level. This caused 40% of the previous landmass to become submerged under water. 2/3 of the population died from this sudden change in geography. The world was facing a common problem, and therefore world united into one union.

Rise in Sea Level Due to Global Warming

Approx. 40% Land Below Sea Level

2017 International Design Workshop, SADI

Source: Ministry of Health and Welfare

www.g-lab.com

2017 International Design Workshop, SADI
Death due to Tsunami was, and still is the major factor for death by drowning. However, the tsunami predictions are extremely inaccurate.

We interviewed Daniel Park, a commuter from UW to AW. He almost drowned, but was saved by O2G, our product.

Daniel’s commute train was hit with a tsunami. Daniel, father of three children, commutes everyday to Above Water City. After a massive relocation of the population due to the rise in sea level, the whole family was relocated to South-Eastern Under Water City. One day, his commute train was hit with a tsunami, derailing the train and flooding the train with sea water. Daniel panicked, but luckily his next seat passenger was calm and helped Daniel with putting on the O2G.
The government saw death from natural disasters a major problem, and sponsored a competition for disaster preparedness. G-Lab won the Grand Prize in the competition.
2050 – 2052 Throughout the first and second generations of complicated genetic manipulative technological development, the third generation called CRISPR was found. Dr. Ahn, a Professor from Genetic Engineering Department at Indian Institute of Technology, Delhi, continued its research on positive impact on commercializing CRISPR.

2053 G-lab was incorporated, and recruited talent from various fields

2054 G-lab succeeded in extracting special genes from TunaS, which helps to increase the number of gill plates by 10 million times faster.

G-LAB Inc.

CEO: Im Young-Gyun Ph.D. Genetics
CSO: Ricky Lee MS. Geology
CDO: Eunji Seok Ph.D. Product Design
COO: Jaewon Lee M.Arch.
CFO: Victor Chun M.B.A.
**Product**

**Size:** 100mm x 180mm x 70mm  
**Weight:** 85g  
**Function:** Up to 2 hr of breathing time submerged under water  
**Material:** Our Patented Organic Material X - OMX (Silicon-like organic material)

---

**When is it used?**

This product will be used when using underwater transportation or when facing a natural disaster on land. Users will use this product to breath under water until rescue personnel arrives at the scene.

---

**Product**

**O₂G**

O₂G is a product that allows the user to breath underwater. This product is based on our patent-protected CRISPR technology to increase the oxygen exchange rate of a fish gill by drastically increasing the number of gill filaments of a fish. Along with this, a layer of our patented compound to gasify sea water into oxygen. We are now able to produce just the gill in the laboratory, without growing the fish itself.

---

**Specification**

- **Size:** 100mm x 180mm x 70mm  
- **Weight:** 85g  
- **Function:** Up to 2 hr of breathing time submerged under water  
- **Material:** Our Patented Organic Material X - OMX (Silicon-like organic material)
### Production Process

#### Step 1.
Use CRISPR to produce a DNA with the following traits:
- Mask Shaped Gills
- Greatly increased gill filaments
- Composed of OMX

#### Step 2.
Implant the DNA from Step 1 into a bacteria and allow it to grow for 7 days

#### Step 3.
Process the fully grown gill and a filter sheet with our patented vaporization compound X(VCX), which increases the oxygen exchange rate and makes it water-proof.

#### Step 4.
After processing with VCX, put all the parts together to form our final product.
Approximately 650 thousand people die from drowning accidents, of which 95% could have been saved if they were able to breathe under water for approximately 2 hours.

The whole production process takes 10 days, 7 days to incubate the gill, 2 days to process the product in chemicals, 1 day to package and prepare for shipping.

**Expected Effect**

The number of drowning victims are 650K people/year. Of these victims, 95% of were recovered within 1.5 hours. With O2G, 620K people will survived drowning accidents every year.

**Production Timeline**

<table>
<thead>
<tr>
<th></th>
<th>D-10</th>
<th>D-2</th>
<th>D-1</th>
<th>D-Day</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Incubate Gill</td>
<td>Process with VCX</td>
<td>Manufacture Product</td>
<td>Delivery</td>
</tr>
</tbody>
</table>

* Expected Capacity for Incubating : 150,000 unit/day
* Expected Capacity for VCX : 250,000 unit/day
* Expected Capacity for Manucaturing: 75,000 unit/day

**Financial Info**

- Market Size : $6.0B (2B units)
- Price: $30/unit
- Cost: $23.1/unit (Raw Material, Packaging, Compensation, Expense(marketing distribution, etc), R&D, Utilities, Operating, etc.)
- Operating Margin : ~23%
Financial Info

Our World

Forecast
*Government Deal: 6.4 Million Units over 1.5 years
starting from February 2058

Sales: 6.4 Million x $30 = $192 Million
Cost: 6.4 Million x $23.1 = $148 Million
Profit: 6.4 Million x $6.9 = $44 Million

Company Info

Product

Financial Info

Required Investment: $3.0M
1. Production Robot ($1.0M)
2. Incubation Facility ($1.0M)
3. Production Facility ($1.0M)

Thank You
### ASSEMBLY (2006-2008)

<table>
<thead>
<tr>
<th>Situation</th>
<th>Wake up</th>
<th>Coffee time</th>
<th>Email investigation</th>
<th>Meet potential sponsors</th>
<th>Lunch</th>
<th>Nail company</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sudden heart attack**

**Plan for future**

---

<table>
<thead>
<tr>
<th>Algebra</th>
<th>Planner job</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Advice**

**Strategy**

**Money**

---

**A DAY OF A 9% OLD TIME**

**Morning**
- Wake up
- Getting ready
- Going to work
- Sitting in the office

**Lunch**
- Eating lunch
- Hanging with friends
- Going to work
- Sitting in the office

**Afternoon**
- Going to work
- Sitting in the office
- Waiting in line

**Night**
- Going home
- Watching TV
- Going to bed

**Activity**
- Studying
- Going home
- Watching TV
- Going to bed

---

**Pain point**

---

**Needs**
- Lights outside
- Transportation
- Water of physical
- Depressed
- Unpredictable

**Insight**
- Automated temperature
- Control
- System (AI)
As extreme hatred among different groups became more and more severe, the citizens of the United States of Data began to use data as a protection tool. As a result, KNOWALL was invented in 2040.
As IKNOWALL, which records every moment spread widely like smartphones in 2000s, such social problems as invasion of privacy, manipulation of data, and lack of human interactions occurred.

IKNOWALL is the device which records facts and emotions of users. The records can be replayed any time and displayed through the lens which the user is wearing.

LACK OF HUMAN INTERACTION

Social Interaction Rates

Average # of Children

PROBLEM

INVASION OF PRIVACY  MANIPULATION OF DATA  LACK OF HUMAN INTERACTION
We updated our product and named it as IKNOWALL+ which is aimed at promoting interactions among people.

As the developers of IKNOWALL, we found it necessary to build methods to bring back human interactions. As it became very easy to steal and manipulate other people’s data recorded on IKNOWALL, people found it hard to trust others. As distrust grew within the society, people became more and more inclined to discuss important matters or talk about daily lives with AI rather than human individuals.

As the developers of IKNOWALL, we found it necessary to build methods to bring back human interactions.
The user scenario (sender of Cheri)

On IKNOWALL+, we embedded Cheri, software which enables a sender to select a specific object from a certain memory and send the object in AR. When the receiver's motion touches the AR object, the shared memory gets played and shown through his or her lens.

IKNOWALL+ is composed of three elements: a chip which records user's memories and feelings, a contact lens that shows records, and a ring with which a user can navigate through records.
The user scenario (sender of Cheri)

When Arthan receives Cheri

The AR memory pops up
As she motion touches the scene,
the record of that moment
begins to play

BETA TEST (1000 users, 1 month)

- Increase in human interaction rates?
- Increase in positive emotions?
- Risks involved?
- Want to keep using this service?

RESULT SHOWS

Increase in Interaction rates

RESULT SHOWS

Increase in positive emotions

<table>
<thead>
<tr>
<th>Touched</th>
<th>Nostalgic</th>
<th>Sad</th>
<th>etc</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>35%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
RESULT SHOWS

Risks & Solutions

- What if my ex sends me a cert that I do not want to receive? You may reject the message by saying ‘No’
- What if someone sends me a cert from an unpleasant memory? It records not only the facts from the memories, but also the emotions of that time. If the emotion at that time was rated as negative, our system prevents that message from being sent.

RESULT SHOWS

Want to keep using this service

- Yes 90%
- No
- Maybe

OUR MISSION

HELP PEOPLE SHARE MEMORIES & LOVE ONE ANOTHER, AGAIN

HELP US KEEP GOING

- Risk Management
  - Risk detection team (3) - 3역원, $3M
  - System development team (5) - 5역원, $5M
  - Operation team (2) - 2역원, $2M

- More ways to make people reconnect
  - Social scientists (5) - 5역원, $5M
  - Therapists (3) - 3역원, $3M
  - General researchers (4) - 4역원, $4M
  - Developers (3) - 3역원, $3M
  - Designers (3) - 3역원, $3M
THANK YOU for your support to make the world livable, again
TEAM’S TOPIC

CIRCLE OF BYTES (COB)
Circle of Bytes (CoB)

Contents

Background
Explanation of zones
Problem
Persona
User Journey Map
Explanation of Circle of Bytes (CoB)

U.S.B (United State of Bytes)

Official Languages : Z language
Government: Republic of AI neutral
Population: 2060 estimate 4 billions (Assembly: 3 billions and Python: 1 billions)
Classes: Assembly and Python

Explanation of U.S.B
Year 2030, huge earthquake occurred in Python zone. Constant Earthquake happened in Python over 30 years.
This show's Assembly and Python's environment. Meanwhile, Assembly's environment becomes richer thanks to high technology. Therefore, their environment is destroyed and there's no electricity.
For Python, Population is exponentially decreasing due to infections after earthquake. Due to that their avg. life expectancy is 90.

All the Assembly people has the AI personal assistant. It is inserted in the eye. Average life expectancy is 130.

Assembly is an AR based society. They see things through AI contact lenses in their eyes.
Ministry of Economy analyzed that in the future, the economical gap between Assembly and Python will get bigger.

As there is no electricity, Python had no choice but going back to agricultural based society.

In the future, the gap between Assembly and Python is expected to get bigger.

Ministry of Economy analyzed that in the future, the economical gap between Assembly and Python will get bigger.
Persona from Assembly.

**Assembly Python**

**Persona from Assembly.**

"I want to share my technique"

He is a good man who wishes to share his ability with other people. He is very experienced in his field, and he enjoys teaching and inspiring others. He is passionate about sharing his knowledge and helping others to succeed.

Persona from Python.

"I want to learn the Technique"

Python is a new tool that is very helpful in making products. It is very easy to use, and it can be used for a variety of tasks. I want to learn more about it and use it to improve my skills.

Three keywords from Assembly persona: Share, Sustainable income, New format of career.

Three keywords from Python persona: Fast, Easy, Multi-purpose.
Three keywords from Assembly persona: Learn, Advanced Environment, Infrastructure.
Three key words from Assembly persona journey map: Concern about the future, Information sharing system/device, Provide necessary information.

One day journey map of Python persona.

Three key words from Assembly persona journey map: Low technology lead to low manpower, Renewable Energy, Multi-purpose tutoring device.
**Explanation of CoB**

**Company Missions**
**Main Target**
**Details of CoB system**
**Products details**
**Future effects**

Our main target is for Assembly: Adult who wish to invest for their future (especially after retirement) and for Python: Adult above 18 years old who is passionate to learn.

Our mission is to make equality between two zones through the sharing of information of technology.

Our company is composed of 5 people. CEO, a decision maker, Product designer, UX designer, Network Engineer and System Engineer.

Our main target is for Assembly: Adult who wish to invest for their future (especially after retirement) and for Python: Adult above 18 years old who is passionate to learn.
Information receiving method of CoB System. Information will be received through hands by electric signal and the cell sends the specific signal to the brain cell.

CoB will distribute Basic technology of electricity restoration for free in the beginning.

We assume that Python will be able to reconstruct their society in 3 years.
Cost may vary depending on the sender.

Complex and advanced technology can be purchased depending on the sender.

Materials are plastic and metal. We chose plastic to reduce manufacturing cost. Receiving point is metal. We chose screen rather than high technology for better battery efficiency.

Product needs no electricity. It is operated through Photosynthesis. Receiving point is designed to fit human hands. Screen has simple guiding UI for the purchasing and receiving information.
Product needs no electricity. It is operated through Photosynthesis. The data will be sent and received through Bluetooth.

CoB will monitor all the devices 24/7 and if anything goes wrong we will be able to detect it right away. Device condition can be monitored from CoB head quarter via Bluetooth.

Assembly and CoB will distribute money 8:2.
CoB will start with 22 devices.

Manufacturing cost: $500,000 x 22 products
CoB operation cost: $1,000,000

Total cost: $2,100,000

We hope that within 5 years, CoB device will be everywhere.

Reduce the social gap between Assembly and Python

We are hoping that CoB will reduce the social gap between Assembly and Python.
Thank you for your attention!
SPECULATING EVERYTHING

SPECULATING EVERYTHING

SKETCHING FUTURE EXPERIENCE SERIES
SPECULATING EVERYTHING

SKETCHING FUTURE EXPERIENCE SERIES

SPECULATING EVERYTHING

SKETCHING FUTURE EXPERIENCE SERIES
TEAM'S TOPIC

ORE
And our mission is to comfort and encourage immigrants who are living on the new planet.

Our company is called ORE. Which means ‘light’ in Hebrew.

Let There be Light
Give light to the earth’s people who settled down dark planet

This is about background of our company. We imagined that today is 2050’s, and 9th planet of solar system has found in 2030, which is called Erebos. Since people on earth were suffered from overpopulation, they began to leave Earth and settle down on this planet.
Every conditions of Erebos for living were perfect. But there was only one exception, the sunlight.

Unlike Earth, the planet Erebos has irregular and unpredictable sunlight, like raining on Earth.

This is because Erebos was surrounded by Oort clouds, which means the cloud of comet. This block the Sun to reach this planet.
We imagined our persona who has been lived here for 2 years. She's a therapist and cure people who cannot adjust to this new planet.

And through her journey map, we found out two insights.

The creatures on this planet have evolved to live without sunlight. They are critical when they are exposed by direct and long term of sun.

**PERSONA**

“FOR PEOPLE'S HAPPY LIFE, SUNLIGHT IS ABSOLUTELY NEEDED”

As a therapist, I encourage people to come out in the sun and socialize with other people. In the dark it is very easy to be depressed from the deprived interactions with other people. If people could move, live in the darkness more easily their health, social and emotional problems might go away.

PAINPOINTS
- Hard to differentiate night & morning
- Her patients cannot adjust to the new planet.

NEEDS
- Same timeline of sun on the Earth
- Similar lifestyle with the Earth

We imagined our persona who has been lived here for 2 years. She’s a therapist and cure people who cannot adjust to this new planet.

**INSIGHTS**

1. Brighter vision
2. Sunlight information

First one is the ability to see the world with brighter vision, and the second one is the information of sunlight such as forecasting or amount of vitamin D that you are sensing.
The first product that we invented is Ore Goggle. This device help people to see the planet with brighter vision and to dissolve wariness and encourage people to build relationship with others although the surroundings are dark. 

So to make these happen, our company was established in 2050’s on planet Erebos.

This goggle was inspired by cat’s eye balls mechanism called tapetum. Tapetum is a reflection system that amplifies the minute light in the eyeball of cats. It makes possible to see the world or objects in the dark conditions.
With the technology of CRISPR, we add this DNA on this goggle so that you can see the world in the day of darkness while you're wearing this.

Our next product is called ORE band.

With technology, we harness them.

This shows you when and where the sunlight would rise.

FUNCTION

- Predict the place and time of the sunlight
- Warning page if you have less of Vitamin D

COMPONENTS

- Body
- Rim
- Light amplifying lens
- Legs

This shows you when and where the sunlight would rise.
These devices would be served as a health kit.
SPECULATING EVERYTHING

SKETCHING FUTURE EXPERIENCE SERIES
SPECULATING EVERYTHING

SKETCHING FUTURE EXPERIENCE SERIES
SPEICULATING EVERYTHING
SKETCHING FUTURE EXPERIENCE SERIES

TEAM'S TOPIC
REVIVE CITY
The incident was biochemical warfare. Since then, the city goes through dark age.

In 2017, Revive City is a typical modern city which contains upper, middle and lower class. In 2047, Revive City becomes a devastating city due to a certain incident.

Revive City is a name of a city which is located in a country called Torea. Unlike any other country, Torea operates the country via special form of government call Central Agency (CA).

Central Agency: Replacement of Conventional government system which exists to give services to the people with all good means. The Central Agency composes various kinds of agencies such as Health Agency, Financial Agency, Welfare Agency etc.

Revive City Torea
Established 2047
Size 233.67 sq mi
Population 9,900,000
Gov. Type Central Agency

The incident was biochemical warfare. Since then, the city goes through dark age.
80% of the Revive City population continues to suffer from diseases since they cannot afford any proper treatment. All they want is a cure like The RICH.

All the citizen suffers from the war aftermath; disease, pollution etc. Great social division occurs based on wealth and condition.

The RICH with 20% of the total population have enough wealth to afford proper healthcare against diseases (i.e. via CRISPR/Cas9). They gain their health and life back. However, no interest towards REST.

Evolutional health care
20% of the total population RICH were cured via Evolutional Healthcare.
organ farming
genetic treatment (via CRISPR/Cas9)

Devastating era
Disease infection percentage gap gradually increased between RICH and REST

The RICH with 20% of the Revive City population has enough wealth to afford proper health care against diseases. The RICH

All the citizen suffers from the war aftermath; disease, pollution etc. Great social division occurs based on wealth and condition.

The RICH with 20% of the total population have enough wealth to afford proper healthcare against diseases (i.e. via CRISPR/Cas9). They gain their health and life back. However, no interest towards REST.

Evolutional health care
20% of the total population RICH were cured via Evolutional Healthcare.
organ farming
genetic treatment (via CRISPR/Cas9)

Devastating era
Disease infection percentage gap gradually increased between RICH and REST

The RICH with 20% of the Revive City population has enough wealth to afford proper health care against diseases. The RICH
disease cannot be cured because they don’t have enough money. Disease worsen.
Most critical health issue is due to genocide X, which is one of the genetic diseases. Genetic disorder in chromosome 4: turn human cells into “zombie” cells which kills each other leading to collapse of organs. 

<table>
<thead>
<tr>
<th>Effect</th>
<th>Symptom</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exterior Wound</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Genetic Disease</strong></td>
<td><strong>Psychological damage</strong></td>
</tr>
<tr>
<td><em>genocide X</em></td>
<td></td>
</tr>
<tr>
<td>Infect others via body fluid. Mutated body cells kills each other leading to collapse of organs.</td>
<td>Due to brain damage or mental disorder.</td>
</tr>
<tr>
<td>Cause: Due to biochemical weapon (in 2047), chromosome 4 got genetic disorder</td>
<td></td>
</tr>
</tbody>
</table>

Data that shows genocide X is the most critical and fatal genetic disease. 

### Genetic Diseases
- [Infection in 2057 (%)](#)
- **genocide X** is the most critical and fatal genetic disease.
The purpose of Central Agency is to provide all kinds of services to all kinds of people to make better places. South area is facing critical issues especially due to diseases. However, CA hopes to deal with genetic disease, genocide X, as soon as possible since they are contagious and fatal to human populations.

CA is recruiting developers from THE RICH to create any system that could completely eliminate genocide X gene.

Preface

Mr. Song suffers from genocide X.

The client suffers genetic disease named genocide X due to biochemical warfare. The disease was passed on to the client from his parents. However, the client has no information on how genocide X is affecting him.

His parents got Genocide X. The disease was inherited.

He was soup kitchen cook (free food stations employee), but fired because of the disease.

He requires treatment of Genocide X.
Meditech is a startup company established by recruited developers.

**Mission Statement**

Our mission is to deliver HOPE to all human beings by spreading genetic healthcare system via best technology and greatest care.

(Cure for Hope)

**Meditech Team Members**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mira, Kim</td>
<td>Product Designer</td>
<td>ACCD. PhD</td>
</tr>
<tr>
<td>Hyeonbin, Jung</td>
<td>Mathematics</td>
<td>MIT. PhD</td>
</tr>
<tr>
<td>SeongGu, Lee</td>
<td>AI/Programming,</td>
<td>SKKU. PhD</td>
</tr>
<tr>
<td>Jee Seop, Han</td>
<td>Biochemist</td>
<td>Pitt. PhD</td>
</tr>
</tbody>
</table>

Meditech is dedicated to the Project “Revive City” in order to target genocide X gene and eliminate the genocide completely.

**Hope**

Possibility is infinite. However, in order to eliminate genocide X, the fixation has to be done at genetic level. By using CRISPR/Cas9 and AI drone, the people who suffers from genocide X will be treated with the service product until the targeted gene is completely gone.

**AI-Drone**

Since the product contains AI with genetic programming ability, it can potentially sequence nucleotides/nucleic acids against any genetic disorders in a second. Which means, it will be able to target all sorts of genetic diseases.
Newspaper acts as a whisperer that delivers the good news to REST. Such approach could bring hope to REST allowing MediTect to make their next move more easily. 

The project “Revive City” starts by constructing Journey Map of Mr. Song. The Mapping reveals numbers of issues which should be revised for better outcome.
Hoperfly, Be Wings of Hope!

MediTect and CA collaborate to fight against genocide X... for the REST

Their grand project, called "Revive City," was started in 2060, which is also MediTect's date of establishment. It was the most controversial issue at that time, but finally, their new products (Hoperfly/The Wave) became a reality. Hoperflies fly for patients who need care, and The Wave provides

The product by MediTect:

Hoperfly (AI–Drone)
The Wave (Pain reliever)
Scenario where Hoperfly and an agent find the infected person and execute MediTech service.

**Q&A**

**Questions by users (CA)**

Q : What are the risks in extreme situations? (Like low battery or being attacked)

A : Hoperfly will be monitored by CA agents. Ex) Drones notify their location and agents go out immediately.

Q : What does it improve, enhance?

A : REST's healthcare & Agents' safety will improve & Accuracy of diagnosis & Time saving

**Questions by users (Patients)**

Q : What about hygiene? I suppose it will carry infectious disease during the service?

A : Drones are made of disease free material which can’t be affected by any disease. Plus, they get sanitized at CA station twice a day.

Q : I doubt that AI can diagnose precisely without a doctor.

A : Doctors are human that they can make mistakes, too. But, AI diagnose you based on long-accumulated and verified data. By the way the operation is simple and clear that professionals are not needed.

**Technology that The Wave carries.**

- Manipulate mind of a patient with i-wave helps to feel less pain
- Adjustable to forehead shape comfortable
- Lasts for a month enough time until Hoperfly’s next visit

**Scenario**

1. Hoperfly
   - Dispatch / find the infected people
   - Print special GPS ink tattoo to their skin

2. Call agent

3. Hoperfly
   - Examine / analyze disease
   - Gene Sequence Programing
   - CRSPR injection

4. Agent
   - operate The Wave for pain relief

Mr. Song

International Design Workshop

2017, 9 29

International Design Workshop

2017, 9 30

International Design Workshop

2017, 9 31

International Design Workshop

2017, 9 32
MediTech hopes to eliminate genocide X as soon as possible to prevent further infection. Goal is to end the project within a year.

**Expense**

**Expense distribution (billion dollars)**

- Compact size
  - CRISPR/Cas9 programming device: $0.2 billion
  - i-ray scanning device: $0.4 billion
  - Electrical ink: $1 billion
  - Exoskeletal
  - Station/H.P.J needle/etc: $0.2 billion
  - Test/trials: $0.2 billion

**Newest Tech**

- Electrical ink: $1 billion
- Hoperfly exoskeleton material: $0.5 billion

**Testimony**

I didn't believe in such a miracle like curing my disease. But this Hoperfly came to me gently and gave me hope. I am all cured now! I look like one of those The RICH people, now.

Moreover, an agent stayed with me while Hoperfly did its job, which only took about a minute. I felt I was being cared and it felt good.

Mr. Song

**REST infected population**

Approx. 3.5 million REST suffer from genocide X.
- 1000 Hoperfly/The Wave ideal
- 12 straight hour flight

- 3.5 million people
- 1000 Hoperfly/The Wave
- 3500 people
- 10 ppl per H & W
- 350 days to cure all

DEVELOPING EXPENSE

- Hoperfly & The Wave
- Total estimated funding required: 2.1 billion dollars
Future Potential

Hoperfly AI

Genetic sequence programming ability against any genetic disorders in a minute.
Target all sorts of genetic diseases.

send them hope message
By funding