Design for AI Products and Services

Matchmaking

Process Book

Melody Chu

About the Project

Purpose: to gain more insight into Matchmaking, an innovation approach often used in user-centered design, and to practice applying it to different technologies.

Context: In matchmaking, the innovator starts with a certain technology and defines its capabilities, then systematically searches for an appropriate matching application

In this project, we were to ideate potential product/service applications of three technologies utilizing AI capabilities:

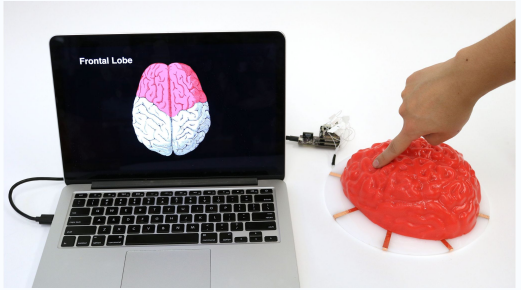
- Touch-Sensitive 3D Surface
- Airbnb Host/Guest Data
- Smartphone with LiDAR

Research

Before starting matchmaking itself, I researched each of the three technologies to learn about what they do and how they work, then I listed each of their capabilities and limitations.

Touch-Sensitive 3D Surface

Low-cost touch sensing can be added to objects using a conductive coating and electrodes to detect the position of finger touch



Airbnb Host/Guest Data

Airbnb collects a large range of data on millions of guests and hosts using their platform, including data on listings, pricings, and user activity.

Smartphone with LiDAR

LiDAR is a sensor that uses laser pulses to measure distances and create detailed 3D maps of its surroundings.

Touch-Sensitive 3D Surface	+ low cost touch screen capabilities, especially useful for large, irregularly shaped, or flexible objects	- less accurate than other commercial touchscreens (1cm) - risk of accidental touches in wet environments or by metal
Airbnb Host/Guest Data	+ data on where guests live and visit, browsing information, available listings, price points, activities in different locations, and the stay itself	- privacy concerns - data security - potential bias in data - fraudulent accounts or listings
Smartphone with LiDAR	+ sense distance and spacing + impose virtual elements on real objects via camera (AR) + scanning real-world objects	- higher cost - power consumption - limited distance range - limited accuracy

Ideation

The first step I took in the matchmaking process was to brainstorm as many applications for each technology as possible.

The Matchmaking

When trying to come up with product and service applications for the technologies, my focus was on **quantity**: to come up with as many possible ideas as possible to hit the target of **15 ideas per technology**. Although at first, it was easy to come up with the more common and straightforward applications, after around five ideas or so, it was hard to come up with nonrepetitive, viable ideas. I often took breaks and looked into some related or existing applications for inspiration..

Critique

During first round of critiques with peers, when I was struggling to come up with additional applications, I was given advice to think about **variations of existing ideas** and thinking about how my ideas could be applied in **different markets and contexts**. Doing this helped me come up with more ideas by imagining and recontextualizing how the technology could be used by different customers in different ways.

Touch-Sensitive Surface

Specific Capability	Domain and/or Activity	Customer	Application
Electrick adds touch-screen capabilities to objects, especially useful for large, irregularly shaped, or flexible objects, using electrically conductive coatings or materials and attaching	Entertainment	Families / consumer use	Use on an indoor wall in addition to a projector to basically make a giant cheap iPad (interactive games, TV control)
	Tool	Government (public maps), stores (in-store maps showing different departments/aisles)	Large interactive maps: could touch where you want to go and it can change the display to show you how to get there, or could drag hand along a potential path
	Education	Educators / schools	educational models (e.g. brain example where you touch a part of the brain and it tells you what it is)
	Adding Gestures to Products	Car manufacturers	Car gestures on dashboard or doors for volume, AC, etc; could also be a safety feature (detects 2 hands on wheel)
	Product Development/Prototyping	Designers / researchers	conduct user studies on new physical products (track where people tend to touch an object or how they touch it)
	Product Development/Prototyping	Designers / researchers	**Rapidly test multiple different layouts/configurations for physical buttons, sliders, and other user controls on a product prototype**
	Product Development/Prototyping	Designers / researchers / engineers	Add interactivity to 3d printed prototypes for testing to quickly make it more realistic and demo the function of electronic components that aren't integrated yet
	Product	Home use	Toggle between multiple layouts on a remote, keyboard, or a video game controller if the item is shared with multiple people or different purposes
	Adding Gestures to Products	Home use	**Smart home application (e.g. tap wall or object in certain place to turn light on/off)**
	Entertainment	Children	Interactive physical toy (responds differently to different ways child plays with it), could be used as an interactive learning tool
	Product	Hobbyists	E-Textiles
	Tool	offices, schools, home use	digital whiteboard
	Product	Visually Impaired	Object detection for visually impaired (touch object or shelf and computer will speak to you and tell you what it is), or organization (touch a shelf or box and it can tell list off what's inside)
	Artwork and expression	Artist	**Create interactive wall installations or sculptural components that trigger audio or visual changes in reaction to different touches**
	Education	Aspiring musicians	teaching tool for musical instruments (light up to show where to place fingers, can register if touches are in correct places)
	Education	people with fine motor skill issues / children	**tool to help teach fine motor skills (e.g. tracing letters on a table)**

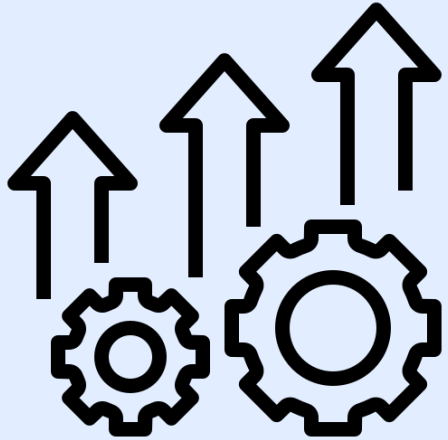
AirBNB Data

Specific Capability	Domain and/or Activity	Customer	Application
local activities, stay location	In-App Recommendations	Guest, businesses based on tourism activity	**Recommendations on activities to do based on where a guest is staying**
where guests visit, number of available listings, price points	Pricing	Host, other travel companies	what travel destinations are popular at what time of year to indicate price
local activities, available listings, where guests visit	In-App Recommendations	Guest	Feature airbnbs that are closer to popular activities
browsing information, available listings, price points	Education	New hosts or people interested in renting out properties	put together a guide or class to help teach new hosts to increase the value/desirability of their properties
price points, where/when guests live/visit, local activities	In-App Recommendations	Guest	rank how good of a deal the rental is for the guest based on popularity of the location and time, nearby activities
browsing information, available listings, information about the listing, number of previous guests	Security / Risk	Guest	detect scammy or dangerous listings
where guests live/visit, available listings, price points, local activities	Collaboration	Guest, travel companies	partner with travel companies (e.g. plane companies or public transport companies) to help suggest plans for an entire trip's logistics
where guests live/visit, browsing information, previous stays	In-App Recommendations	Host	create profiles for each person and help create customized suggested itineraries based on their previous activity and nearby popular activities
where guests live and visit, available listings price points	Research	Real estate market / analyst	**provide information about property value in an area for real estate purposes or pricing**
where guests live and visit, browsing information, previous activity	Research	Tourism	**use number of guests staying in a location and their preferences in different places to give insight into tourism industry**
where guests live and visit, browsing information, available listings	Research	Local businesses	help local businesses find what locations have a lot of tourists so they can choose the best location for their business
information about the guest, where guests live and visit, browsing information, previous stays, available listings	In-App Recommendations	Guest	Create suggested tags for different rentals based on the types of people that stay there (e.g. pet friendly, accessibility, good for large groups, etc)
number of guests and hosts, where guests live and visit, price points, local activities	Research	local government	Data can help give suggestions for city planning / development / improvement
number of guests and hosts, where guests live and visit, price points, local activities	Research	travel/transportation companies, guests	predict when travel will be busiest (traffic)
browsing information, where guests live and visit, price points,	Research	travel/transportation companies, guests	Use browsing data to push ads for activities/trips in certain locations

Smartphone LiDAR

Specific Capability	Domain and/or Activity	Customer	Application
sense object distance and spacing	phone enhancement	phone users, photographers, content creators	autofocus in low light based on how far people/objects are
sense object distance and spacing	phone enhancement	phone users, hobbyists, shoppers	taking measurements using the camera
impose virtual elements on real world objects via camera	entertainment	gamers	AR gaming
impose virtual elements on real world objects via camera	visualize	phone users, interior designer	visualize new room layouts/changes
digitizing real-world objects	design/scanning	designers, engineers, hobbyists	scanning 3d models
digitizing real-world objects	design/scanning	game designers, real estate, designers, architects	digitize real-life locations
impose virtual elements on real world objects via camera	entertainment	phone users	face filters
impose virtual elements on real world objects via camera	visualize	phone users, clothing purchasers	try on clothing / digital fashion / jewelry to see how it looks on you
sense object distance and spacing	safety	phone users	detect if you are about to walk into something/someone while on your phone?
sense object distance and spacing	phone enhancement	phone users	facial recognition for face unlock
digitizing real-world objects	education	bird watchers, natu	nature detection/tells you what type of tree/whatever something is
sense object distance and spacing, impose virtual elements on real world objects via camera	phone enhancement	phone users	interactive / AR directions (maps)
sense object distance and spacing	phone enhancement	phone users	touchless gestures

Refining



Next, I narrowed down the options by ranking each concept against different metrics and receiving criticism.

Concept Ranking

In order to help inform my decision for my final concept, I ranked each idea in three different metrics to cover a few main areas of interest for businesses to consider: financial viability, technical feasibility, and desire/acceptance.

- Financial viability: cost to implement vs added value
- Technical feasibility: difficulty to implement, technical limitations
- Desire/acceptance: usefulness, customer/market

Smartphone with LiDAR Ranking

Specific Capability	Domain and/or Activity	Customer	Application	Financial viability		Technical feasibility		Desire/Acceptance		Rank
sense object distance and spacing	phone enhancement	phone users, photographers, content creators	autofocus in low light based on how far people/objects are	5	Not much additional cost required, adds value, can be used in other applications	4	requires some work to implement, but technology is capable of this and low risk for failure	5	could be very helpful for all photographers, almost everyone takes photos on phone, low risk for failure	14
sense object distance and spacing	phone enhancement	phone users, hobbyists, shoppers	taking measurements using the camera	5	Not much additional cost required, adds value, can be used in other applications	4	requires some work to implement, but technology is capable of this and low risk for failure	4	Desire depends on accuracy of technology: if it doesn't work very well, I doubt many would use it except for very quick and rough measurements, like measuring the size of a room wall for decor	13
impose virtual elements on real world objects via camera	entertainment	gamers	AR gaming	3	costly to develop and implement	3	need to make sure phone is capable and good at running game, could be frustrating if tech fails	4	gaming is very popular, but AR games are less popular	10
impose virtual elements on real world objects via camera	visualize	phone users, interior designer	visualize new room layouts/changes	5	Not much additional cost required, adds value, can be used in other applications	4	just a visualization, doesn't need to be super accurate, so appropriate, keeping in mind distance range limitation	5	could be very helpful for customer to visualize	14
digitizing real-world objects	design/scanning	designers, engineers, hobbyists	scanning 3d models	3	could be costly to develop, implement, and run, especially on a phone	4	capable but need to make sure phone specs can run it, could be accuracy issues or issues not properly scanning on the user's side	5	could be useful to hobbyists and quick prototyping/ideation	12
digitizing real-world objects	design/scanning	game designers, real estate, designers, architects	digitize real-life locations	3	could be costly to develop, implement, and run, especially on a phone	3	capable but need to make sure phone specs can run it, could be accuracy issues or issues not properly scanning on the user's side, could be issue for larger objects/buildings	4	could be useful for quick prototyping/ideation or google maps type of application, but limited applications and limited accuracy, especially with larger scale models	10
impose virtual elements on real world objects via camera	entertainment	phone users	face filters	4	requires some cost to develop	4	capable, low risk failure	5	provides a lot of entertainment, low risk failure	13
impose virtual elements on real world objects via camera	visualize	phone users, clothing purchasers	try on clothing / digital fashion / jewelry to see how it looks on you	4	requires some cost to develop	4	capable, low risk failure, but may not be helpful for sizing/fit	5	useful for online shopping and advertising	13
sense object distance and spacing	safety	phone users	detect if you are about to walk into something/someone while on your phone?	5	not much additional cost required	2	technically could, but also a lot of room for false positives (e.g. if using phone while it's laying on a table)	2	safety feature, but could be annoying if it has too many false positives, which would probably occur a lot	9
sense object distance and spacing	phone enhancement	phone users	facial recognition for face unlock	4	requires some cost to develop	4	capable, low risk failure, but may not be super accurate in all settings	5	very helpful to users, would add value and help improve user experience	13
digitizing real-world objects	education	bird watchers, natu	nature detection/tells you what type of tree/whatever something is	2	requires cost to develop and probably AI/dataset	2	may not be able to tell based on shape or if things are far away	2	not sure if this is very helpful beyond a small market of hobbyists, especially with limited accuracy	6
sense object distance and spacing, impose virtual elements on real world objects via camera	phone enhancement	phone users	interactive / AR directions (maps)	3	requires cost to develop	4	capable, but requires locational/positioning data as well	4	could be helpful, but also could be distracting to be looking at world through phone	11
sense object distance and spacing	phone enhancement	phone users	touchless gestures	3	requires cost to develop (r&d)	4	room for inaccuracies and false positives, but could be done	5	could be helpful for accessibility or for example if your hands are wet	12

AirBNB Host/Guest Data Ranking

	Specific Capability	Domain and/or Activity	Customer	Application	Financial viability		Technical feasibility		Desire/Acceptance		Rank
1	local activities, stay location	In-App Recommendations	Guest, businesses based on tourism activity	**Recommendations on activities to do based on where a guest is staying**	5	does not require any additional data, minimal processing data	5	easily within existing AI and technological capabilities	5	low risk, could be very helpful for guests browsing, and could help entice customers to actually follow through on trip plans	15
2	where guests visit, number of available listings, price points	Pricing	Host, other travel companies	what travel destinations are popular at what time of year to indicate price	5	does not require any additional data, minimal processing data	5	easily within existing AI and technological capabilities	4	desirable to hosts for smart pricing, but less desirable to guests who may not like a fluctuating price - but it is the norm for travel, so it'd probably be accepted	14
3	local activities, available listings, where guests visit	In-App Recommendations	Guest	Feature airbnbs that are closer to popular activities	5	does not require any additional data, minimal processing data	5	easily within existing AI and technological capabilities	3	may be helpful/convenient to some people but some people may prefer living away from touristy/crowded areas	13
4	browsing information, available listings, price points	Education	New hosts or people interested in renting out properties	put together a guide or class to help teach new hosts to increase the value/desirability of their properties	3	greater risk of failure: costs money to hire people and put together the class	3	data is there, but a class would require staffing, curriculum, etc - a lot of logistics and effort required	3	could be helpful for customer, especially if driven by data and information about successful listings, not sure if people would be willing to pay for a class on it though	9
5	price points, where/when guests live/visit, local activities	In-App Recommendations	Guest	rank how good of a deal the rental is for the guest based on popularity of the location and time, nearby activities	4	**algorithm is a little more involved, requires UI changes**	4	requires some prediction/pattern recognition	5	would probably be very helpful for guests when browsing, and hosts to see if their pricing points are appropriate	13
6	browsing information, available listings, information about the listing, number of previous guests	Security / Risk	Guest	detect scammy or dangerous listings	3	could be damaging to falsely accused hosts (may stop hosting), and could be risky if it doesn't successfully detect scammy listings	3	requires some additional AI/pattern recognition application, hard/takes time to verify	5	would be very helpful to guests' security and boost reliability of the platform as a whole	11
7	where guests live/visit, available listings, price points, local activities	Collaboration	Guest, travel companies	partner with travel companies (e.g. plane companies or public transport companies) to help suggest plans for an entire trip's logistics	3	requires more cost to coordinate and maybe need contract with travel companies, success of this feature depends on success of other companies	3	requires additional code and entirely new features	5	would be very helpful to guests, opportunities for discounts and other business tactics	11
8	where guests live/visit, browsing information, previous stays	In-App Recommendations	Host	create profiles for each person and help create customized suggested itineraries based on their previous activity and nearby popular activities	4	requires more cost to implement, but no new data needed	4	within existing AI and technological capabilities, but may need some more work to implement	5	very useful to the company to create better personalizations, would be helpful for guests to receive recommendations they actually like	13
10	where guests live and visit, available listings price points	Research	Real estate market / analyst	**provide information about property value in an area for real estate purposes or pricing**	5	does not require any additional data	5	already have the data	5	would be useful additional data for real estate market	15
11	where guests live and visit, browsing information, previous activity	Research	Tourism	**use number of guests staying in a location and their preferences in different places to give insight into tourism industry**	5	does not require any additional data	5	already have the data	5	would be useful additional data for tourism industry	15
12	where guests live and visit, browsing information, available listings	Research	Local businesses	help local businesses find what locations have a lot of tourists so they can choose the best location for their business	5	does not require any additional data, minimal processing data	5	easily within existing AI and technological capabilities	3	would be helpful to local businesses just starting out, but how many of those are there? (large enough market?)	13
13	information about the guest, where guests live and visit, browsing information, previous stays, available listings	In-App Recommendations	Guest	Create suggested tags for different rentals based on the types of people that stay there (e.g. pet friendly, accessibility, good for large groups, etc)	4	requires cost to integrate information and add new feature	4	requires additional AI (scrape listing descriptions) and human verification of tags	5	would be very helpful to guests when browsing, could help hosts market various features of their property	13
14	number of guests and hosts, where guests live and visit, price points, local activities	Research	local government	Data can help give suggestions for city planning / development / improvement	3	how is this adding profit? government doesn't pay that much, but doesn't cost much to give existing data	5	already have the data	4	would be useful additional data for planning, but how often would cities need to plan new things?	12
15	number of guests and hosts, where guests live and visit, price points, local activities	Research	travel/transportation companies, guests	predict when travel will be busiest (traffic)	4	requires cost to integrate information and add new feature	3	only gives large scale travel patterns, (not very fine resolution)	2	not sure this would be more helpful than existing gps/phone data	9
16	browsing information, where guests live and visit, price points,	Research	travel/transportation companies, guests	Use browsing data to push ads for activities/trips in certain locations	5	can sell data for a lot of money to advertising agencies, already have data	5	already have the data	4	advertising agencies would like this, but could raise some privacy concerns for guests	14

Touch Sensitive 3D Surface Ranking

Specific Capability	Domain and/or Activity	Customer	Application	Financial viability		Technical feasibility		Desire/Acceptance		Rank
Electrick adds touch-screen capabilities to objects, especially useful for **large, irregularly shaped, or flexible** objects, using electrically conductive coatings or materials and attaching	Entertainment	Families / consumer use	Use on an indoor wall in addition to a projector to basically make a giant cheap iPad (interactive games, TV control)	4	Need additional projector, but the actual application of the 3d surface just requires a coat of conductive paint	3	Requires an additional projector, may not be super responsive	4	Could be more fun and interactive, especially for children, but would need to move a lot to access different parts of the screen	11
	Tool	Government (public maps), stores (in-store maps showing different departments/aisles)	Large interactive maps: could touch where you want to go and it can change the display to show you how to get there, or could drag hand along a potential path	4	need touch screen, display, and software	4	Need to program the UI and software for the interactivity of the display, and also need a display - actual touchscreens would probably be more accurate and do a better job	2	could be useful, but may cause frustration with inaccuracies in location, not very efficient	10
	Education	Educators / schools	educational models (e.g. brain example where you touch a part of the brain and it tells you what it is)	4	need model	5	need model	5	could be cool interactive tool for museums and explain parts of a model	14
	Adding Gestures to Products	Car manufacturers	Car gestures on dashboard or doors for volume, AC, etc; could also be a safety feature (detects 2 hands on wheel)	5	barely any additional cost	3	may be inaccurate, would need to hook up with car system or external computer	3	could be distracting for driver if gesture is misinterpreted	11
	Product Development/Prototyping	Designers / researchers	conduct user studies on new physical products (track where people tend to touch an object or how they touch it)	5	barely any cost	5	would only require conductive paint on the product	3	can't think of a specific application of this	13
	Product Development/Prototyping	Designers / researchers	**Rapidly test multiple different layouts/configurations for physical buttons, sliders, and other user controls on a product prototype**	5	barely any cost	5	would only require conductive paint on the product	5	would be useful for testing	15
	Product Development/Prototyping	Designers / researchers / engineers	Add interactivity to 3d printed prototypes for testing to quickly make it more realistic and demo the function of electronic components that aren't integrated yet	5	barely any cost	4	would need to add some sort of user feedback indication or additional software	5	useful for pitches, demos, prototyping an idea	14
	Product	Home use	Toggle between multiple layouts on a remote, keyboard, or a video game controller if the item is shared with multiple people or different purposes	5	barely any cost	4	would need to add some sort of user feedback indication or additional software to indicate switching layouts	3	may be confusing to figure out which layout is for what application, but also may be nice to only have 1 remote	12
	Adding Gestures to Products	Home use	**Smart home application (e.g. tap wall or object in certain place to turn light on/off)**	5	barely any cost	5	just need touch or no touch, and different gestures	5	easier to touch an object than to press a button, but maybe accidental touches are annoying? maybe require a specific gesture	15
	Entertainment	Children	Interactive physical toy (responds differently to different ways child plays with it), could be used as an interactive learning tool	5	need a display, would be a lot cheaper than an ipad	4	need a display, not very accurate, but could be good for kids as they don't have very precise motor skills anyway	5	a lot cheaper than iPad, could be used for a lot of educational activities (e.g. tracing letters) or simple games	14
	Product	Hobbyists	E-Textiles	3	probably wouldnt use the paint, but can use the other conductive materials	1	too much chance of accidental touch / moisture	3	could be cool but better sensors that aren't too expensive exist that wouldn't cause as many accidental touches	7
	Tool	offices, schools, home use	digital whiteboard	4	a real whiteboard would be cheaper, but this would be cheaper than a smartboard	3	inaccurate (would be very squiggly) but could be fine for coarse drawings/writing	3	i think it could be useful to have a cheaper smartboard, but I think the inaccuracy would be too irritating to clients	10
	Product	Visually Impaired	Object detection for visually impaired (touch object or shelf and computer will speak to you and tell you what it is), or organization (touch a shelf or box and it can tell list off what's inside)	5	would need to develop the product, but not too much required	3	only requires simple touch gestures, so it is accurate enough, but may cause accidental touches	4	I think there are better products on the market to help with organization for visually impaired people, and it also might be too much tech (could just have braille labels, for instance)	12
	Artwork and expression	Artist	**Create interactive wall installations or sculptural components that trigger audio or visual changes in reaction to different touches**	5	very cheap, just need to paint the wall and maybe add protecive coating, very customizable depending on installation	5	very feasible, could create something that only responds to simple gestures, and low failure risk	5	i think it would add a lot of interactivity to the experience, and allows artists to expand their medium and think about how the audience will interact and respond to the responsive art piece	15
	Education	Aspiring musicians	teaching tool for musical instruments (light up to show where to place fingers, can register if touches are in correct places)	4	requires musical instrument (expensive), and also there is a risk of damaging a high-end instrument with the conductive paint	3	can imagine accidental touches happening quite frequently, especially if you are using your hands to play the instrument, technology is not accurate enough for instruments that require a lot of precision (e.g. violin)	4	a lot of people want to learn how to play instruments, and it could be a helpful tool to learn where to place your fingers for various notes. a large market for music education tools exists	11
	Education	people with fine motor skill issues / children	**tool to help teach fine motor skills (e.g. tracing letters on a table)**	5	need a display, would be a lot cheaper than an ipad	4	need something to project back to child to maintain interactivity and the retention of the child, but for young children, tool does not need to be very accurate, so this could be appropriate	5	cheap and no mess, interactive way to teach kids shapes of letters and building it into muscle memory	15

Final Concept

Final Concept

My final idea is a system of multiple remote switches that will trigger different lighting configurations. You would configure different gestures and configurations in an app, then touch, tap, or swipe a switch to trigger one of the configurations.

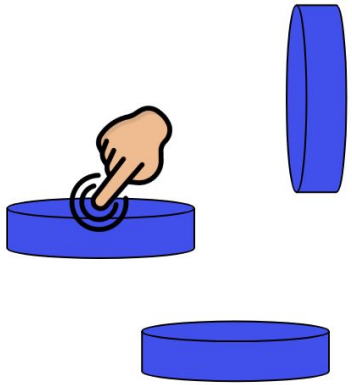
- Financial viability: technology itself is very low-cost, object itself can be very simple (does not cost much)
- Technical feasibility: only need the conductive coating, don't need to install into wall, does not require much accuracy so it is not limited by the technology
- Desire/acceptance: could be useful for those who have mobility issues (walking to light switch or broader gestures for those with fine motor control issues), more convenient, very customizable

Touch-Activated Remote Lighting System | Melody Chu

What is it?

> A system of multiple remote switches that will trigger different lighting configurations based on user's gesture

> Control from anywhere
> Custom gestures and lighting

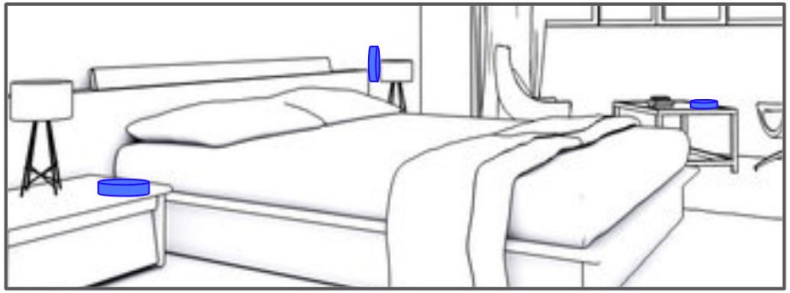


About the Technology:

> Touch recognition
> Easy installation
> Accurate enough for simple swipes and taps
> Low failure risk

Customer:

> homeowners
> people with mobility issues
> people who need different levels of lighting



In-Class Presentation Slide

Critique

During critique, the idea was well received, since at its base concept, the capability is very simple: just detect touch! It was also good because if the technology failed, there was a very low risk factor, as all it would do is control the lighting. However, due to the inaccuracy of the technology, gestures could be questionable. Another question that was brought up was the market: would I be selling this to product manufacturers so they build it into their own products, or would I be selling this to consumers to work with their existing products?

Project Reflection

Overall, I think this project provided a good introduction and insight into the matchmaking process. The ideation process in particular was a lot more intensive than I would've expected, but it was helpful to think about different markets and use cases to come up with more ideas. The ranking process was also helpful in providing a quantitative, numerical way to determine how "good" each idea is, and it reminded me of decision matrices I've used in other engineering projects. As for my final concept, I think that it is a very viable and useful idea, and that it matches the capabilities and limitations of the touch-sensitive 3D surface well. Through this project, I also practiced more business-oriented thinking, and what the cost/value ratio is, which I am not as used to thinking about. Based on my critiques, in the future, I would prioritize the viability of bringing the concept to market more and factor that into my rankings as well. Through this process, I believe I have explored a wide range of ideas and am confident that my solution is an appropriate match for the technology.