



The Next Frontiers in User Experience

User experience as impressions, activities, organizational capabilities, and communities intersected with

“Emerging” technology such as AI, virtual reality, cloud computing + your favorites

Four Aspects of “User Experience”



- **UX as Impressions** people get while Interacting with Systems
 - “I had a great **user experience** filing my taxes with TurboTax.”
- **UX as Activities** to Define, Design & Deliver great experiences
 - “What **UX process** are we using for this project? Design sprints? JTBD? Participatory design?”
- **UX as Organizational Capabilities**
 - “Our **UX team** needs more funding so we can hire an information architect to help us on the new digital transformation initiatives.”
- **UX as Communities, Disciplines & Fields of Study**
 - “Which **UX conference** should I go to? I want to learn how to do generative design research.”

EVERYONE POOPS

By Taro Gomi



Some animals poop
and pay no attention



Others clean up
after themselves



Some stop to poop



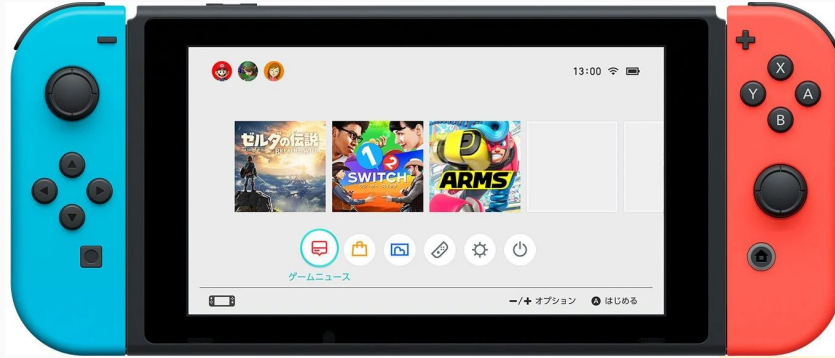
Others do it
on the move



People use technology. Everyone has user experiences.



User interface: the buttons, controls & menus you interact with directly



User experience: the context, content, expectations, etc. that determine what you DO & how you FEEL



New Study Ranks Animal Crossing: New Horizons As Most Relaxing Game, Surprising No One

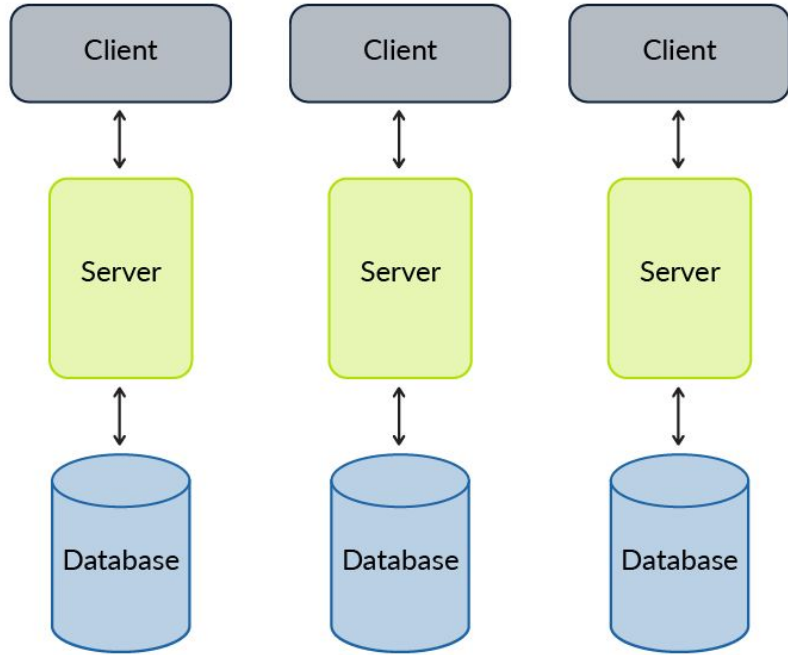
Here are the top ten



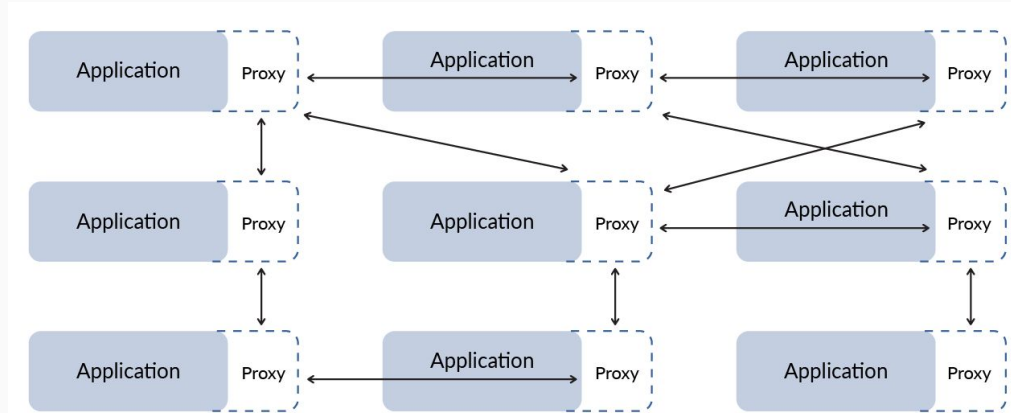
Cloud Computing (IT infrastructure)



Fixing the back end so better front ends are possible



Source: Stratascale 2023



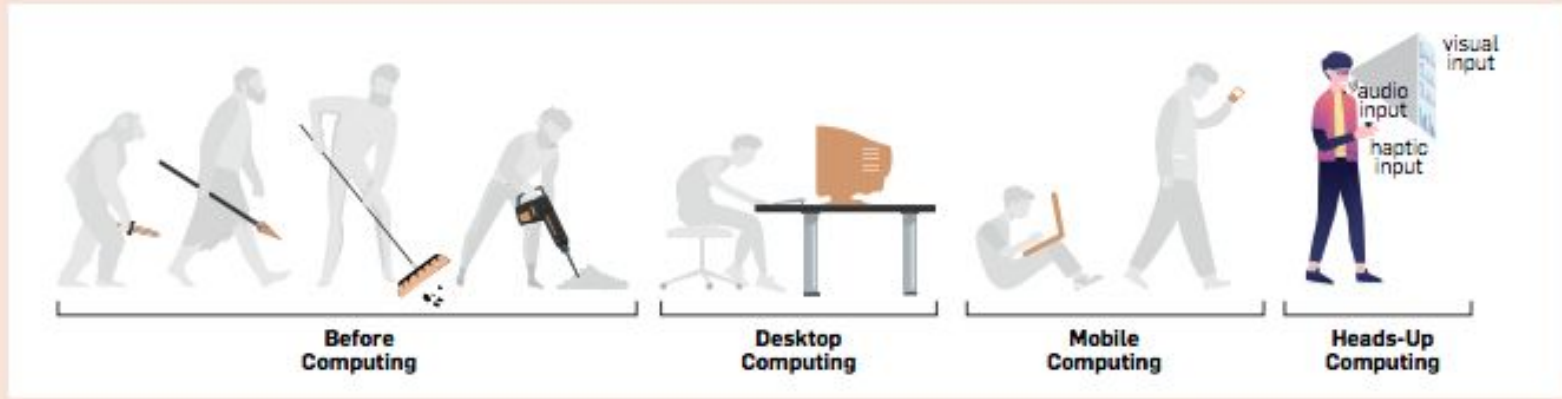
Source: Stratascale 2023

Virtual & Augmented Reality

A more natural way to interact with physical & virtual spaces



Figure 1. Human's co-evolution with tools.



[Source](#)



1989



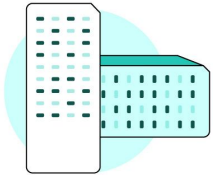
2023

AI (augmented intelligence)

Specify the outcome vs. perform the steps to produce it



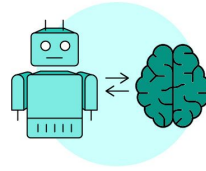
User-Interface Paradigms of Computing



Paradigm 1
Batch Processing



Paradigm 2
Command-Based
Interaction



Paradigm 3
Intent-Based
Outcome Specification

NNGROUP.COM NN/g

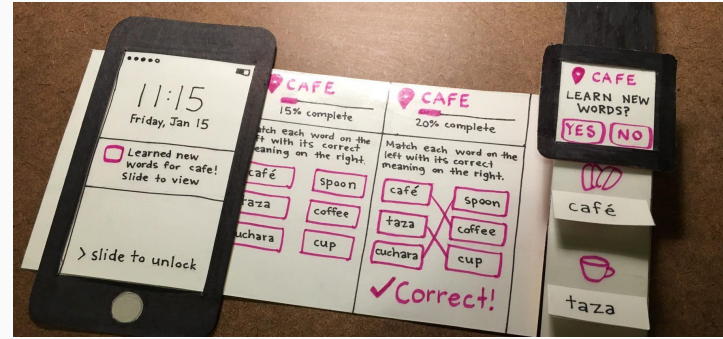
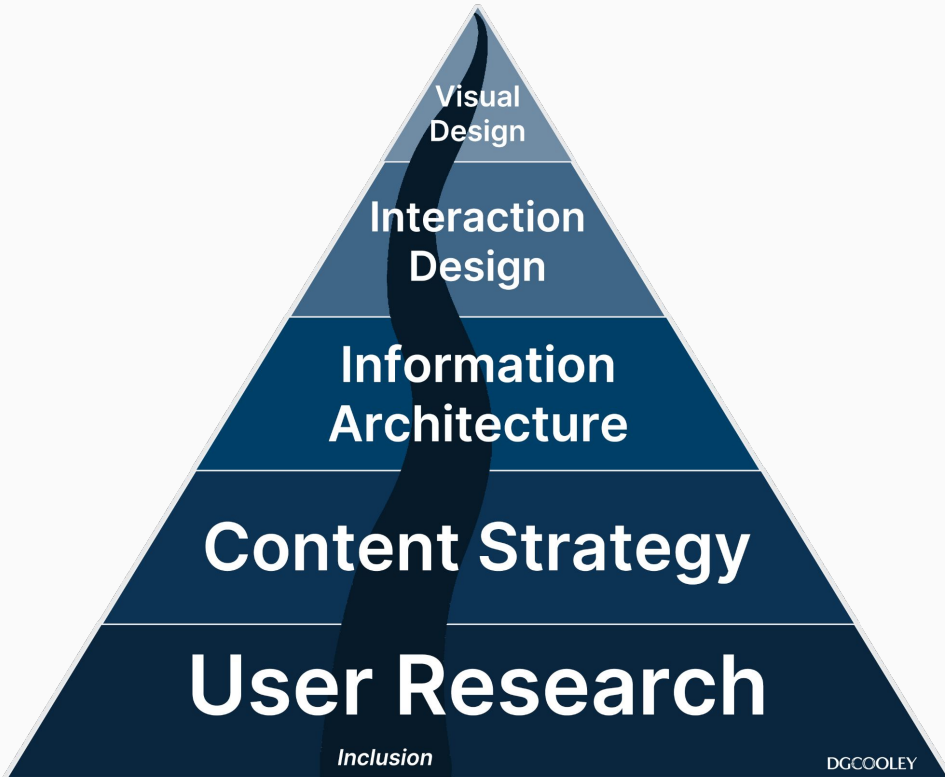
[Source](#)

Make me a drawing suitable for the cover of a pulp science-fiction magazine, showing a cowboy in a space suit on an airless planet with two red moons in the heavens.



User Experience Activities

Defining, designing and delivering good experiences is part art and part science.



Origin of Semantic Interaction Design (IxD) theory goes back decades!

Human Factors Cognitive Ergonomics:

- Task action grammar/Complexity models
- Reisner (1979)
- Spence and Apperley (1984)

+

Cognitive Science:

- Stages of Action (Norman 2015)
- Design by Levels (Foley 1995)
- Activity Theory (Nardi 1996)
- Consistency (Shneiderman 1988)

+

Computer Science

- Object-Oriented UI (Collins 1995)



Science starts here

Source

IT Infrastructure, Cloud Computing



Evaluate DevOps tools & vendors based on ease-of-use

Ease of Use and Learning Curve



The usability of the tools is critical. DevOps tools should empower your teams, not create additional complexity. A steep learning curve can slow down adoption and hinder productivity. Prioritize tools that are intuitive and well-documented.

[Source](#)

The screenshot displays the Octopussy v0.9.4 web interface. The top navigation bar includes 'File', 'Edit', 'View', 'History', 'Bookmarks', 'Tools', and 'Help'. The main content area is divided into several sections:

- System Configuration:** A sidebar menu with options like Alerts, Contacts, Devices, DeviceGroups, Locations, Maps, Messages, Reports, Scheduler, Services, Storages, Tables, TimePeriods, Users, Alerts Viewer, Logs Viewer, Reports Viewer, Logs Wizard, and Support Request.
- Octopussy v0.9.4:** A central panel showing system status, including CPU Usage (User: 2%, System: 0%, Idle: 98%), Memory Usage (435 M / 496 M (91%)), and Swap Usage (Load: 0.16). It also features a 'Check for Updates' button and a notification for '10 Alerts' and '119 Unknown Messages'.
- Daily Stats:** A line graph showing 'Logs by Device Type' over time. The Y-axis ranges from 0.2 k to 1.4 k. A significant spike is visible around 13:00.
- Log Summary Table:** A table listing various log types and their statistics. The table has columns for Name, Min, Average, and Max. The data is as follows:

Name	Min	Average	Max
Logs Desktop PC	0	0	0
Logs Firewall	0	0	0
Logs Load Balancer	0	0	0
Logs Mail Server	0	0	0
Logs Other	0	0	0
Logs Proxy	0	0	0
Logs Reverse Proxy	0	0	0
Logs Router	0	0	0
Logs Server	0	0	0
Logs Storage System	0	0	0
Logs Switch	0	0	0
Logs Unknown	0	0	0
Logs VPN-SSL Gateway	0	0	0
- Hourly Stats:** A section showing 'Total Events on Last Minute (200711142027) 7' and a table with columns for 'pcst' and '7'.
- Footer:** A small octopus logo and the text 'Done' and '127.0.0.1'.

Virtual & Augmented Reality

Testing usability (of content) with users



Source

AI (augmented intelligence)

Automate operational UX tasks, stimulate creativity



- Writing and editing, generating summaries
- Ideation and brainstorming, explore concepts
- Research and analysis, generating interview questions
- Content creation, draft documents like research plans
- Communication and collaboration, prepare for workshops

Source

The image shows a user profile card for 'Madame Bon Vivant'. It includes a profile picture of a woman at a restaurant table, a 'Goals' section, a 'Quote' section, a 'Demographic' section with filters for gender, age, location, and marital status, an 'Expectations' section with detailed text, a 'Motivations' section with a list of interests, a 'Frustrations' section with a list of pain points, a 'Channels' section with social media and review sites, and a 'Previous experience' section with dining history.

NAME # Madame Bon Vivant	
Goals To indulge in new and exciting culinary experiences at a high-end restaurant in Paris.	
Quote "Life is too short to eat boring food. I want to savor every moment and every bite."	
Demographic Female, 53 years, Paris, Married, Top manager	
Expectations <ul style="list-style-type: none">- Madame Bon Vivant expects a high level of service and attention to detail, including personalized recommendations and attentiveness from staff.- She prefers a sophisticated and elegant atmosphere, with a quiet and intimate ambiance.- Madame Bon Vivant expects a diverse and creative menu, with high-quality ingredients and presentation.- She prefers to communicate through email or phone, with a professional and courteous tone.- Madame Bon Vivant expects to feel pampered and indulged throughout her dining experience.	
Motivations <ul style="list-style-type: none">- Trying new and unique culinary experiences- Enjoying high-quality food and wine- Networking and entertaining business partners and friends- Feeling pampered and indulged- Experiencing excellent service and a sophisticated atmosphere	Frustrations <ul style="list-style-type: none">- Long wait times for a table- Poor service, such as inattentive staff or slow food delivery- Limited menu options or lack of creativity in dishes- Noisy or overcrowded atmosphere- Overpriced or poor quality food and drinks
Channels <ul style="list-style-type: none">- Social media platforms, such as Instagram and Facebook, to discover new restaurants and share experiences- Online restaurant review websites, such as TripAdvisor or Yelp, to research and compare restaurants- Recommendations from friends, colleagues, and business partners- Conclude services from luxury hotels or travel agencies	Previous experience <ul style="list-style-type: none">- Madame Bon Vivant has dined at many high-end restaurants in Paris, including Michelin-starred establishments.- She has had positive experiences at restaurants with unique and creative menus, excellent service, and a sophisticated atmosphere.- However, she has also had negative experiences with poor service, overpriced or poor quality food, and noisy or overcrowded atmospheres.

Organizational Capabilities

Managing customer, employee, and other experiences



Conceptual Levels for Design Organizations

10,000 ft



The Big Picture

Integrated view of company's entire offering, brand personality traits, business strategy

1,000 ft



Strategy

Requirements, briefs, desired results, connecting product and business value, planning, vision, campaign concepts

100 ft



Structure

Flows, service blueprints, wireframes, wayfinding, navigation, brand standards and guidelines, visual language

10 ft



Surface

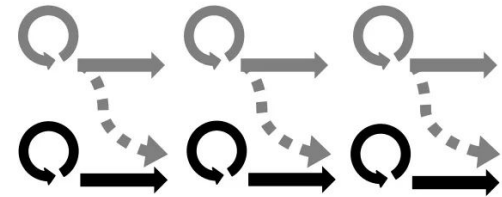
Typography, color, layout, interface design, spacing, animation, transitions

1 ft



Dual-Track Agile

Discovery Track

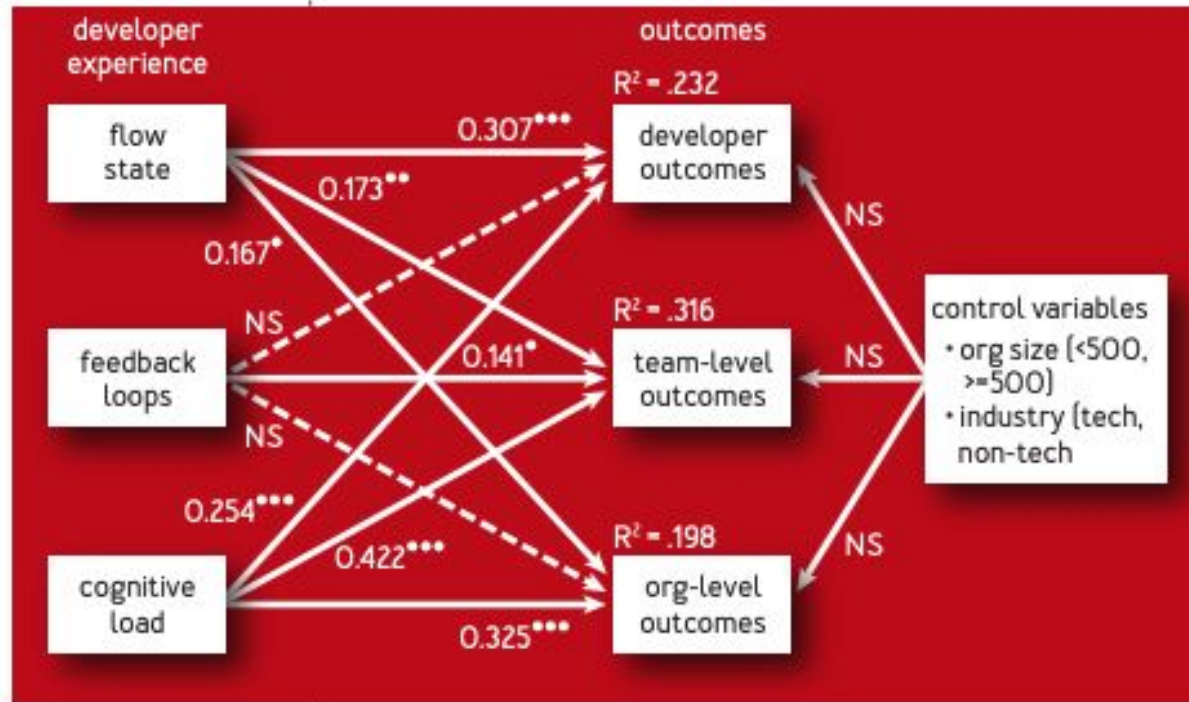


Delivery Track

[Source](#)

IT Infrastructure

IT teams designing experiences for IT teams



* - p < 0.05
** - p < 0.01

*** - p < 0.001
NS - not significant

[Source](#)

Flow: Being in the zone

Feedback: Approving changes

Load: Intuitive tools

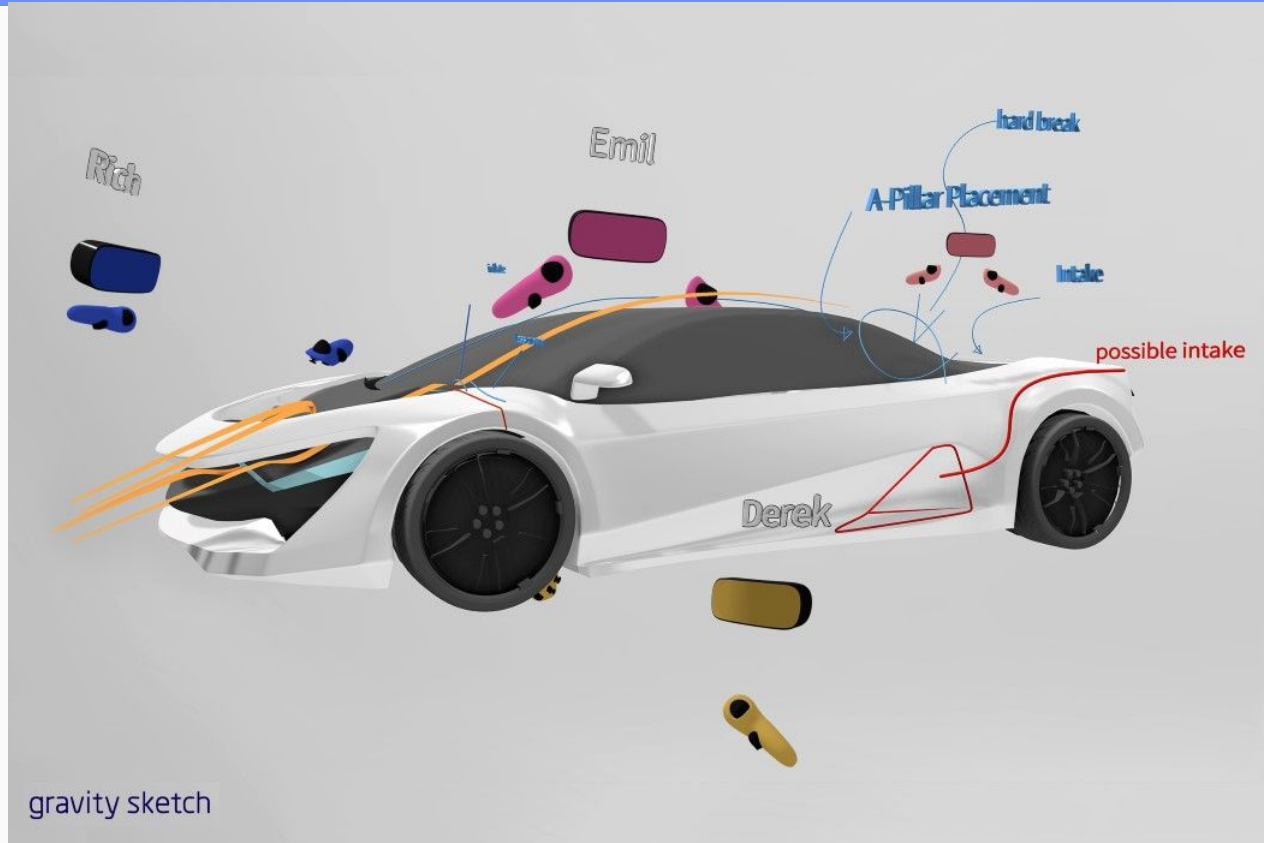
Virtual Reality

Using VR to change the way designers collaborate



Create and collaborate in one virtual space

Sketch ideas, build models, and review designs in a collaborative virtual studio, joinable from VR or desktop. Talk through design decisions in real-time and leave targeted feedback directly on the model with sketching and text tools.



AI



Automated personalized experiences & new “Moment of truth”

What are the most important business benefits to your organization of responsible AI?

Provides better customer experiences

74%

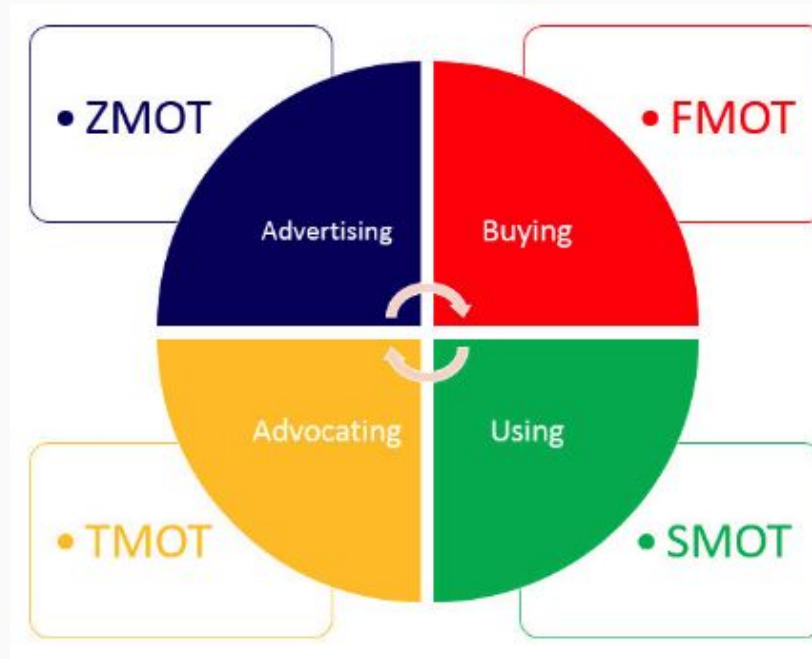
Creates new revenue opportunities

69%

Protects brand equity/
minimizes reputational risk

63%

[Source](#)

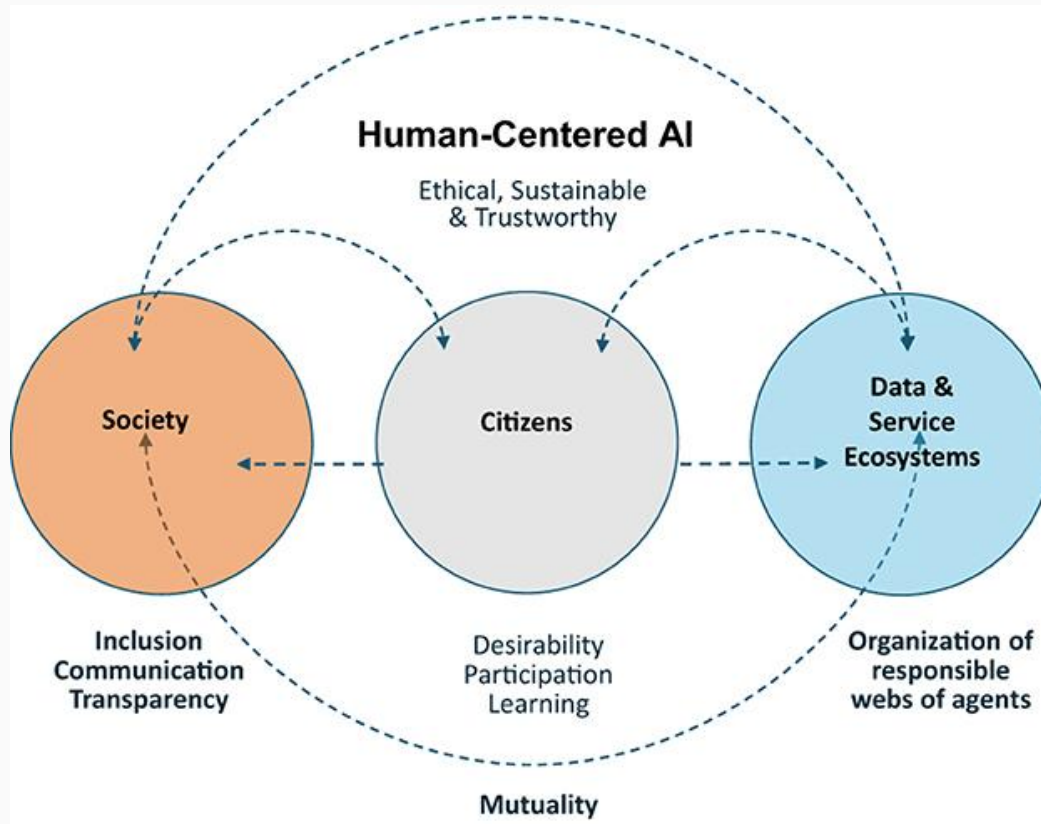


Prompted Moment of Truth
We're entering a new phase of marketing and retail where a solitary AI-generated response holds the power to significantly influence a consumer's purchase decision

[Source](#)

UX Communities

Cross-disciplinary fields to design AI at a societal level



[Source](#)



IT

VR

AI

Impressions
Users

Fix back end

Natural
gestures

Specify
outcomes

Activities
Researchers, Designers

Usable tools

Usable spaces

Augmented
design

Capabilities
Business Leaders, Managers

Efficient
workflows

Collaboration

Business
disruption

Communities
Teachers, Learners

Multi-disciplinary



Thanks!
Keith Instone
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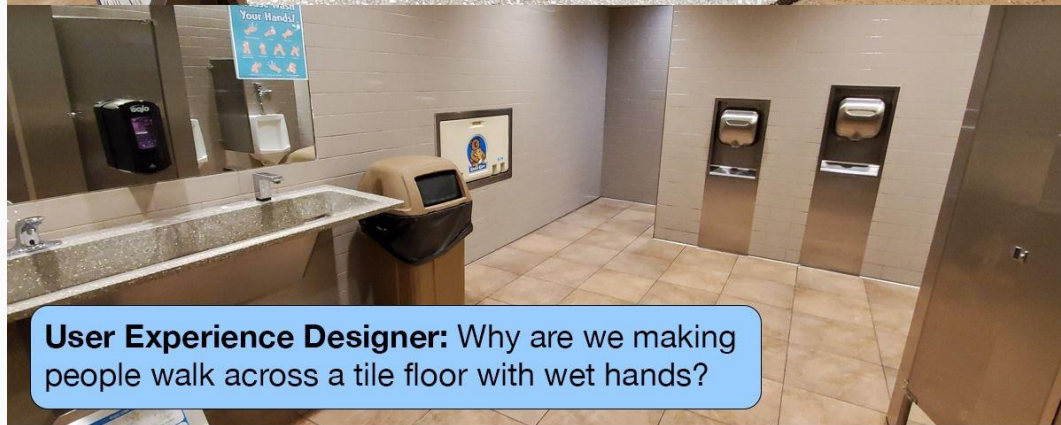
Slides:
<https://dexterityux.com/ux-frontiers-at-twp/>

Design disciplines explained.



Visual Designer: Why don't the faucets match?

User Interface Designer: How do I control the temperature?



User Experience Designer: Why are we making people walk across a tile floor with wet hands?