



Design for

ARTIFICIAL INTELLIGENCE

Partnering technology to design to drive the organization towards an ‘AI-first’ future.

Goals



Identifying Impactful AI
use cases within the
organization

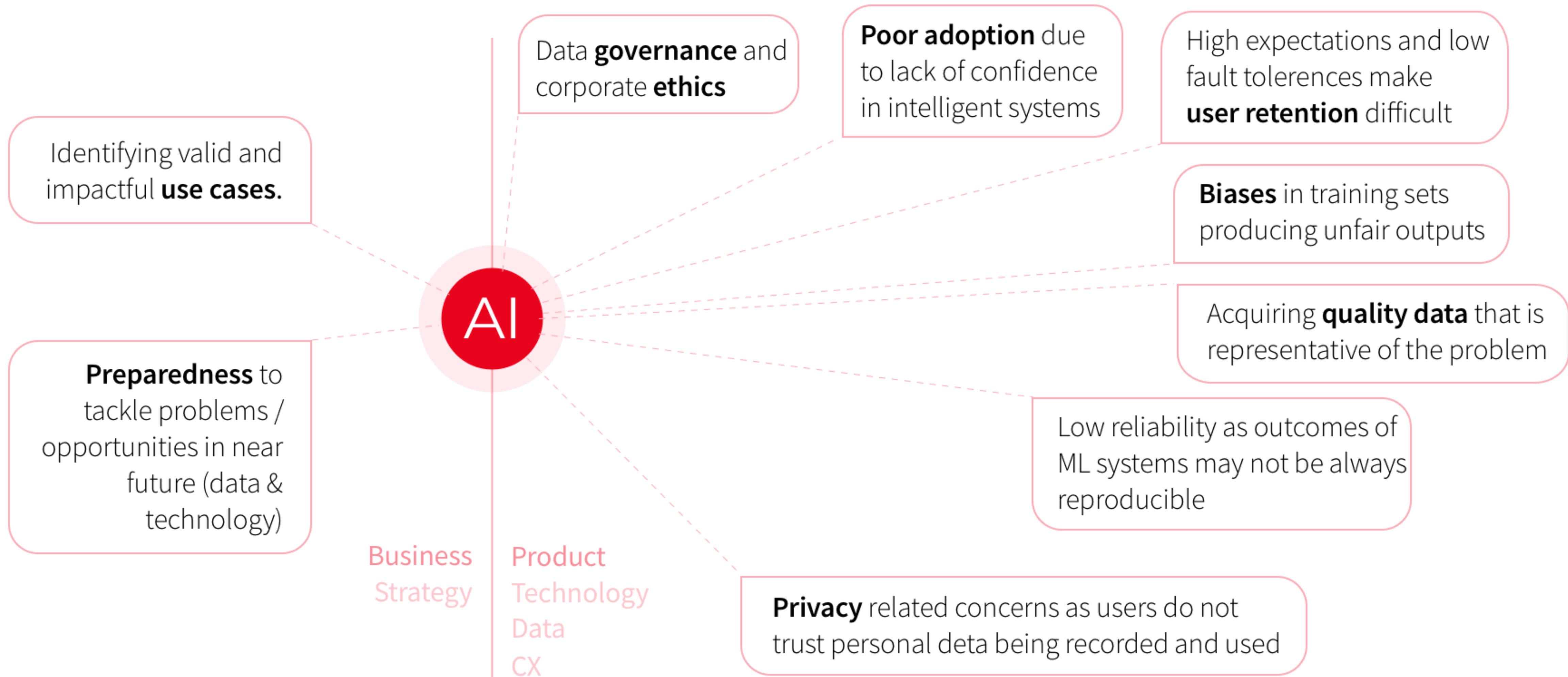


Partnering with
development teams to
deliver effective and
explainable solutions.



Creating convenient,
frictionless user
experiences

But there are several **challenges** slowing down organizations:



Why Design?

Improving customer/ employee experience or operational efficiency requires a deep understanding of the people and processes involved. Such an understanding is the corner stone of design thinking.

The challenges discussed earlier are mostly qualitative in nature. Hence mathematical and algorithmic approaches will not always be the solution.

Human +Machine

Bringing in the human factor to deliver meaningful solutions

Being AI- Ready

Transforming the organization for full scale AI capabilities

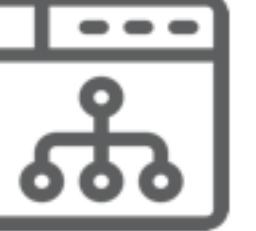
Guiding Intelligence

Moving from data to good data

Trust & Transparency

Creating explainable and ethical AI systems

Framework

						
	Phase 1 - Design Research	Phase 2 - Design for Data Quality	Phase 3 - User Experience Design	Phase 4 - Evaluation (post release)		
 Description	Understanding the business context and conducting in depth user research to identify right problems to focus on	Design mechanics to acquire quality data, checks bias arising from human factors and provide insights to improve feature engineering	Designing the user experience and interface with emphasis on trust, explainability and transparency.	Collecting feedbacks from real users and iterating to improve the user experience.		
 Duration	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●		
 Stakeholder Involvement	Business Unit Users	● ● ● ●	Data Scientists Developers	● ● ● ●	Users Developers	● ● ● ●

Our Methodology

Phase 1 - Design Research

Addressing the Human Factor



Who is the end user of the predictive system?

What are we trying to do for the end user of the system?

What objectives are we serving

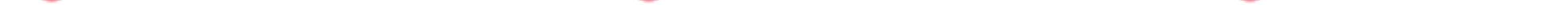
Why is it important?

Understanding the wide range of possible behaviours, expectations, responses and inhibitions due to the diversity of target users.

Phase 2 - Learning & Predictions



USE CASE - BRIEF DESIGNING HUMAN MACHINE FEEDBACK LOOP IDENTIFYING DATA SOURCES THAT ARE REPRESENTATIVE OF THE PROBLEM TO BE SOLVED DESIGNING DATA COLLECTION MECHANISMS TO EFFECTIVELY CAPTURE USER GENERATED DATA ESTABLISHING GUIDELINES TO FILTER THE DATA -HOW A THEORETICAL HUMAN EXPERT WOULD PRIORITIZE DATA? DESIGN **FILTERS TO ELIMINATE BIASES** (CULTURAL, SOCIAL, ECONOMIC, SKILL RELATED)



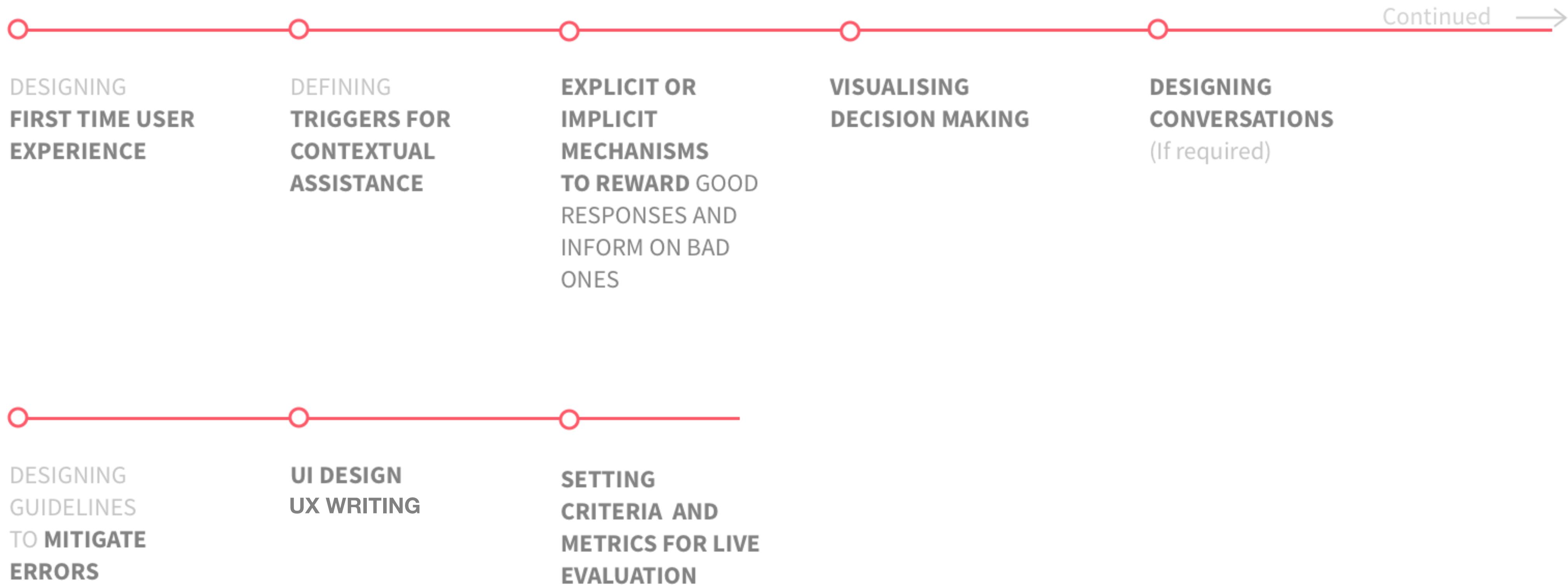
PRIORITIZING FEATURES USING INSIGHTS & DOMAIN KNOWLEDGE FROM PHASE 1 + ASSISTING DATA SCIENTISTS FEATURE ENGINEERING **MAPPING PREDICTIONS TO DECISIONS** THAT PROVIDE VALUE TO END USERS **SETTING CRITERIA FOR OFFLINE EVALUATION**

BASED INSIGHTS FROM RESEARCH & ETHNOGRAPHIC STUDIES IN PHASE 1

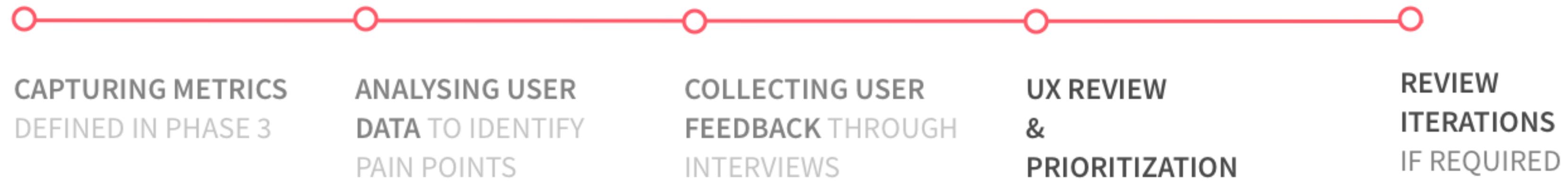
Phase 2 Artefact - ML Canvas

DECISIONS How are predictions used to make decisions that provide the proposed value to end users?	ML TASK Input, output to predict, type of problem	VALUE PROPOSITIONS What are the problems being solved and the objectives being served. What can the end users expect from the ML system?	DATA SOURCES Possible data sources that are representative of the problem being solved	DATA COLLECTION Methods to generate/collect data
PREDICTIONS When to use new inputs and how long to featurize?	OFFLINE EVALUATION Methods and checks to evaluate before deployment	FEATURES Possible data sources that are representative of the problem being solved	BUILDING MODELS When and how frequently models should be created/updated with new data?	
LIVE EVALUATION & MONITORING Methods and checks to evaluate after deployment				

Phase 3 - The experience



Phase 4 - User Testing



Engagement Triggers

PHASE 1

- A use case was identified? Is it a problem worth solving?
- Is AI an effective solution to the identified use case?
- AI is an effective solution to a particular use case?
- How to capture the domain knowledge of an expert human user into the solution?
- What are the expectations of the end users and the business units?
- What objectives should be served to the end users of the system?
- Will the end users be convinced to accept AI/ML as a solution?
- What could be the possible challenges in users accepting the solution?

PHASE 2

- Is the data representative of the exact problem being solved?
- What are the inherent biases in the data source?
- How to filter out the detected biases?
- Are social, economic, geographic and cultural factors affecting the data?
- Are there imperfections in the system which generated the data going to affect the new model?
- What are the available strategies to acquire data from users?
- How to incentivize users to behave in ways that enforces the human-machine feedback loop?
- What are the right set of features to be used?

PHASE 3

- How to set the right expectations to the user?
- How to familiarize users with the capabilities of the new platform?
- What happens if the system is not able to produce the desired output?
- How can be the confidence of an output be conveyed to the user? Should it be communicated?
- What were the determining factors for the output? How can this be explained to the user?

THANK YOU
