

UX & AI

How might we use UX to
design usable, sustainable AI
Products?

by Jordan Deja

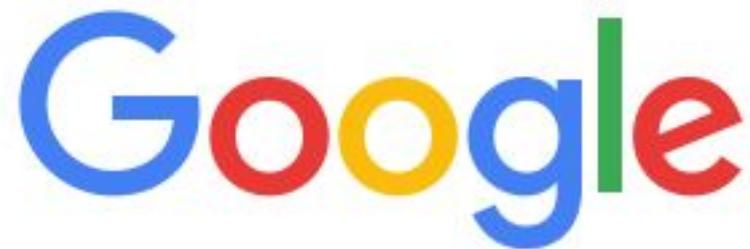
QITC11 | 02 02 2019 | VIP Hotel | Cagayan de Oro City | @jrdndj





MAKE GIFS AT GFSOUP.COM

the two types of people listening to my talk...



cramming professor meme

Google Search

I'm Feeling Lucky

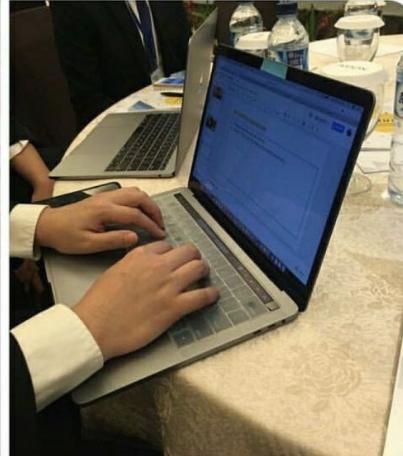
Google offered in: [Filipino](#) [Cebuano](#)



Blaise Cruz
@finelined_

▼

If you think you're good at cramming,
my prof makes his slides and prepares
his presentation for an international
conference IN THE CONFERENCE
ITSELF





Hello, I'm Jordan!

My name is Jordan Deja.

I'm a ~~slavedriver~~ student motivator @ DLSU

@jrdndj

Previous Affiliations:

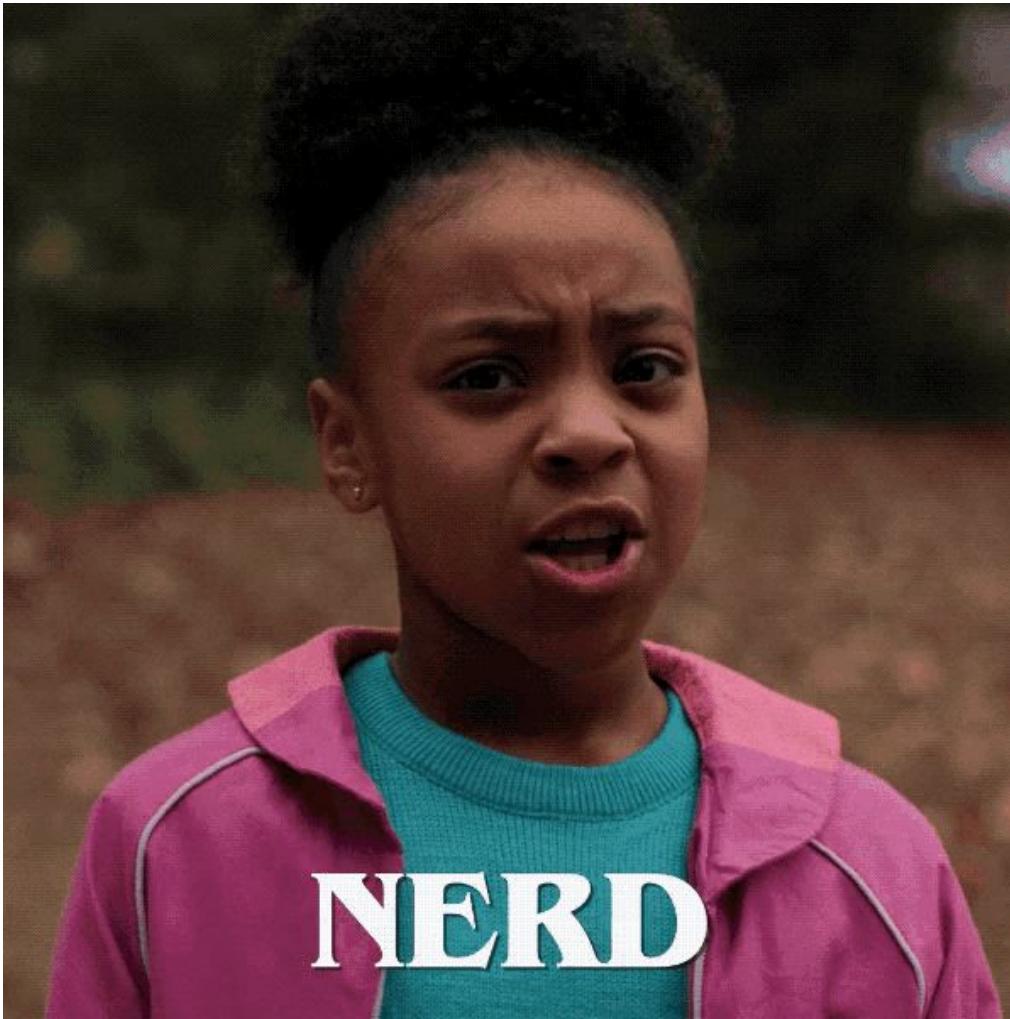
Instructor, UST
Project Mgr, Senti Tech Labs
Instructor, MCL
Computer Teacher, LBASS
Jr Project Mgr, HP AP ROHQ

Education/Training:

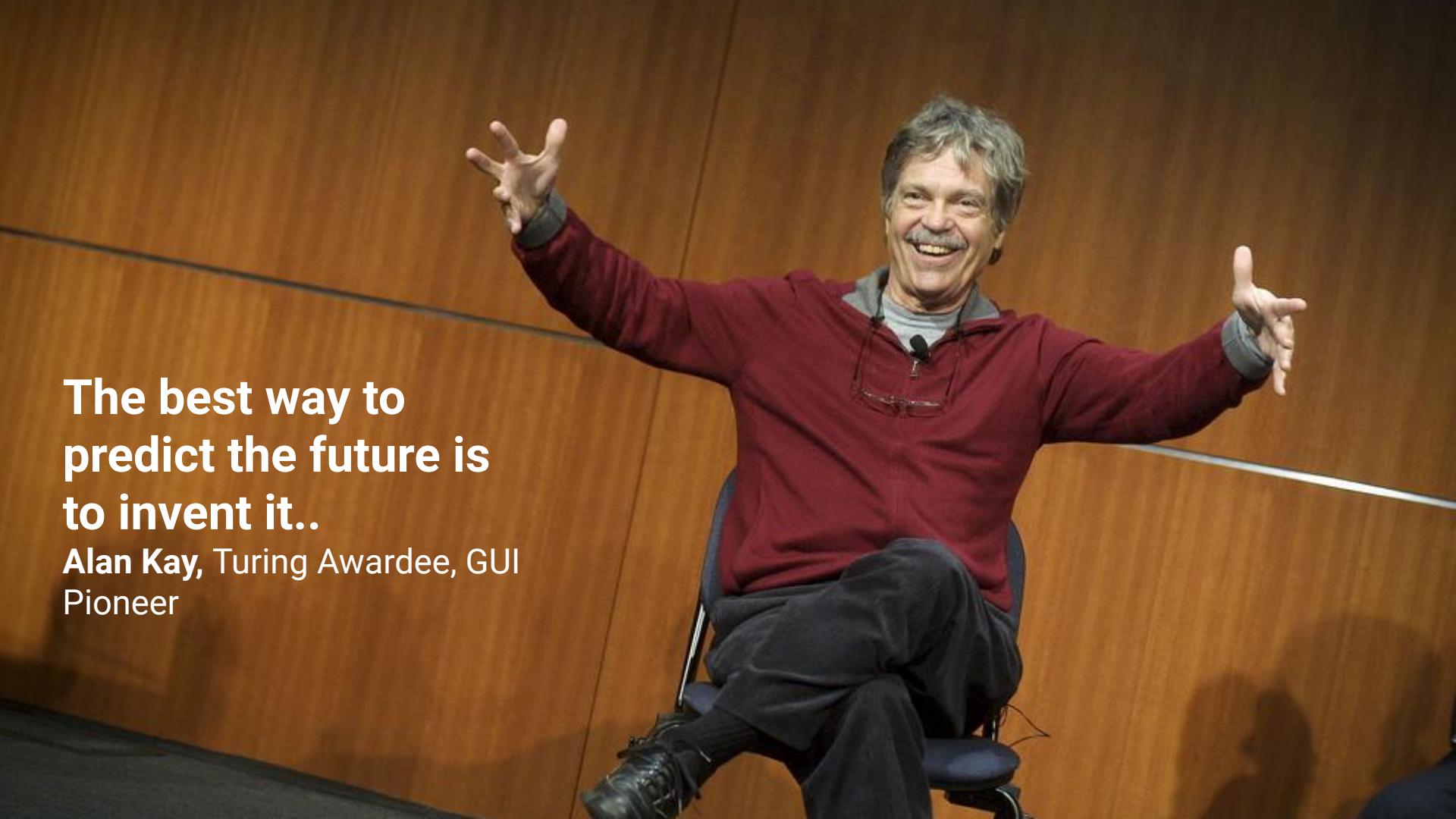
Visiting Scientist, Osaka University
MSCS, De La Salle University
BSCS, De La Salle Canlubang

Current Affiliations:

Assistant Professor, DLSU CCS
Head, DLSU COMET
Core, UXPH
Member, ACM SIGCHI



NERD

A photograph of Alan Kay, a man with a mustache and grey hair, smiling and sitting in a black office chair. He is wearing a maroon zip-up hoodie over a grey t-shirt. His arms are raised and extended wide to his sides. The background is a warm-toned wooden wall.

**The best way to
predict the future is
to invent it..**

**Alan Kay, Turing Awardee, GUI
Pioneer**

“if you aren’t aligned with
a human need, you’re
just going to build a very
powerful system to
address a very small—or
perhaps
nonexistent—problem.

- Lovejoy (2018)



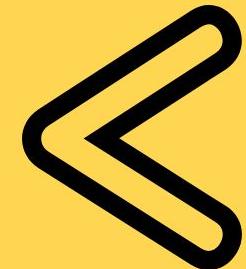
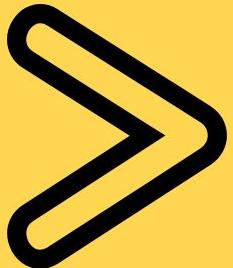
what's
UX?

Lets begin with an activity:

STAND UP!

GRAB A PARTNER!

FACE YOUR
PARTNER!



1 - 2

1 - 2 - 3



HUMANS DONT LIKE BREAKING THE
PATTERN

CONSISTENCY IS A PATTERN

breaking patterns make things
harder

1 - 2 - 3 - 4

ON HUMANS AND LONG THINGS

LONGER IS NOT ALWAYS HARDER IF THERE ARE PATTERNS

It is not all the time that long is ay. It is not all the time
short is better.

CONTACT US

If you would like to get ahold of us,
please fill in the form below...

Salutation (optional)

Mr.

First and Last Name

Company or Organization (optional)

Email Address

Phone Number (optional)

1 () -

Fax Number (optional)

1 () -

Subject or Topic

Technical support

Comments or Questions

Newsletter (optional)

Yes, I would like to receive a
monthly newsletter about deals and
offers!

CONTACT US

If you would like to get ahold of us,
please fill in the form below...

Name

Email Address

Comments or Questions

1 - CLAP - 3

JUMP - CLAP - 3

JUMP - CLAP -



UX&UI

**Let's remove the 'U', what
do we have left?**

UX&UI

**Experiences
Interfaces**

**Let's remove the 'U', what
do we have left?**

UX & HCI

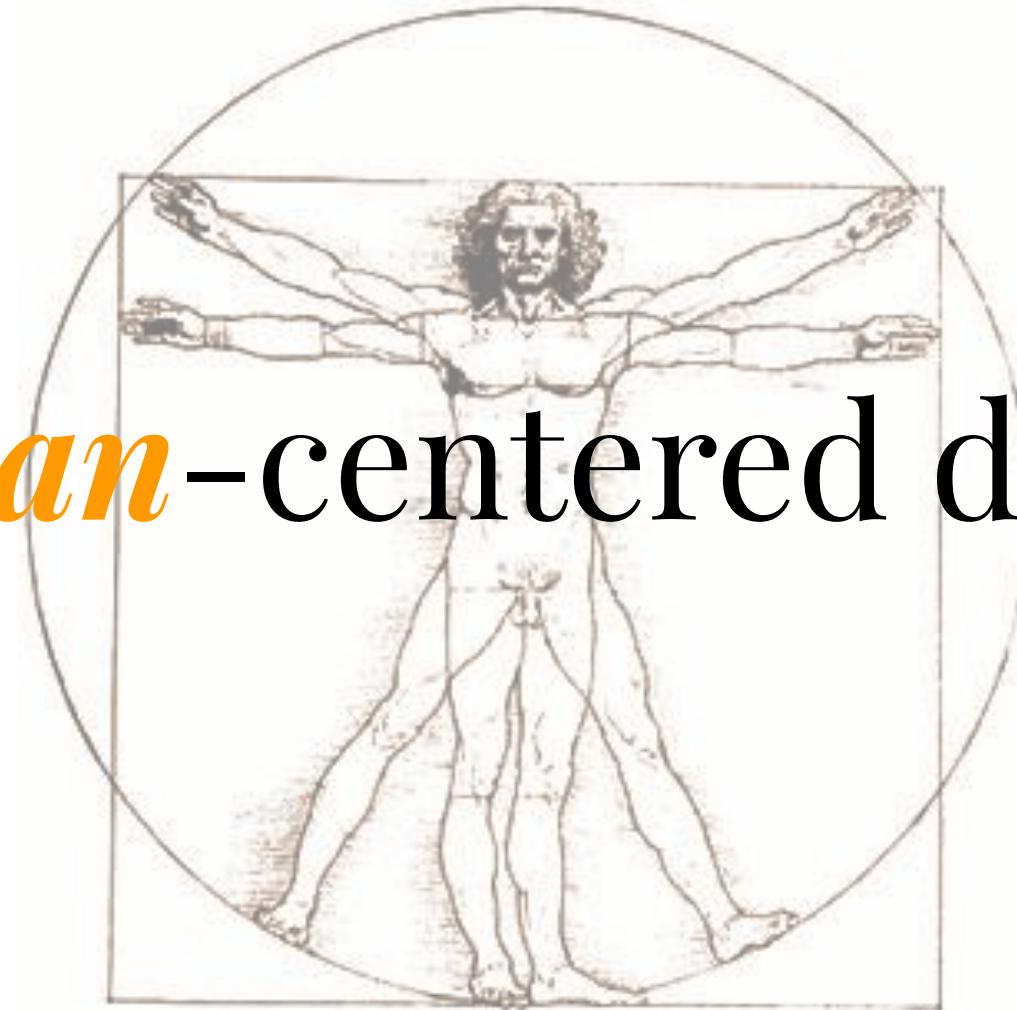
Let's look at the first words
shall we?

UX & HCI

User Experience
Human Computer
Interaction

Let's look at the first words
shall we?

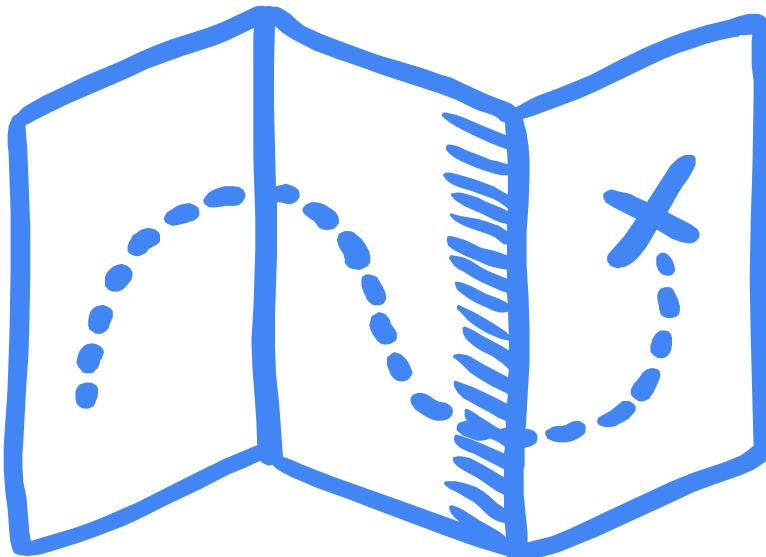
human-centered design



UXareas

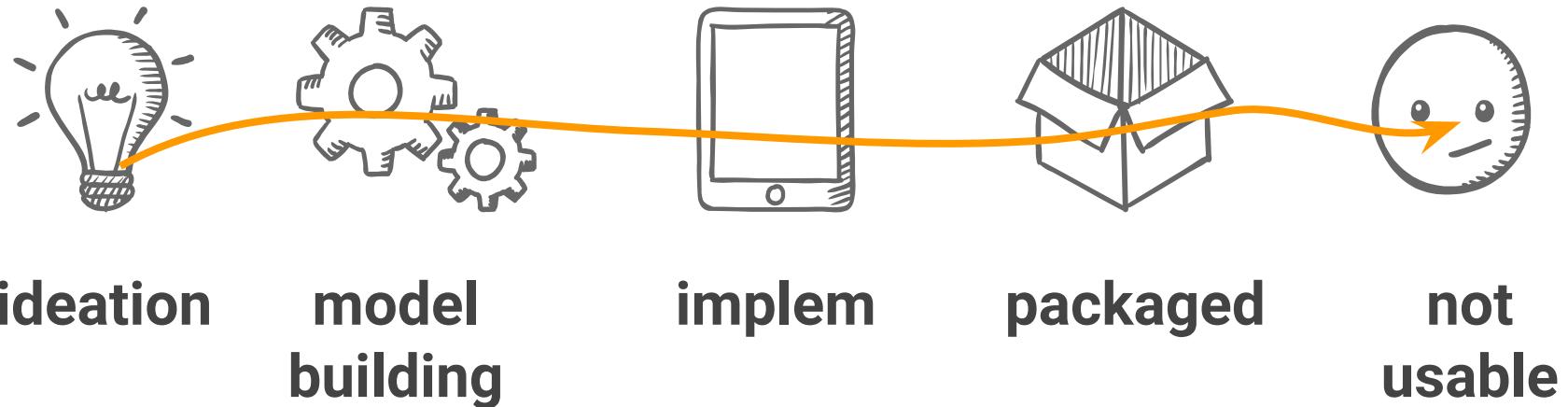
Experience Design
Interaction Design
User Research
Visual Design
Information Architecture
Service Design
Product Design

the product journeys of

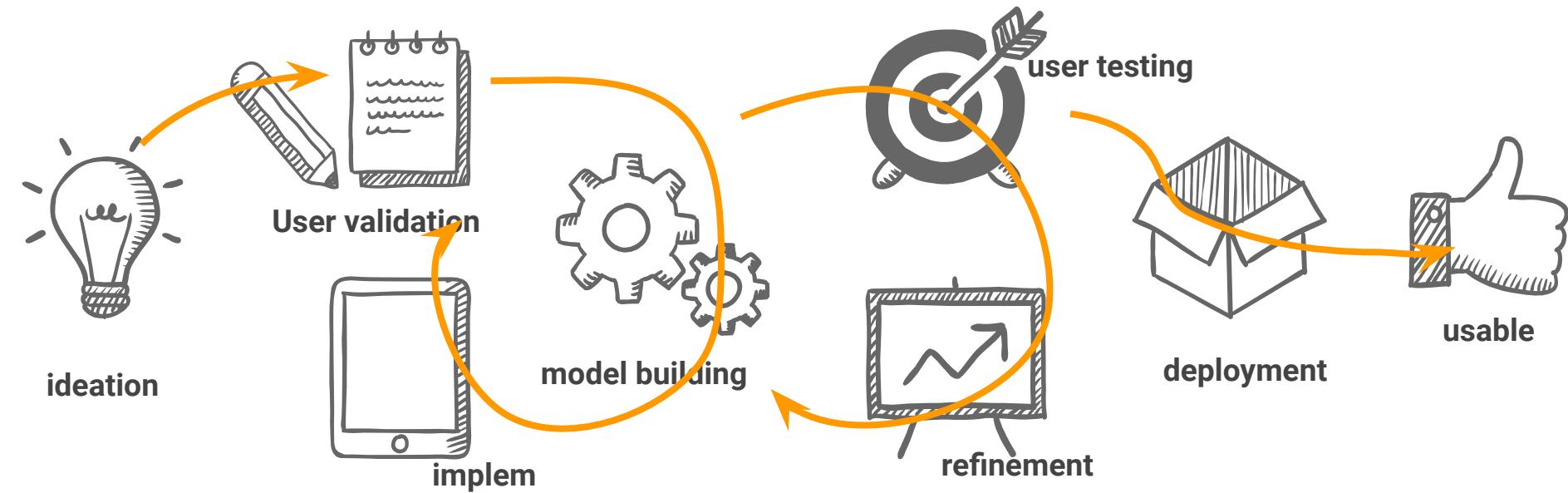


an AI product

the typical design journey of a product



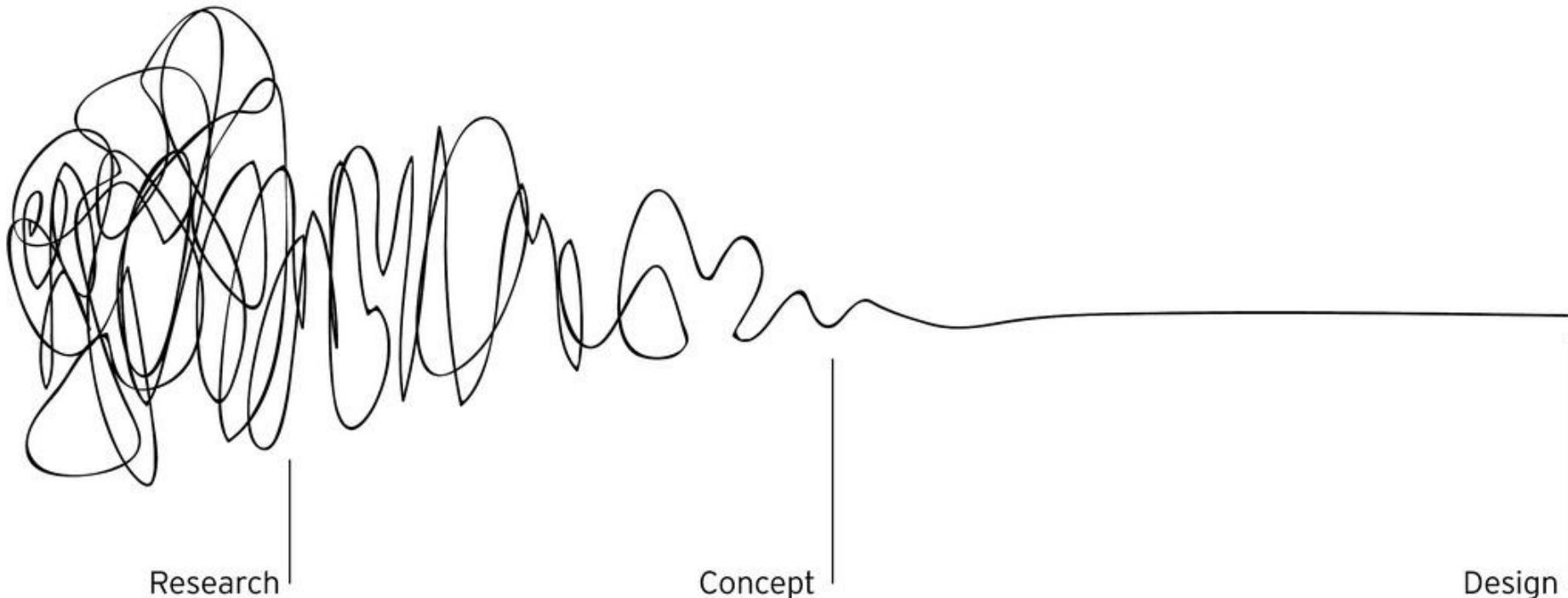
the ideal design journey of a usable AI product



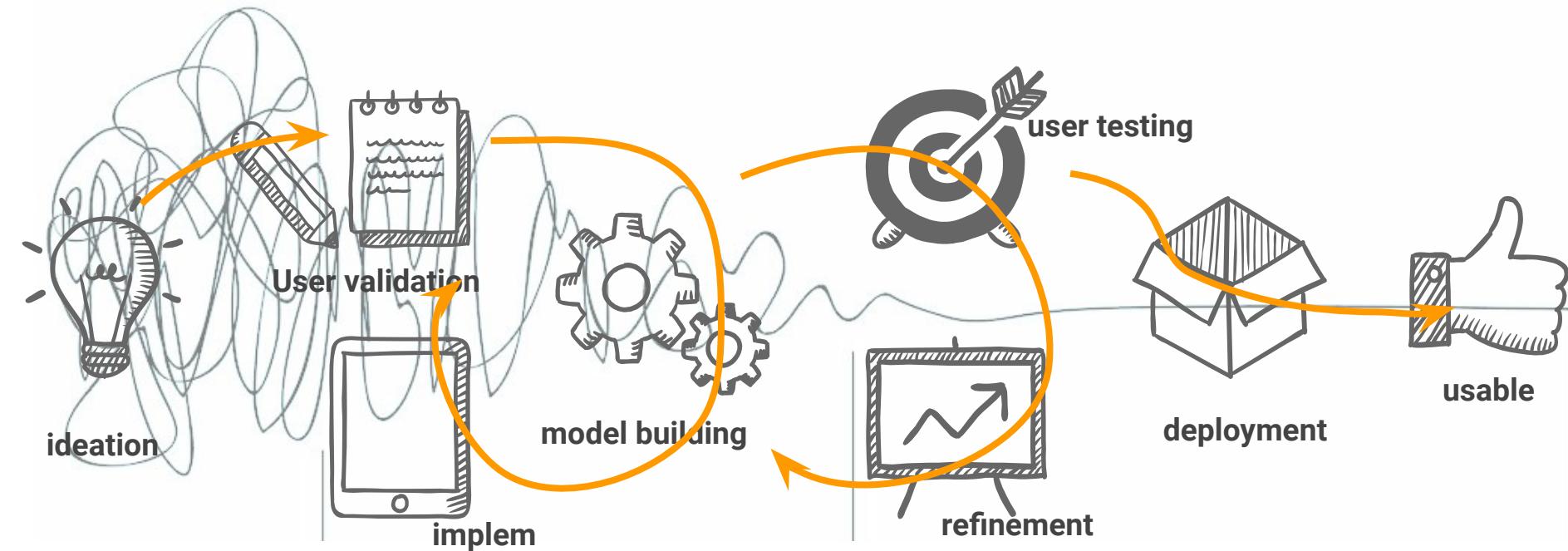
UX Squiggle

Uncertainty / patterns / insights

Clarity / Focus



“UX Squiggle” in AI Product Design



specific UX methods for a usable AI product



Participatory
design



User
inspection



eye
tracking



A/B
Testing



Customer
feedback



field studies

And many
more...

Didn't we mention a usable, sustainable AI product?



solves a
problem

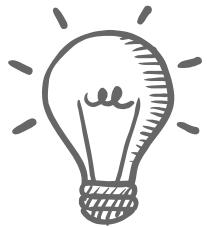


is a usable
product



profitable,
provides
opportunities

Didn't we mention a usable, sustainable AI product?



solves a
problem



is a usable
product



does not kill
jobs

profitable,
provides
opportunities

What should be the journey towards a usable, sustainable AI product?



solves a
problem

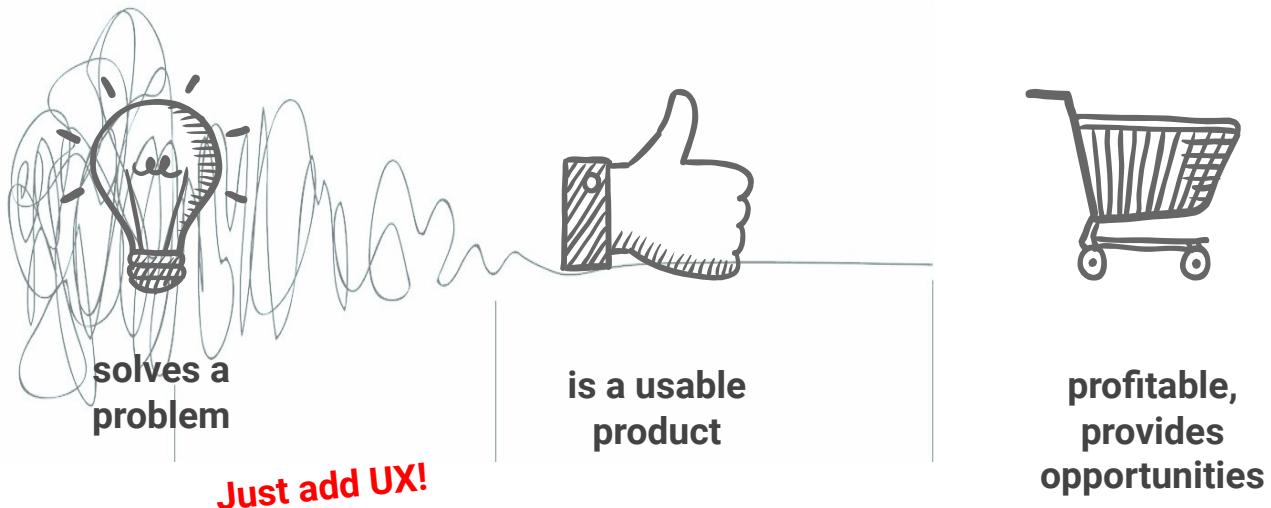


is a usable
product

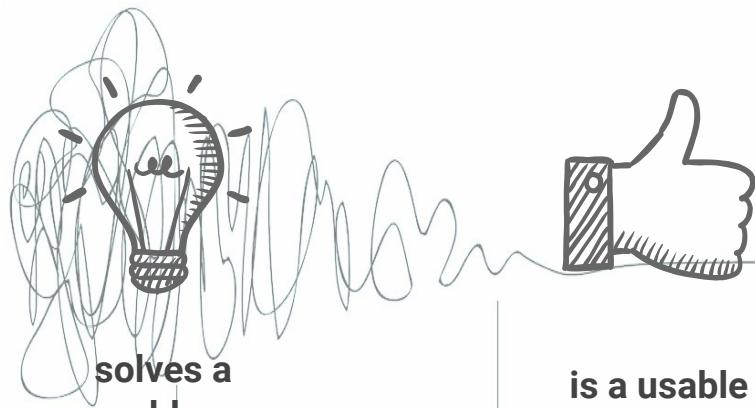


profitable,
provides
opportunities

What should be the journey towards a usable, sustainable AI product?



What should be the journey towards a usable, sustainable AI product?



solves a
problem

Just add UX!



is a usable
product



profitable,
provides
opportunities

Even more UX!

+specific UX methods for a sustainable AI product



Journey
mapping



Service
blueprint



personas



business
origami

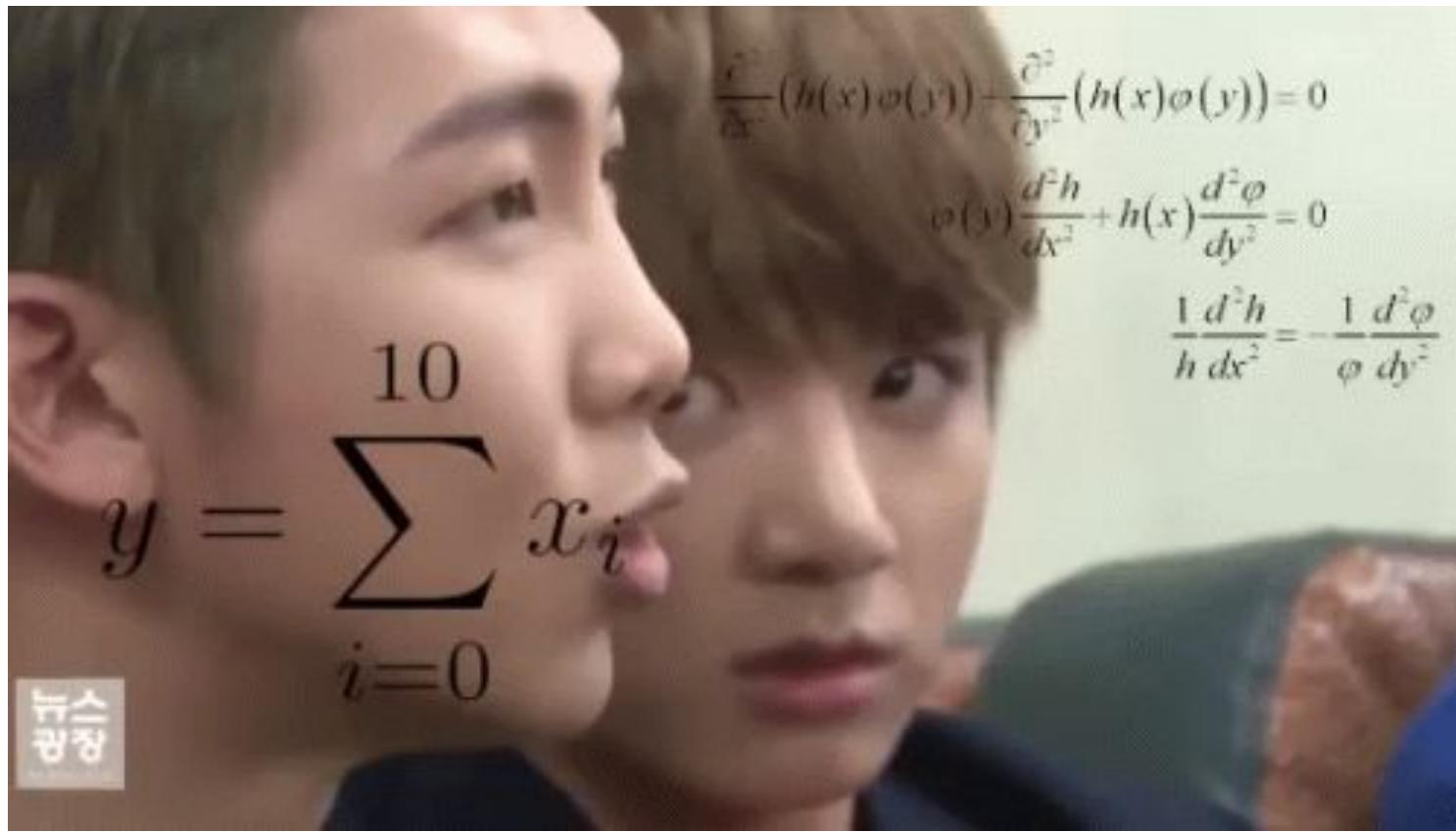


AIDA
Storyboarding



User empathy
and value
proposition

And many
more...



Me thinking if this will even work in real life?

Is there an example of such product? If so then...



**Draco: animating
drawings using kinetic
motions**

https://www.youtube.com/watch?v=l84YK1_ytks&list=PLI81bJ6jBktwh0BrSYn2prx9WQ7GnJDPK&index=3



**Em-sense: combining
Wearables and
machine learning for
context sensing**

<https://www.youtube.com/watch?v=fpKDNle6ia4>



MyoSL: a usable gesture-based Filipino Sign Language interpreter



SCEPTRE (Paudyal et. Al, 2016)





**DeepDive: combining
marketing
and science using
brainwaves and AI**

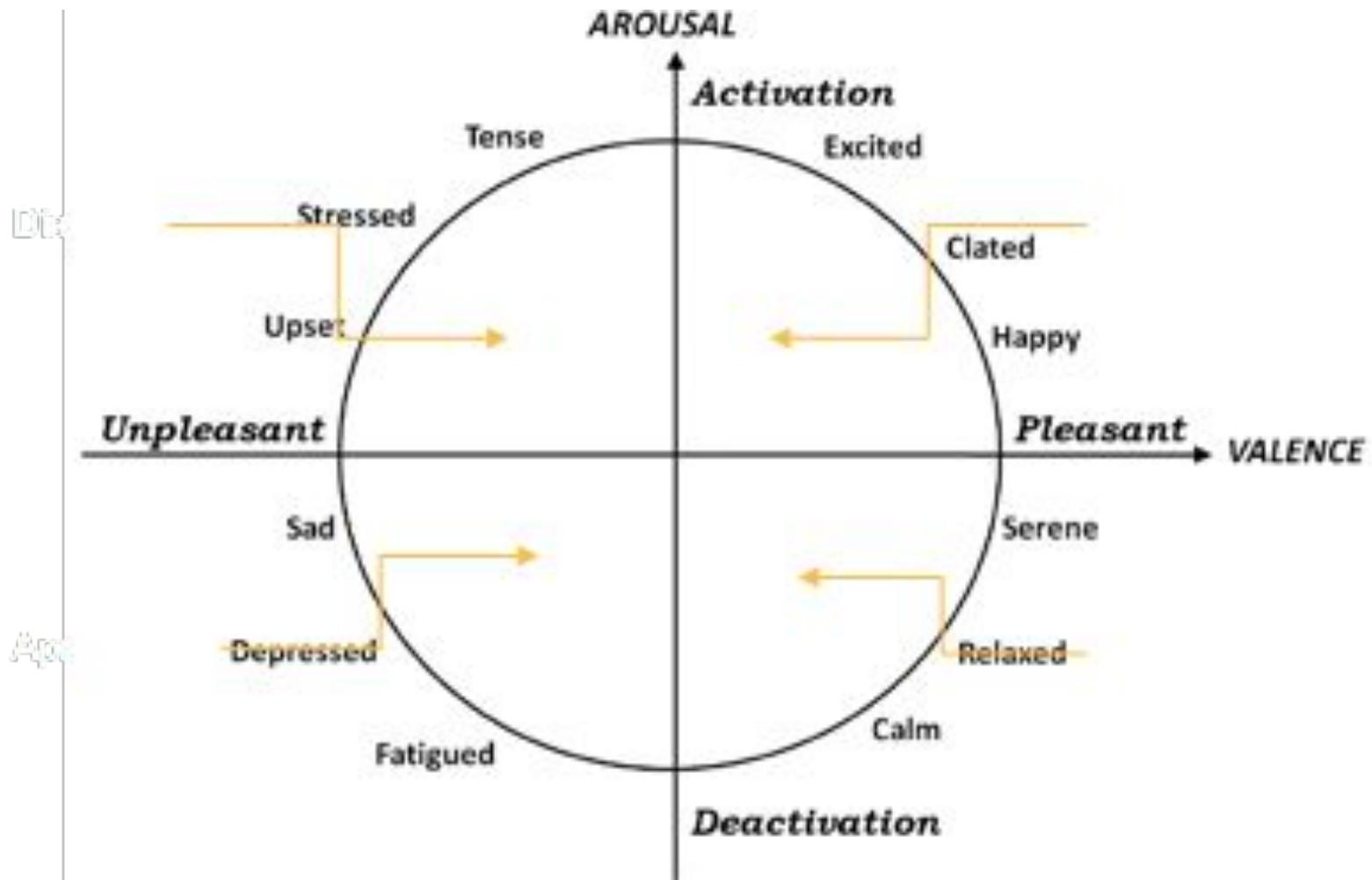
in partnership
with

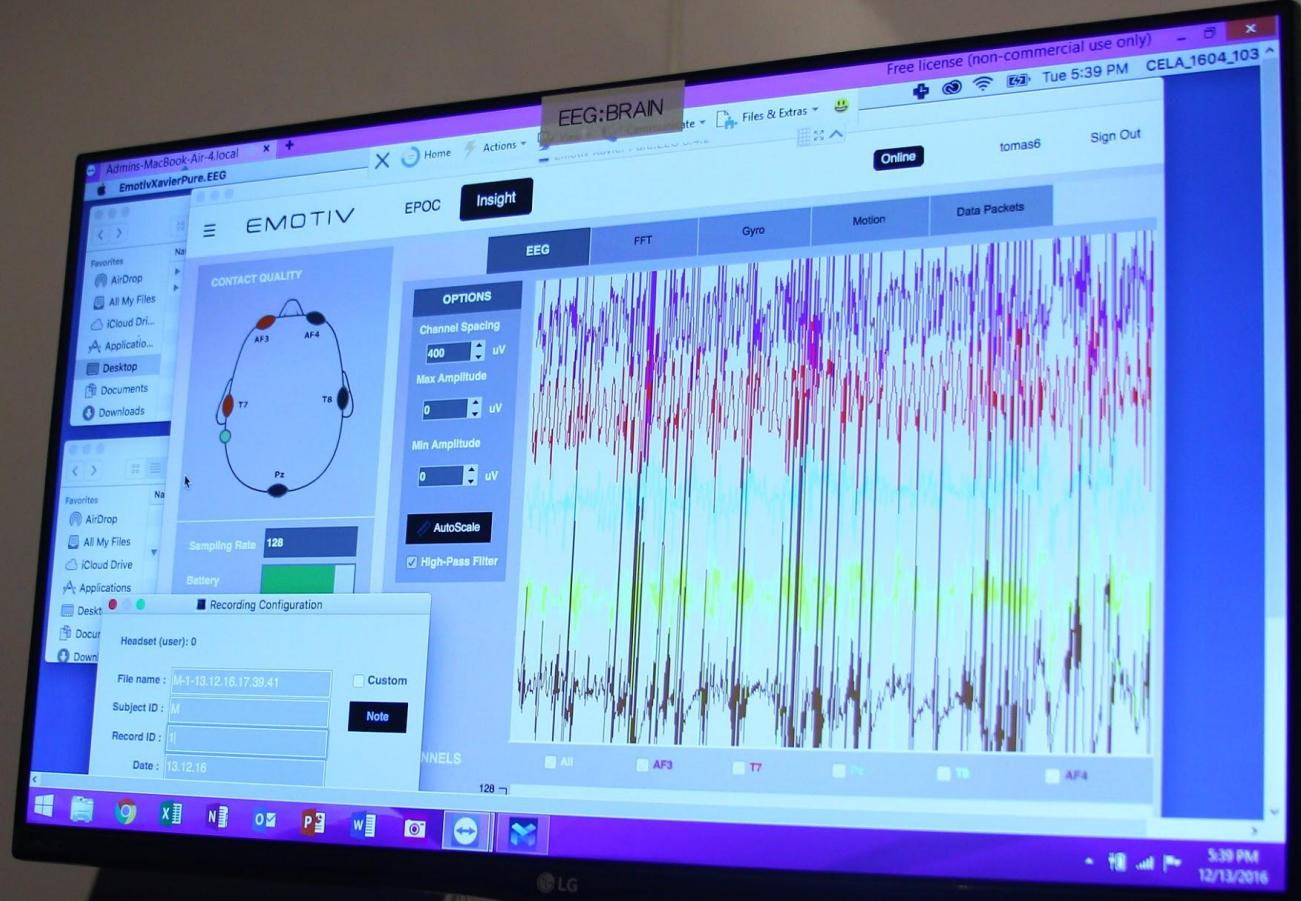


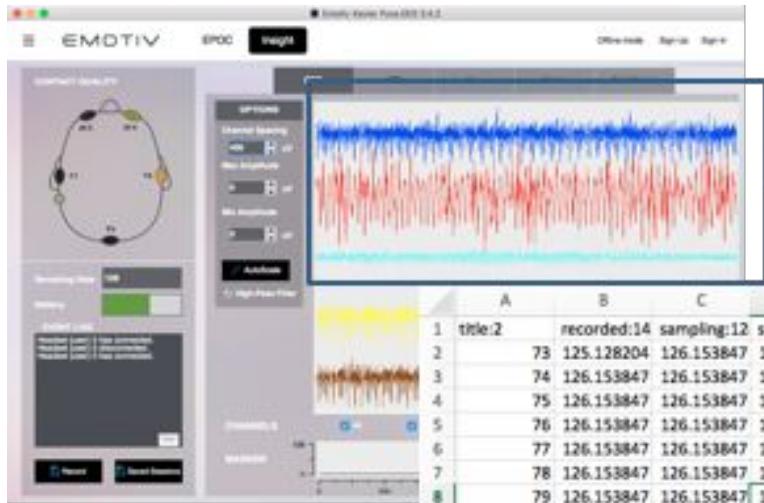
N U W O R K S
I N T E R A C T I V E











Raw visualization of EEG signals

A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	title:2	recorded:14	sampling:12	subject:16	labels:COUN	chan:12	units:emotiv						
2	73	125.128204	126.153847	127.179482	56.9230766	145.128204	118.974358	70.2564087	153.846146	167.179489	27873	869.230774	
3	74	126.153847	126.153847	127.179482	57.9487152	143.07692	120	70.2564087	152.820511	168.205124	27873	877.435852	
4	75	126.153847	126.153847	127.179482	56.9230766	145.128204	118.974358	69.2307663	153.846146	168.205124	27873	885.128174	
5	76	126.153847	126.153847	127.179482	56.9230766	146.153839	118.974358	70.2564087	156.92308	169.230759	27873	893.333313	
6	77	126.153847	126.153847	127.179482	57.9487152	144.102554	118.974358	70.2564087	156.92308	169.230759	27873	901.025635	
7	78	126.153847	126.153847	127.179482	56.9230766	145.128204	118.974358	70.2564087	150.256409	168.205124	27873	908.717957	
8	79	126.153847	126.153847	127.179482	56.9230766	143.07692	120	69.2307663	154.871796	168.205124	27873	916.923035	
9	80	126.153847	126.153847	127.179482	55.8974342	145.128204	118.974358	69.2307663	151.794861	168.205124	27873	924.615356	
10	81	126.153847	126.153847	127.179482	55.8974342	144.102554	118.974358	70.2564087	157.948715	168.205124	27873	932.307678	
11	82	126.153847	126.153847	127.179482	56.9230766	144.102554	118.974358	70.2564087	157.948715	168.205124	27873	940.512817	
12	83	126.153847	126.153847	127.179482	55.8974342	146.153839	118.974358	69.2307663	160	167.179489	27873	948.205078	
13	84	126.153847	126.153847	127.179482	55.8974342	146.153839	118.974358	70.2564087	152.820511	169.230759	27873	955.8974	
14	85	126.153847	126.153847	126.153847	56.9230766	145.128204	120	67.1794891	151.794861	169.230759	27873	964.102539	
15	86	126.153847	126.153847	126.153847	55.8974342	145.128204	118.974358	70.2564087	152.820511	168.205124	27873	971.794861	
16	87	126.153847	126.153847	126.153847	54.8717918	145.128204	120	70.2564087	152.820511	168.205124	27873	980	
17	88	126.153847	126.153847	126.153847	55.8974342	143.07692	120	69.2307663	152.820511	168.205124	27873	987.692261	
18	89	126.153847	126.153847	126.153847	55.8974342	144.102554	120	69.2307663	153.846146	168.205124	27873	995.384583	
19	90	126.153847	126.153847	126.153847	56.9230766	143.07692	120	69.2307663	152.820511	169.230759	27874	3.58974361	
20	91	126.153847	126.153847	126.153847	56.9230766	144.102554	118.974358	69.2307663	152.820511	169.230759	27874	11.2820511	
21	92	126.153847	126.153847	127.179482	57.9487152	143.07692	118.974358	70.2564087	153.846146	168.205124	27874	18.9743576	
22	93	126.153847	125.128204	126.153847	57.9487152	145.128204	118.974358	69.2307663	152.820511	168.205124	27874	27.1794872	
23	94	126.153847	126.153847	126.153847	57.9487152	144.102554	118.974358	69.2307663	150.769226	169.230759	27874	34.8717957	
24	95	126.153847	126.153847	126.153847	57.9487152	143.07692	118.974358	70.2564087	152.820511	169.230759	27874	43.5641077	

Raw data outputs of EEG Signals

Big findings

DC - whole code
SE - public interface
TD - private design

Are all the way
to be exposed (in certain cases)

GOF findings

Sp - speed
Dr - dropped
St - sturdy

5 - it's great
3 - it's unstoppable

P1 DC ATW TDS @ DASH ⚡ ND.GSR

P2 DC ATW RNR & RSR
PLAN ND.GSR

ND.GSR

P3 DC ATW RREL @ T-SR only early GSR

* PD KE correct

P4 PD AE @scd RREL @ T-SR already GSR ND.GSR

* DC

P5 PTD.METHOD
ME DC ADG first
unstoppable

ADG

ADG
advice
clear
GSR.PTDR.GSR
PDA.GSR.GSR v3

ZGIRLS

P6 DC.GSR.RNR.BR.GSR
DC.METHOD.PRS
BUND.NORME.SECURE
VALUING.GSR.v3

P7 DC.GSR.RNR.BR.GSR
BUND.NORME.SECURE
VALUING.GSR.v3

P8 DC.GSR.RNR.BR.GSR
BUND.NORME.SECURE
VALUING.GSR.v3

P9 DC.GSR.DC.GSR
offline.reachable
NOV
PDS
PDS v3

P10 DC.GSR.RNR.BR.GSR
BUND.NORME.SECURE
VALUING.GSR.v3

P11 DC.METHOD.PRS
VALUING.GSR.v3
BUND.NORME.SECURE
VALUING.GSR.v3

P12 DC.METHOD.PRS
VALUING.GSR.v3
BUND.NORME.SECURE
VALUING.GSR.v3

P13 DC.METHOD.PRS
VALUING.GSR.v3
BUND.NORME.SECURE
VALUING.GSR.v3

P14 DC.METHOD.PRS
VALUING.GSR.v3
BUND.NORME.SECURE
VALUING.GSR.v3

P15 DC.METHOD.PRS
VALUING.GSR.v3
BUND.NORME.SECURE
VALUING.GSR.v3

P16 DC.METHOD.PRS
VALUING.GSR.v3
BUND.NORME.SECURE
VALUING.GSR.v3

26 GIRLS

P6 DC@CoO₂ Recent @2:38 GSR flat
DC:AW@V2 FDS
↓ tonal increase @ "Sandtruff"
valence drop @ V2 (L5)

P7 DC@V1 ATW RNEV's
② negative valence
③ parts not liked

pg D C A T W
definite relieved @ clean
DC QVZ @
PD @ dirt K3

110 DC@ATW v1
almost flat/jagged R
Slight wavy v2

↑ 11 DC ATN @ v2
↓ split up Sargeard Hause ANGER

W-Moren Eddy No B
PE @ molen 2
ACM



Sample scene analysis: Bike scene

Avg. Valence: 1.024 (high)

Avg. arousal: 0.512 (high)

Affect: Possible
Excitement

Pocket recommendation:
keep

Notes: confirms interest
for bicycles

EEG values display 30%
spike of values on arousal
for the next 3 seconds
from this scene



SRC TC: 01:18:27:03

A001C034_161201_R212.mov

Sample scene analysis: Enrique dance

Avg valence: 1.01 (high)

Avg arousal: 0.481 (low)

Affect: Definite Calm

Pocket recommendation:
don't

Notes: EEG values 2 seconds before and 2 seconds after hardly changed (also for most selected scenes from 15s videos)



SRC TC: 02:01:18:08

A002C001_161202_R212.mov

Sample scene analysis: scalp scene

Avg. Valence: 0.998 (low)

Avg. Arousal: 0.5101
(high)

Affect: Probable Disgust

Pocket recommendation:
keep

Notes:

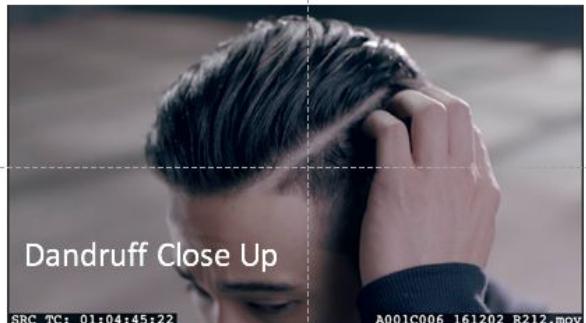
Some participants
remembered dandruff on
this scene even there was
none as this was offline.



SRC TC: 01:04:46:11

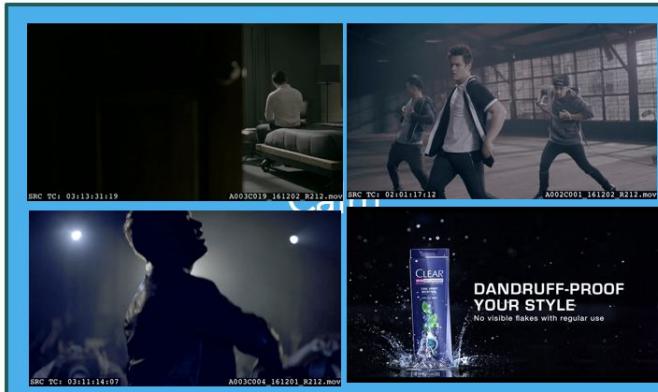
A001C006_161202_R212.mov

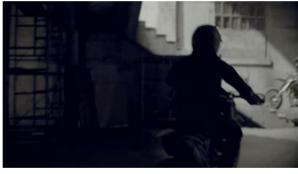
Bedroom



Arousal

Valence





In collaboration with NuWorks Interactive Labs



UNSTOPPABLE
DANDRUFF-FREE FRESHNESS

no visible flakes with regular use



The Future

No visible tan lines with regular use



UX&AI

**Some final takeaways
from this presentation**

UX&AI

first take away

Humans come
first when
designing AI
products

UX&AI

second take away

Products are
usable not if
we change the
interface but if
we improve
the experience
it offers

UX&AI

third take away

Applying UX in AI goes a long way in making a product usable and sustainable.



Planes **dont** flap their wings to fly, but
birds **dont** take off from trees either...

A car can **run faster** than a
cheetah but it can **never climb**
a tree..



UX & AI

How might we use **UX** to
design usable, sustainable **AI**
Products?

Talk to me!

@jrdndj

jordan.deja@dlsu.edu.ph

QITC11 | 02 02 2019 | VIP Hotel | Cagayan de Oro City

