Smashing Ideas

Applying design thinking to AI solution development

October 2020

smashing ideas

Smashing Ideas Offerings

Business Design

- Digital roadmaps
- Business modeling
- Revenue optimization
- Opportunity analysis
- Business intelligence

Research & Insights

- UX research (1:1 or at scale)
- Observation rooms/lab studies
- Instrumented pilot programs
- Baseline & competitive testing
- Market segmentation
- User journey mapping
- Data-driven behavioral archetypes
- Evidence to support claims
- Protocols for regulatory compliance

Experience & Product Design

- Motivational User Experience Design (MUX)
- UX & UI design
- Use-case scenarios
- Information architecture
- Rapid prototyping & proofs of concept
- User flows and wireframes
- Interaction design
- Design language systems s
- Animation & Motion graphics
- Visual identity
- AR/VR/MR design

Tech Strategy & Implementation

- Human-Centered Engineering
- Blockchain strategy
- AI/ML strategy
- Digital customer experience platform strategy & implementation
- iOS & Android development
- AR/VR/MR development
- Progressive Web App (PWA) & movie site development
- Web service & API development

Data & Customer Analytics

- Analytics vision & strategy
- Data science
- IOT analytics
- Behavior-based personas

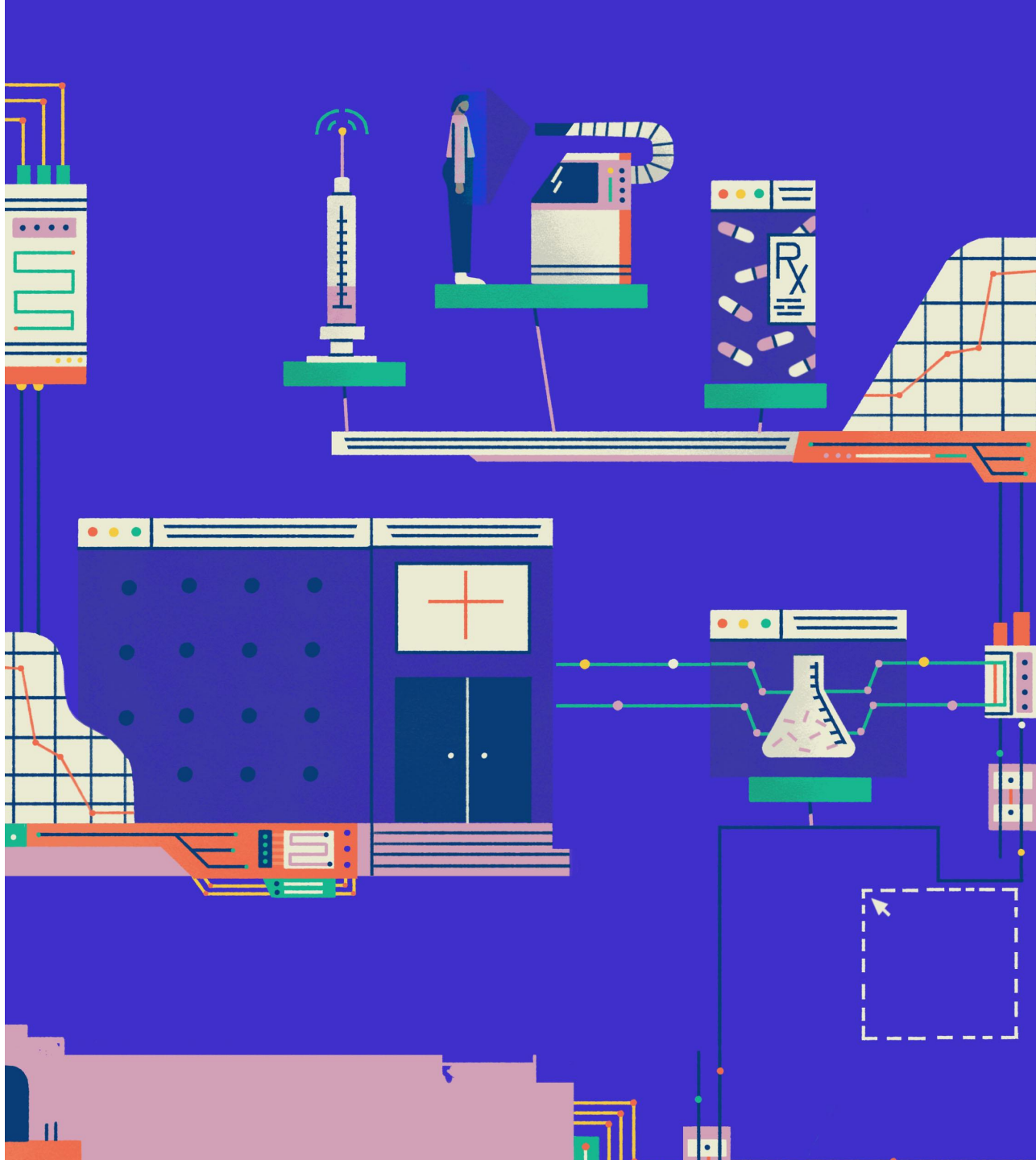
Motivational UX™

Art and science

Motivational UX™ is a customer-centric approach to innovation that applies decades of multi-disciplinary research in behavioral psychology, user experience, and game design thinking to technology solutions, giving client’s a strategic edge over their competition.


9
PRINCIPLES
ADAPTIVE
I want a product that works for me
Create content-aware products
SELF-EXPRESSION
I want to make a product my own
Let people showcase their uniqueness
EXPLORATION
I want to be amazed
Create moments of delight and curiosity
CHALLENGE & REWARD
I want to master a skill
Let people compete with themselves and others
AESTHETICS
I want a unique and beautiful experience
Appeal to our human senses
DECISION-MAKING
I want to be empowered in my choice
Provide easy and simple points of choice
BELONGING
I want to be part of something bigger
Encourage connections and comparisons with others
REPEATED ENGAGEMENT
I want to do that again
Let people build and enhance experiences
CONTENT & STORY
I want an emotional connection
Create narrative to influence, educate and entertain

“Why should we practice a people-centered approach to AI?”



Useful and Usable AI

1

1950s – 1970s
Focused on technological advancements like knowledge inference, production systems and preliminary expert systems. Human needs left unsatisfied

2

1980s – 1990s
Focused on technological advancements like statistical models in speech recognition and machine translation, artificial neural networks. Human needs left unsatisfied.

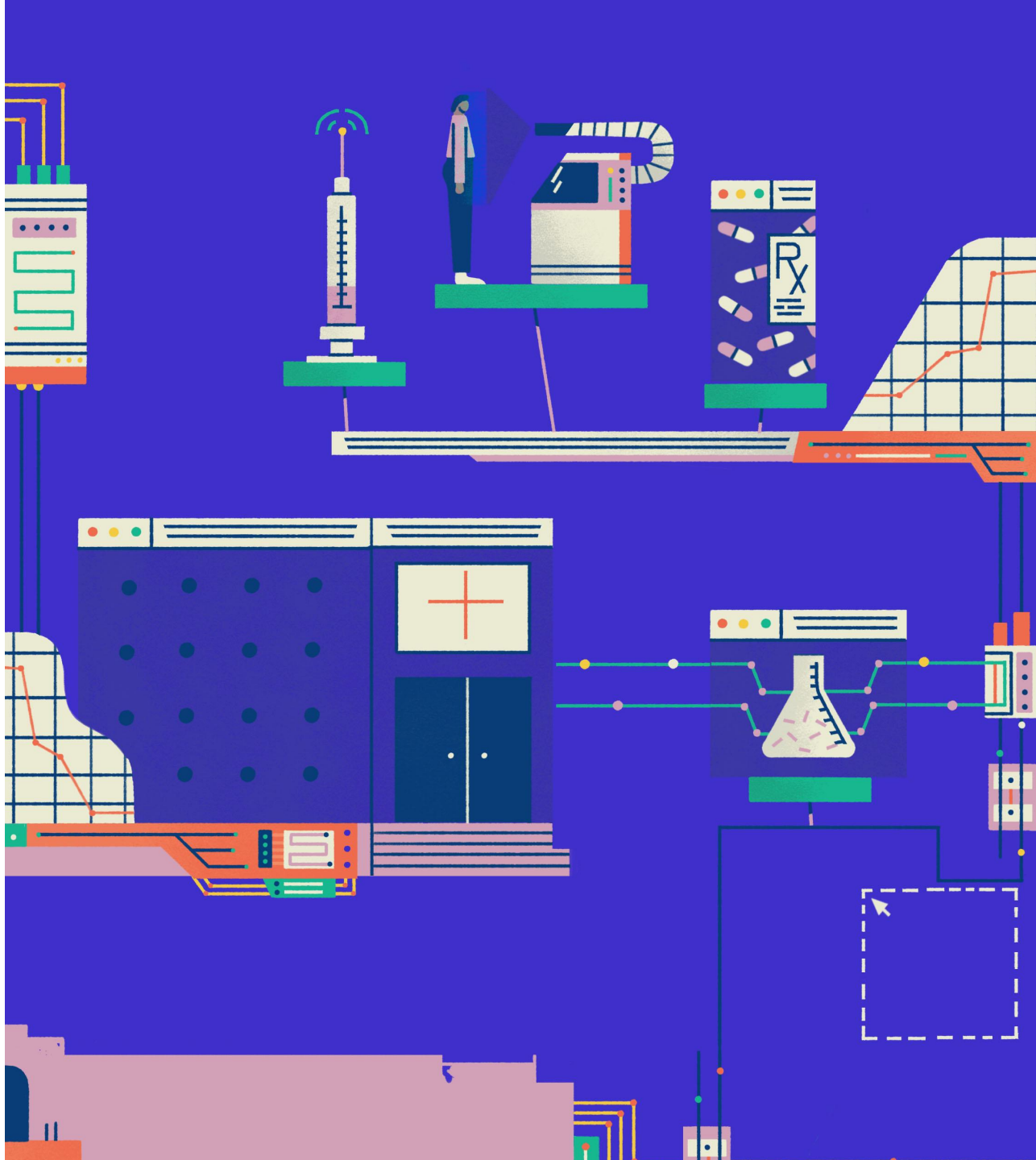
3

2006 – Present
Breakthrough in applications of deep learning. Starting to provide useful and real problem-solving AI solutions through the use of human-centered and ethical design approaches.

The first two AI waves failed not only because they lacked mature technologies but also because they left human needs unsatisfied.

Human-Centered Design and Design Thinking professionals are good at identifying usage scenarios based on methods such as ethnographic studies and contextual inquiries, and helping mine user needs, behavioral patterns, and usage scenarios.

“How do we practice a people-centered approach to AI?”



Design Thinking Is A Human-centered Process

Design Thinking starts with the people we're designing for and ends with new solutions that are purpose-built to suit their needs.

Problem Space

Aim: Discovering and defining problems to be solved

Solution Space

Aim: Develop solutions to problems

Observe & Learn

See and experience the world through the end users' eyes

Frame Insights

Determine where to make the biggest impact

Explore Solutions

Generate and refine new ideas to satisfy end user needs

Validate & Optimize

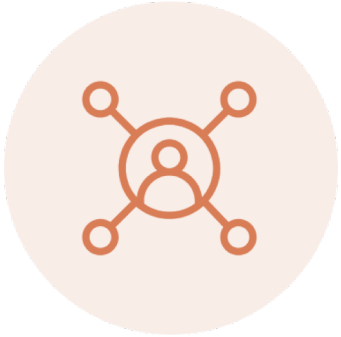
Test concepts and prototypes with users to evaluate the proposed solutions

Realize Value

Gain support and ensure the solutions are implemented successfully

Problem Space

Discovering and defining problems to be solved



Observe & Learn

When a problem is presented, we use a variety of inquiry activities to understand the current state. This gives us a broad perspective on macro-trends, human behaviors, and business and technical needs.

Frame Insights

We identify patterns from our research and visualize complex systems to communicate a shared understanding of the problem, and then we translate our research into actionable insights.

Solution Space

Developing solutions to problems

Explore Solutions

Before settling on a solution, we conceive, mature, and prioritize many ideas through a structured approach while maintaining a focus and sense of direction on the problem.

Validate & Optimize

We minimize risk by iteratively testing hypotheses and assumptions and we use test results to inform strategy and refine the direction of the solution.

Realize Value

At the time of implementation planning and delivery, we convey the value of our innovative solutions to stakeholders and end users to gain support and ensure that our solutions are implemented successfully.

Applying Design Thinking to the AI Development Process

Problem Space

Aim: Discovering and defining problems to be solved

Solution Space

Aim: Develop solutions to problems

Observe & Learn

Observe and translate user needs into data

Frame Problem

Frame the problem and AI's unique value

Explore Solutions

Develop potential AI solutions

Validate & Optimize

Test "wizard of Oz" prototype with users to evaluate the proposed solutions

Realize Value

Gain support and ensure the solutions are implemented successfully

Observing & Learning

In the Observe and Learn stage, our goal is to gain a broad understanding of the many aspects that influence and impact the problem we're asked to solve. We use a variety of inquiry methods and activities to explore the domain, understand the business context, and understand the people involved.

Popular Methods

Name	Description
Stakeholder and User Interviews	Interviews are a useful way for understanding other people's perspectives as they pertain to the problem you intend to solve.
Assumptions and Non-Negotiables Brainstorm	Brainstorming the working assumptions about a problem is a rapid way to bring out all the beliefs and possible limits as you seek to understand the problem in context.
Heuristic Mark-up (or UX audit)	A heuristic mark-up is used to evaluate how a user might experience an offering from start to finish
Stakeholder Mapping	We create stakeholder maps to visualize the comprehensive system of people concerned with defining and delivering the solution, from business sponsors to end users.
Market Research	We collect and synthesize research from a variety of sources to understand the many facets that make up our problem spaces.

Framing the Problem

During the Framing the Problem stage, we identify patterns from our research to form insights that communicate a shared understanding of the problem. Our goal is to understand root causes and effects and to match up human needs with business problems.

Popular Methods

Name	Description
Behavioral Archetypes	Steeped in user behavior, behavioral archetypes focus on a group's needs, motivations, and pain points and capture how they think, feel and act in particular scenarios.
Journey Maps	Journey maps are narratives that are used to create a shared understanding of the mindsets, thoughts, and emotions of a customer or user type throughout a chronological journey.
Relationship Maps	Visual frameworks, diagrams, and maps can help put order to our observations and synthesize our insights, including offering a high-level view of physical or abstract things and their relationships to each other.
Insights Sorting	Insights sorting is a group activity to reveal patterns in group research.
Insights Summary	The insights summary brings together your key findings and insights and bridges the transition from research to ideation.

Cross-cutting Guiding Principles

Failure and Control

- Make it easy to invoke or request the AI system's services when needed.
- Make it easy to dismiss or ignore undesired AI system services.
- Make it easy to edit, refine, or recover when the AI system is wrong.
- Allow the user to globally customize what the AI system monitors and how it behaves.

Privacy and Personalization

- Time when to act or interrupt based on the user's current task and environment.
- Display information relevant to the user's current task and environment.
- Ensure the experience is delivered in a way that users would expect, given their social and cultural context.

Bias and Fairness

- Ensure the AI system's language and behaviors do not reinforce undesirable and unfair stereotypes and biases.
- Ensure the selection of data is done in such a way that the sample is representative of the population

Transparency and Accountability

- Make clear what the system can do.
- Make clear how well the system can do what it can do.
- Enable the user to access an explanation of why the AI system behaved as it did.
- Enable the user to provide feedback indicating their preferences during regular interaction with the AI system.

Activity: Observe And Learn

Objective: Create a concrete, actionable list of AI opportunities —organized by priority and viability.

Instructions: Individually or as a team, look at existing research and evidence that detail the user need you are trying to solve and document them in the fields provided

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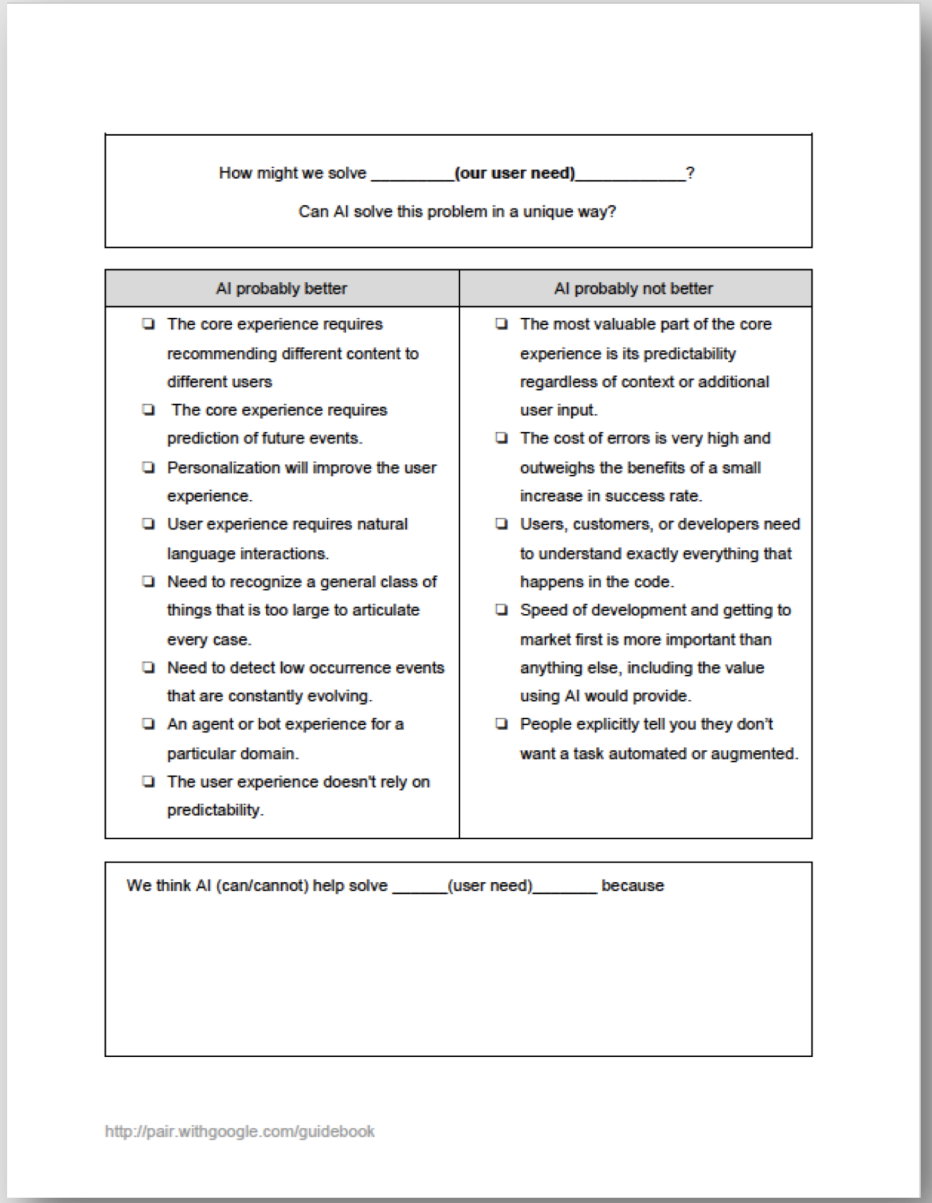

How might we solve _____**(our user need)**_____?

Can AI solve this problem in a unique way?

AI probably better	AI probably not better
❑ The core experience requires recommending different content to different users ❑ The core experience requires prediction of future events. ❑ Personalization will improve the user experience. ❑ User experience requires natural language interactions. ❑ Need to recognize a general class of things that is too large to articulate every case. ❑ Need to detect low occurrence events that are constantly evolving. ❑ An agent or bot experience for a particular domain. ❑ The user experience doesn't rely on predictability.	❑ The most valuable part of the core experience is its predictability regardless of context or additional user input. ❑ The cost of errors is very high and outweighs the benefits of a small increase in success rate. ❑ Users, customers, or developers need to understand exactly everything that happens in the code. ❑ Speed of development and getting to market first is more important than anything else, including the value using AI would provide. ❑ People explicitly tell you they don't want a task automated or augmented.

We think AI (can/cannot) help solve _____(user need)_____ because

http://pair.withgoogle.com/guidebook

Activity: Frame the Problem

Objective: Reflect on your AI transformation from the point of view of the people who will be impacted first

Instructions: Use the brainstorm from the previous activity to fill out the building blocks of this canvas for one idea.

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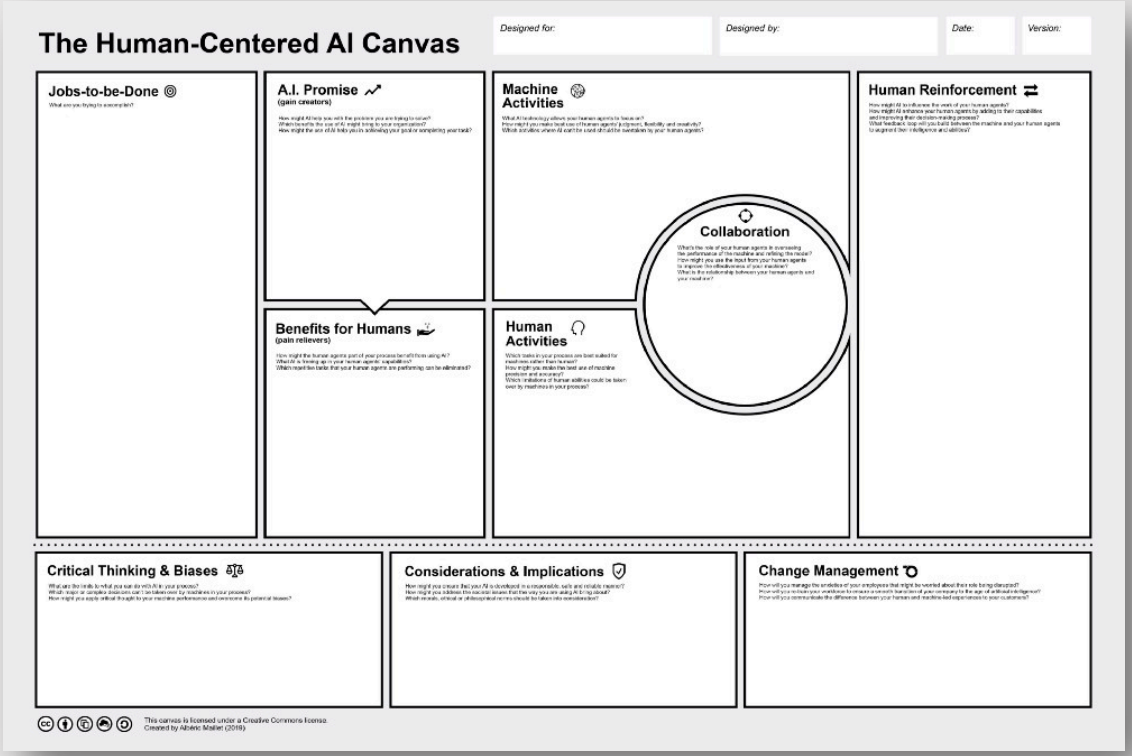

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