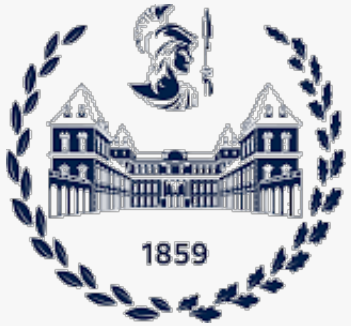
FONDAZIONE links
PASSION FOR INNOVATION



Politecnico di Torino

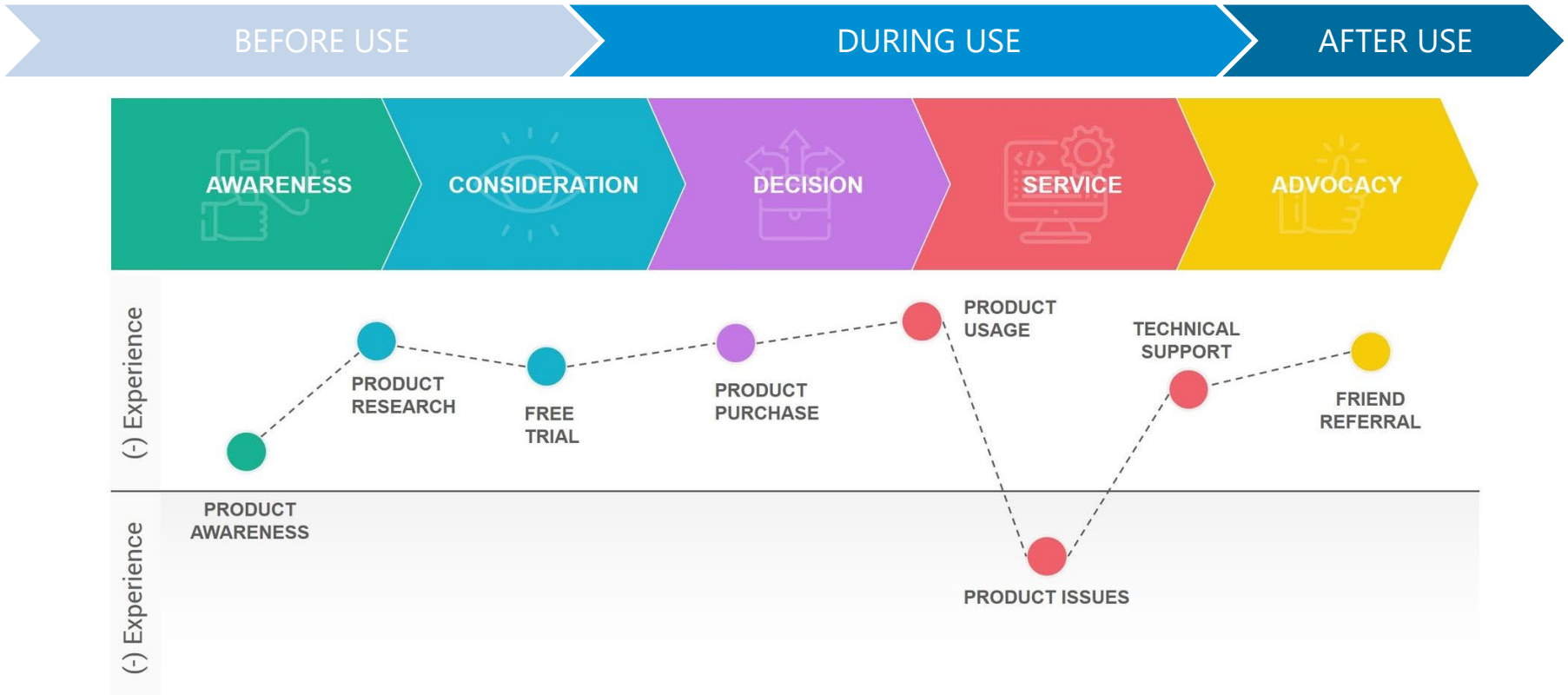
Applied Data Science Project

L 19 – The User Journey (hands on)

A.A.2023/2024

The experience of a service…

- is made of the events in which we **interact** with the world
- happens in a complex **context** (anticipation)
- implies **points of contact** (human, technological, symbolic, ...)
- has a **duration**, lasting over the specific event (memories)

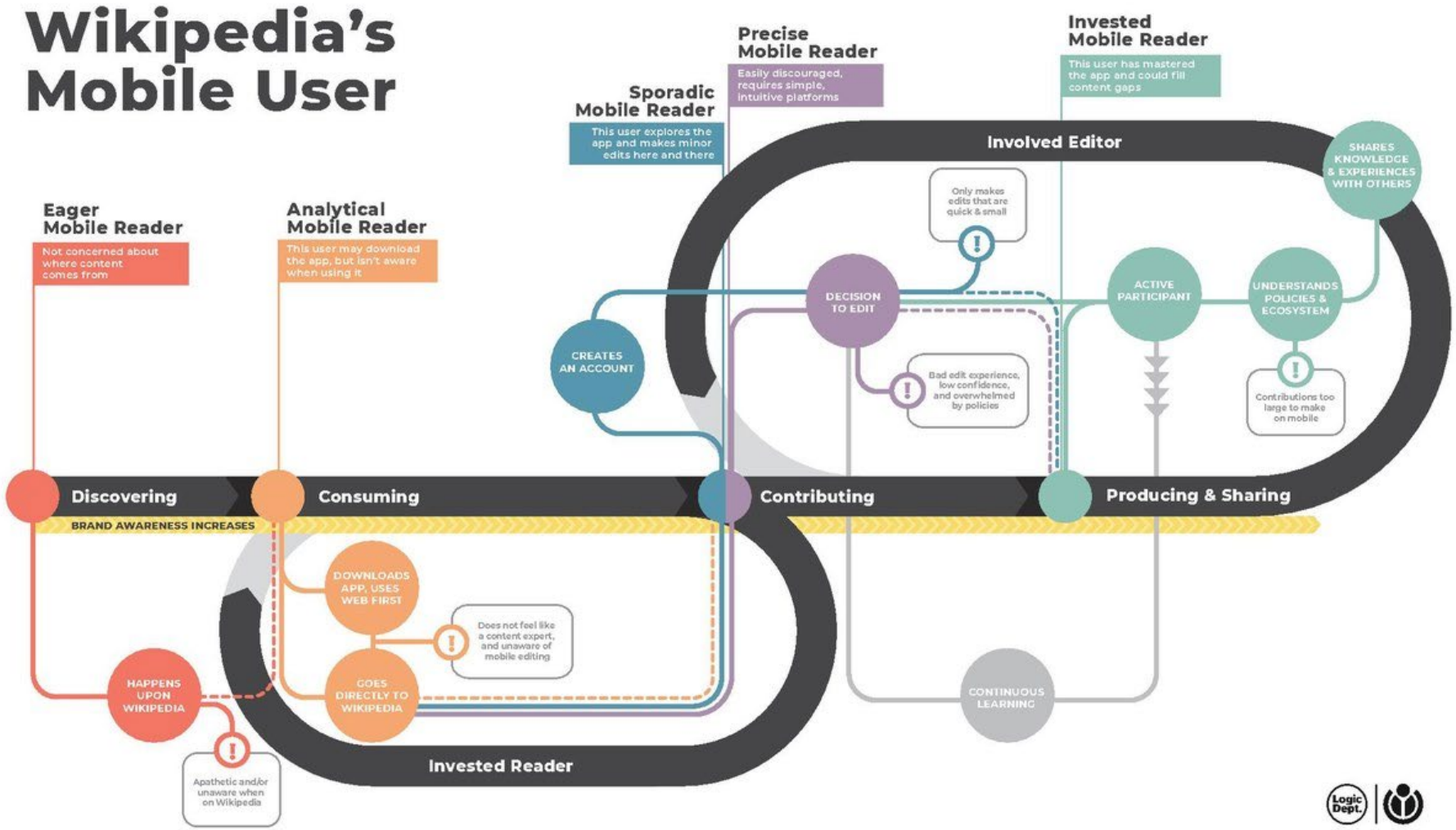


The journey

The User Journey represent the usage of a service

- As a **sequence of steps**
- From the **user's point of view**

It can represent both the current process and envisage a new process, helping to visualise the differences between solutions.



It allows us to understand better the context of the human action:
Goals, Data already available, parallel tasks, interruptions, errors
→ **All these factors affect the output**

Human Activity Theory

Human activity is described as a hierarchical system where **each activity includes** a **set of actions** which in turn includes a **set of operations**.

ACTIVITY:
reasoned practices which **determine** a spectrum of possible actions

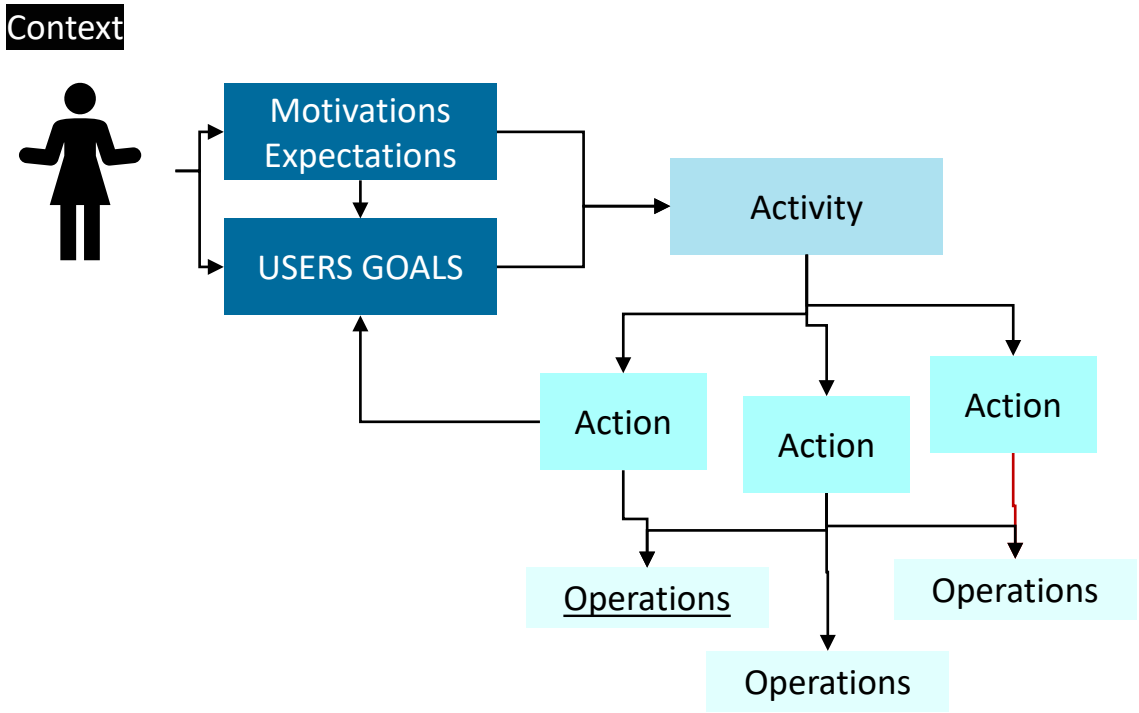
› Activities always respond to motivations

ACTIONS:
also described as Tasks, are purpose-oriented conscious and planned behaviors

› Actions refer to objectives

OPERATIONS:
specific motor chains, determined at a lower level, often performed automatically (sign activity, signal discrimination, ...)

› Operations are influenced by conditions.



Leont'ev, A.N. Activity, Consciousness, and Personality., 1978
Norman, D. Cognitive artefacts. In J. Carroll, ed., Designing Interaction: Psychology at the Human Computer Interface. New York: Cambridge University Press, 1991

MOTIVATIONS

GOAL

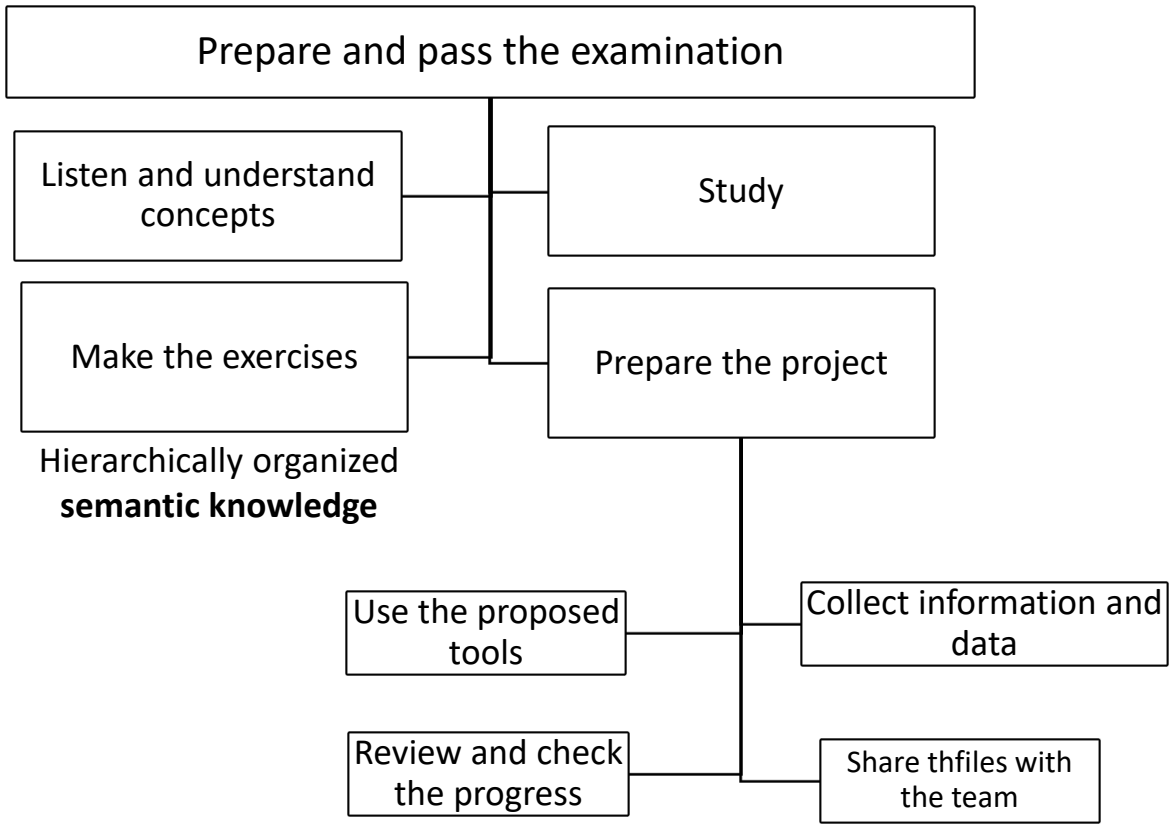
- Start a career as a Data scientist
- Reach the Master's degree

Activity

Actions

Sub-actions

Operations



Hierarchically organized
semantic knowledge

Procedural knowledge
(different per tool and varying over time with the practice

FONDAZIONE links PASSION FOR INNOVATION

Politecnico di Torino 1859

Skill-Rule-Knowledge Framework

Automatic

Skills

Less challenging behaviours in terms of **cognitive resources** and active control, these established routines are based on stable patterns called skill-driven behaviours.

Rules

More complex activities requiring the active involvement of the person that spends more cognitive resources to apply rules.

Knowledge

Finally, when the situation is new or critical
(high severity of **consequences** in case the situation is not properly managed) or complex (that is, a very large number of **variables or alternatives** to consider), additional cognitive resources such as problem-solving and decision-making, support knowledge-based behaviors, are required to get to the solution.

Aware

Rasmussen, J. Information Processing and Human-Machine Interaction: An Approach to Cognitive Engineering. New York: North Holland, 1986.

The data supports the 2 cognitive systems

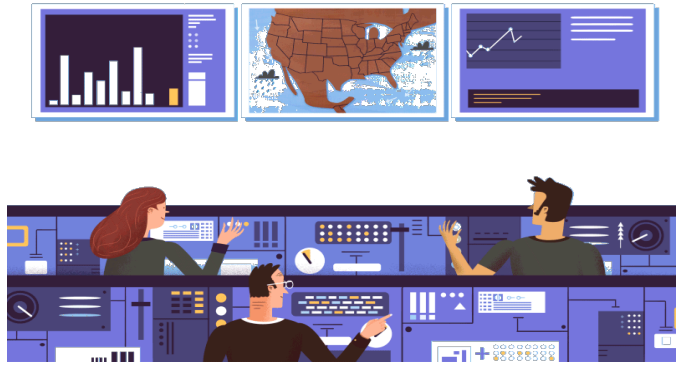
INTUITIVE ACTION
It's based on **procedural memory**.
It is reinforced by the **repetition** that fixes the motor behavioural patterns (habits, automatic operations).

In this situation,
INTUITION generates impressions on perceived or thought objects. Actions are **quick, economical**, not always **conscious**.

REASONED ACTION
It is based on previous experience, reflexive observation,
On heuristics (empirical rules)

In this situation,
REASONING generates judgments, which are: slow, expensive, intentional

The technical context affects the cognitive processes



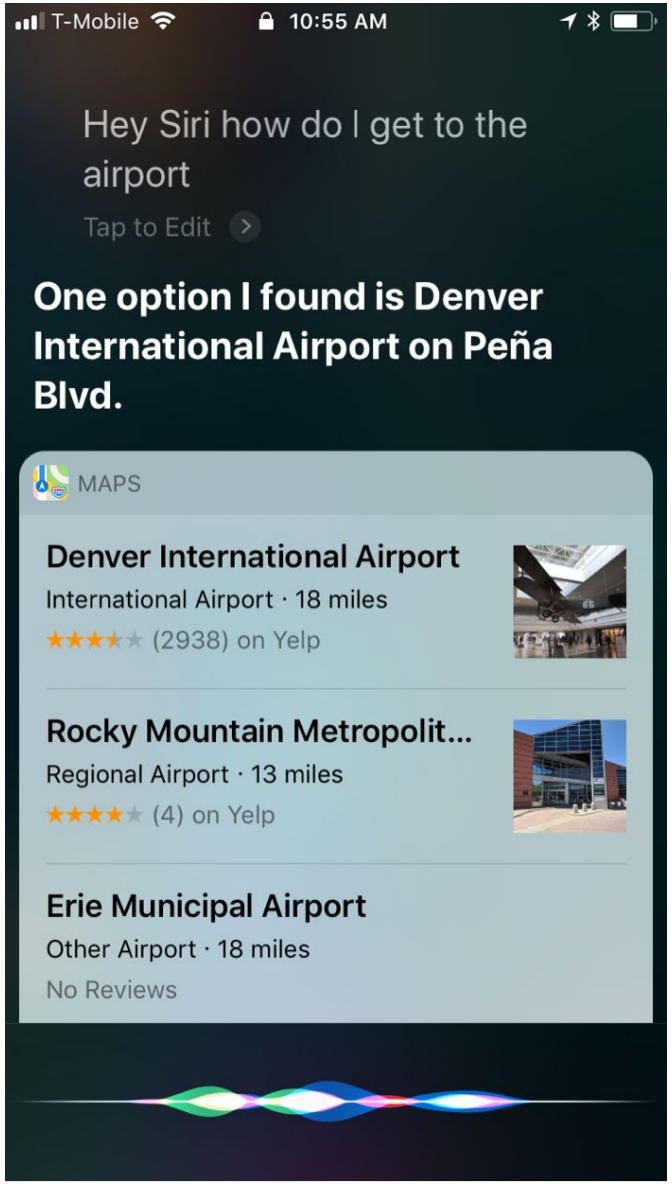
Kahneman, D. Pensiero Lento, Pensiero Veloce. Mondadori, 2011
Benyon, D. Progettare l'interazione. Pearson, 2021 (cap. 13).

Demanding outputs

People often use voice assistants while performing other activities
(e.g. while driving)
when their hands and eyes are busy.

Siri or Google Assistant show results on your phone screen instead of reading them out loud.

- What effects can this approach bring?



We prototype user activity before the solution

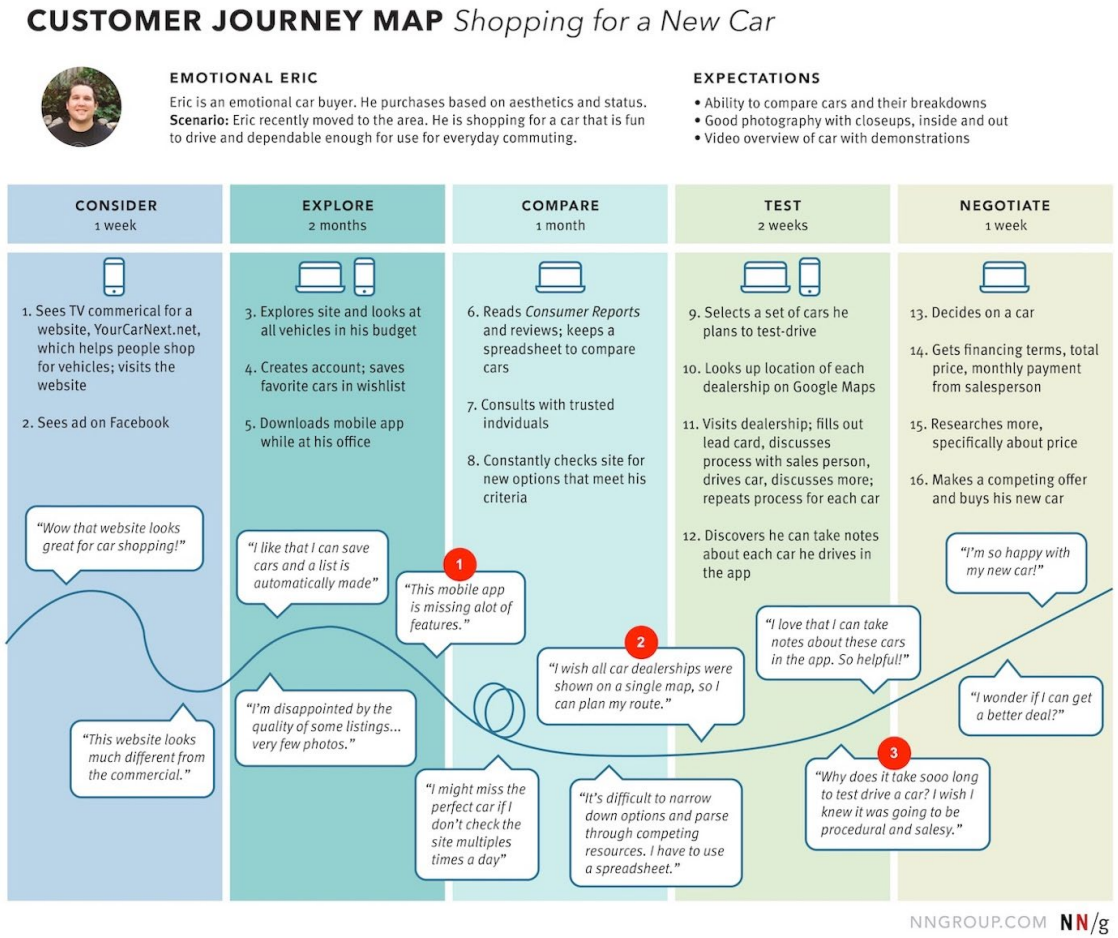
The **user experience** is the result of a **process** that provides value to the end user, the customer. This process is a set of interrelated activities (**decisions and actions**) needed to achieve a predefined and measurable goal (the service).

We model the solution on the current activities and tasks to:

- comply with the **human expectations**, **priorities** and **needs**
- prevent **interferences**
- prevent **human errors**
- To decide **which data** we can collect, sort, process, display and how to design the enabling functionalities, needed to support these actions.

The User journey is the starting point of the User Requirements Engineering Process.

(The experience flows are almost always **UI-independent)**



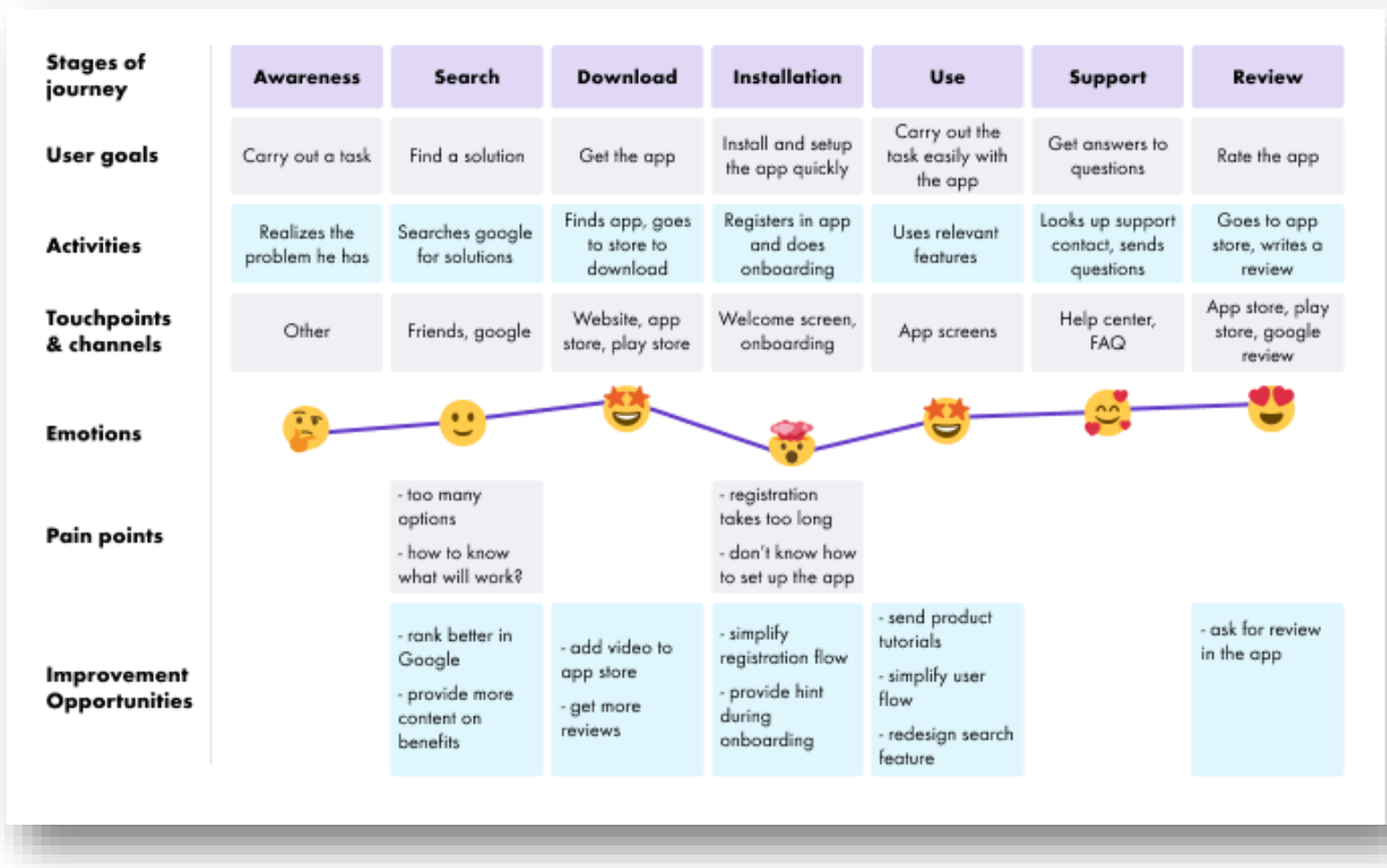
The user journey

The user journey describes the experience of a service from the users' perspective (journey of the user Persona).
Like the Personas, the User Journey is a **heuristic model that helps to define, design and refine the conceptual model and then the system itself**, in a user-oriented view.

A User Journey represents the series of steps (**usually 4-12**) that constitute the process of interaction of the user with the service/system that is being planned, within a specific scenario.

It is usually used to demonstrate how users interact/could interact with the service/product

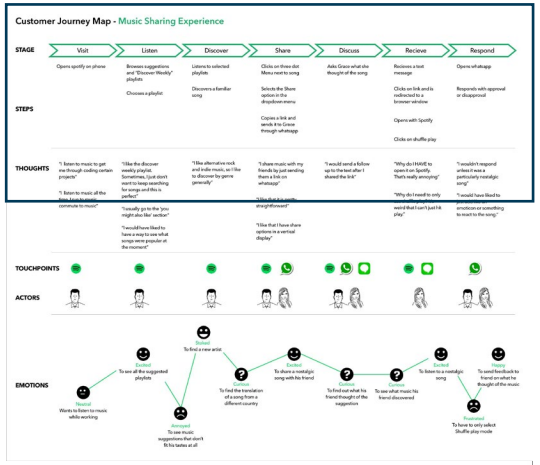
storytelling + visual elements



Stages of journey	Awareness	Search	Download	Installation	Use	Support	Review
User goals	Carry out a task	Find a solution	Get the app	Install and setup the app quickly	Carry out the task easily with the app	Get answers to questions	Rate the app
Activities	Realizes the problem he has	Searches google for solutions	Finds app, goes to store to download	Registers in app and does onboarding	Uses relevant features	Looks up support contact, sends questions	Goes to app store, writes a review
Touchpoints & channels	Other	Friends, google	Website, app store, play store	Welcome screen, onboarding	App screens	Help center, FAQ	App store, play store, google review
Emotions							
Pain points		- too many options - how to know what will work?		- registration takes too long - don't know how to set up the app			
Improvement Opportunities		- rank better in Google - provide more content on benefits	- add video to app store - get more reviews	- simplify registration flow - provide hint during onboarding	- send product tutorials - simplify user flow - redesign search feature		- ask for review in the app

[A Beginner's Guide To User Journey vs User Flow]

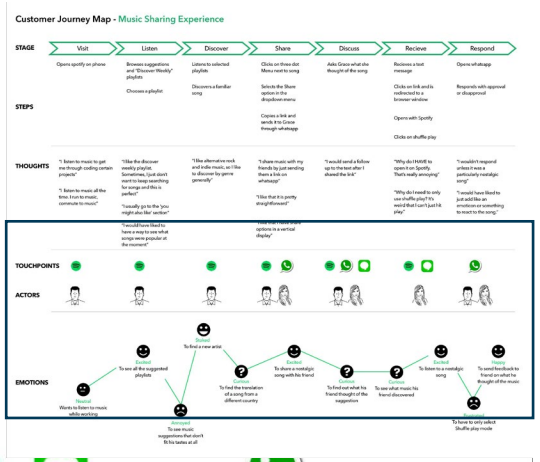
The user journey | The steps (I)

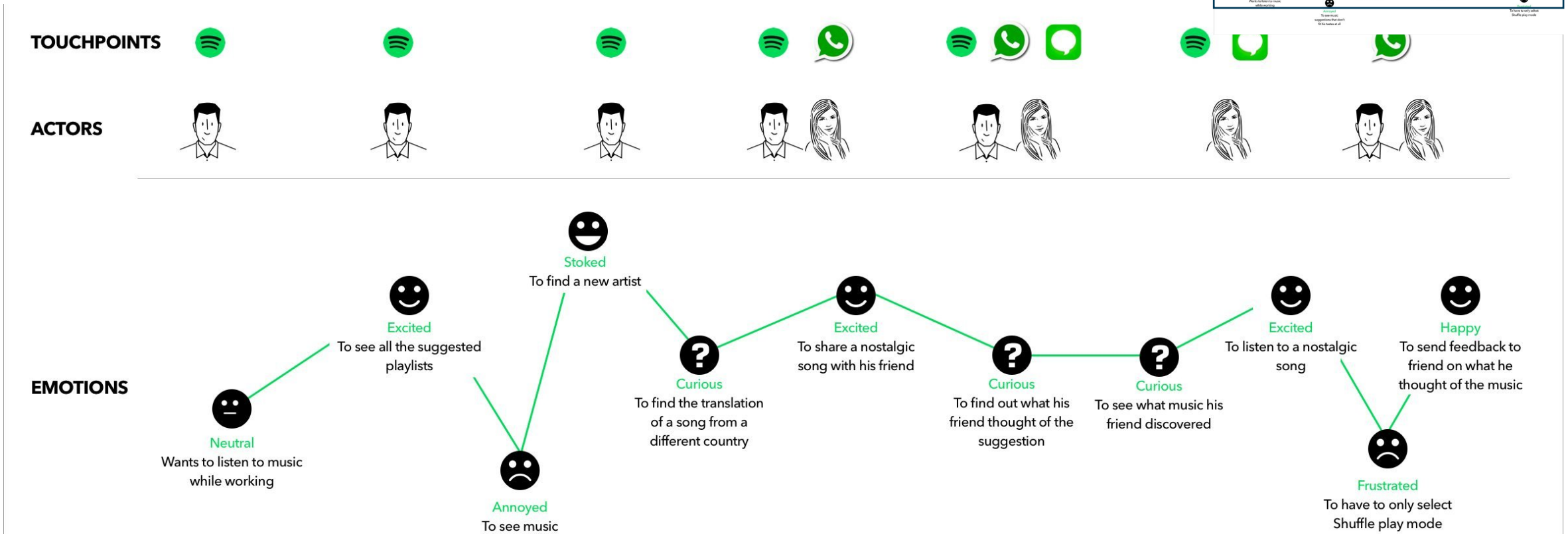


Customer Journey Map - Music Sharing Experience

STAGE	Visit	Listen	Discover	Share	Discuss	Recieve	Respond
STEPS	Opens spotify on phone	Browses suggestions and "Discover Weekly" playlists Chooses a playlist	Listens to selected playlists Discovers a familiar song	Clicks on three dot Menu next to song Selects the Share option in the dropdown menu Copies a link and sends it to Grace through whatsapp	Asks Grace what she thought of the song	Recieves a text message Clicks on link and is redirected to a browser window Opens with Spotify Clicks on shuffle play	Opens whatsapp Responds with approval or disapproval
THOUGHTS	"I listen to music to get me through coding certain projects"	"I like the discover weekly playlist. Sometimes, I just don't want to keep searching	"I like alternative rock and indie music, so I like to discover by genre generally"	"I share music with my friends by just sending them a link on whatsapp"	"I would send a follow up to the text after I shared the link"	"Why do I HAVE to open it on Spotify. That's really annoying"	"I wouldn't respond unless it was a particularly nostalgic song"

The user journey | The steps (II)





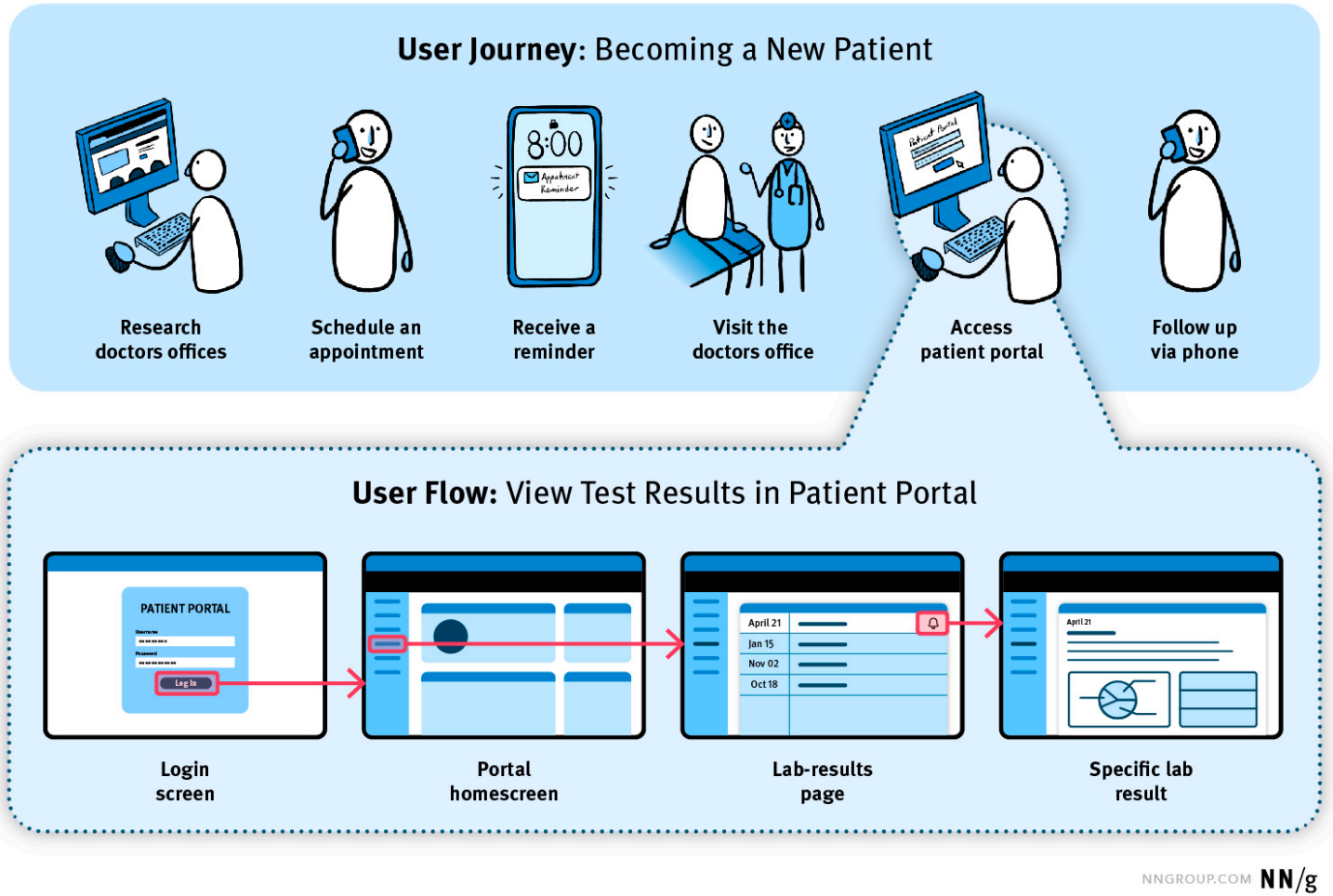
User journey and user flow

A user journey (or customer journey) is a **scenario-based sequence of the steps** that a user takes in order to accomplish a high-level goal with a company or product, usually across channels and over time,

A user flow is a set of interactions describing the typical or ideal steps needed to **accomplish a common task** to be performed.

A flow is a journey
- within a single touchpoint
- accomplished in a short amount of time

E.g.
- filling out an online form,
- the checkout of a shopping cart at an e-commerce site

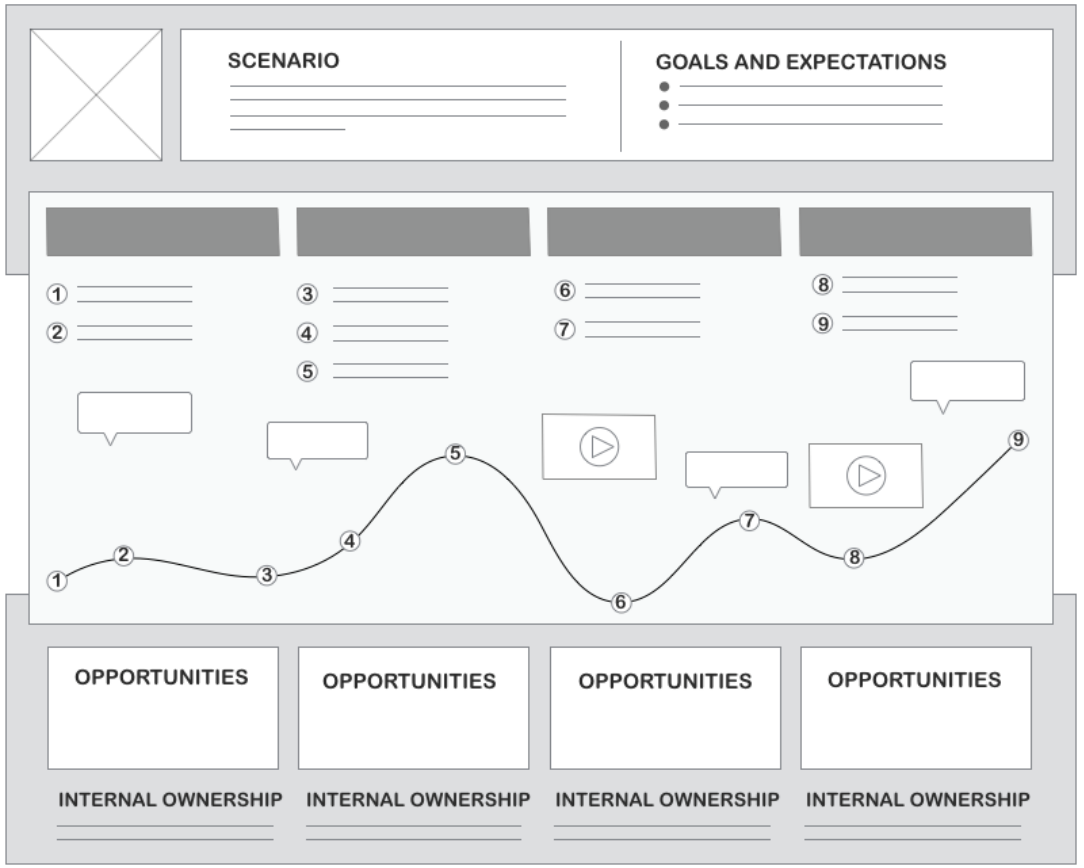


https://www.nngroup.com/articles/user-journeys-vs-user-flows

The user journey content

Journey ingredients:

- **The Personas** (to keep clear needs, goals, thoughts, feelings, opinions, expectations and barriers)
- **A timeline**: referred to a specific timespan of the experience (e.g., 1 day, 1 week, 1 year...) or to the stages of a process (e.g., booking, implementation, payment, use...);
- **Gain and pain**: identifying the advantages and the barriers that can be in every step
- **Touchpoints**: the points of interaction between users and service/system and the enabled actions and received feedback (main input and output)



Zone A: **The Lens**

actor scenario

Zone B: **The Experience**

phases actions, thoughts, emotions

Zone C: **The Insights**

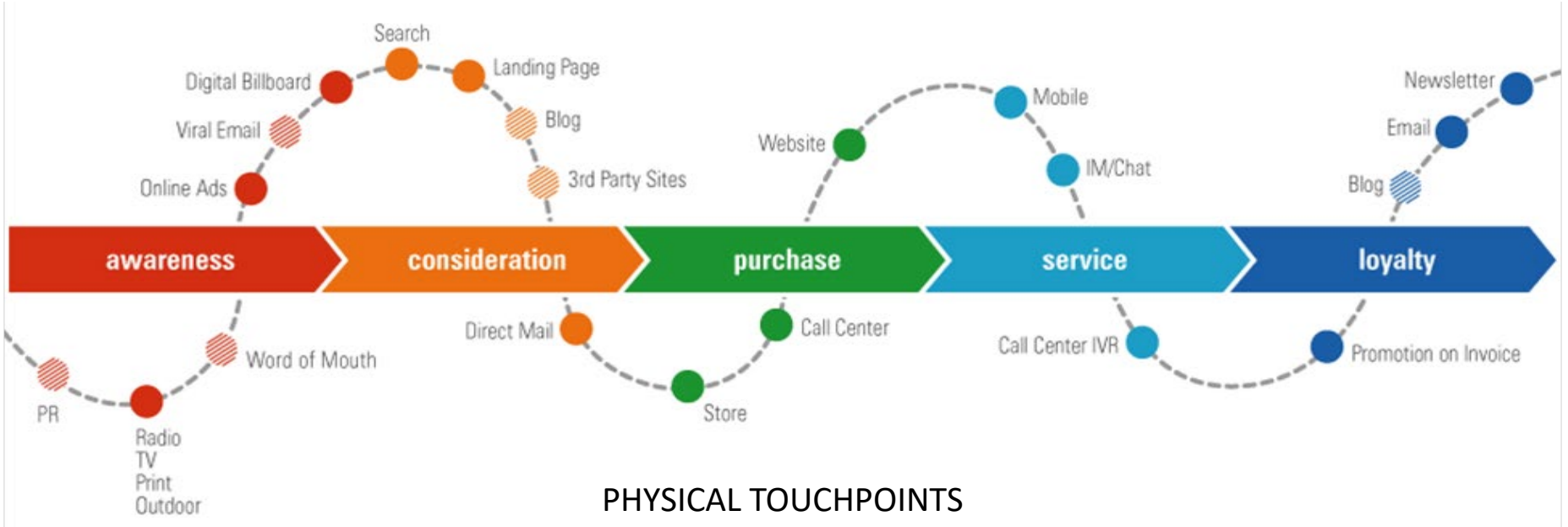
opportunities

We experience data through touchpoints

This visual tool provides an **overview of the touchpoints** the users do/should/will interact within a specific scenario.

A touchpoint is any point of contact between one service and one user.
In a service, many types of **users** and multiple **touchpoints** (humans, paperware, digital, …)
Each touchpoint provides **information and data** adapted for human processing. c

DIGITAL TOUCHPOINTS



PHYSICAL TOUCHPOINTS

Template

User actions

Personas

Scenarios

User emotions

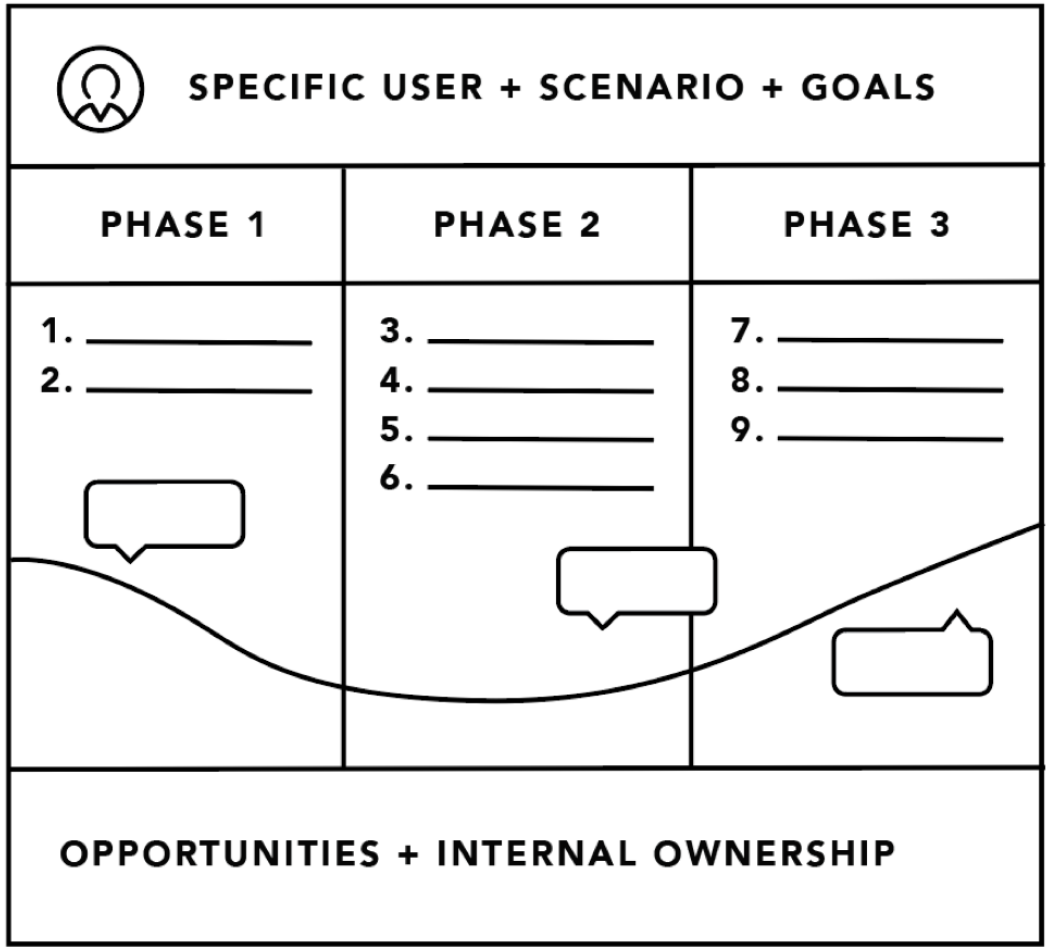
User thoughts

Channels

Devices

Recommendations

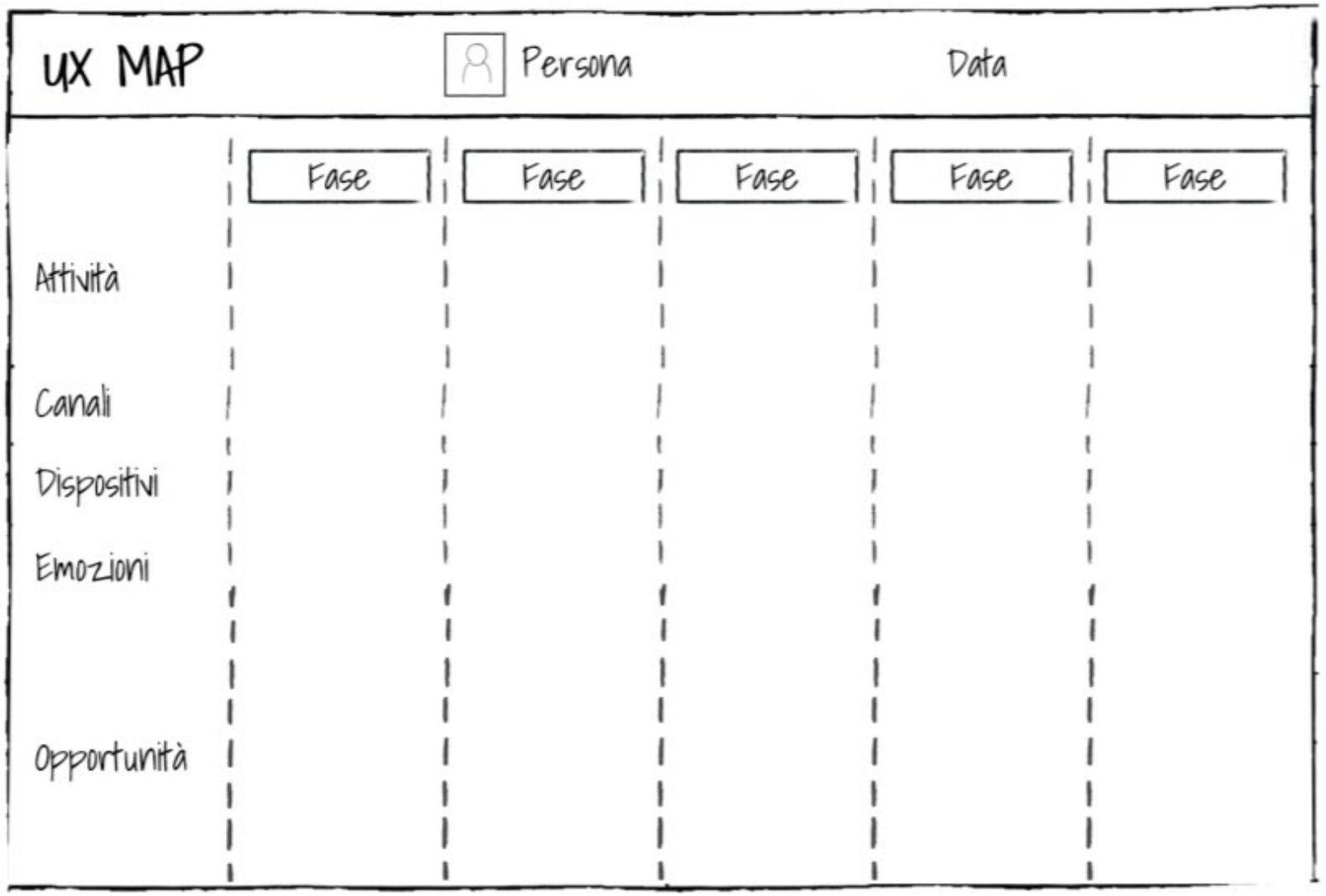
Metrics



NNGROUP.COM NN/g

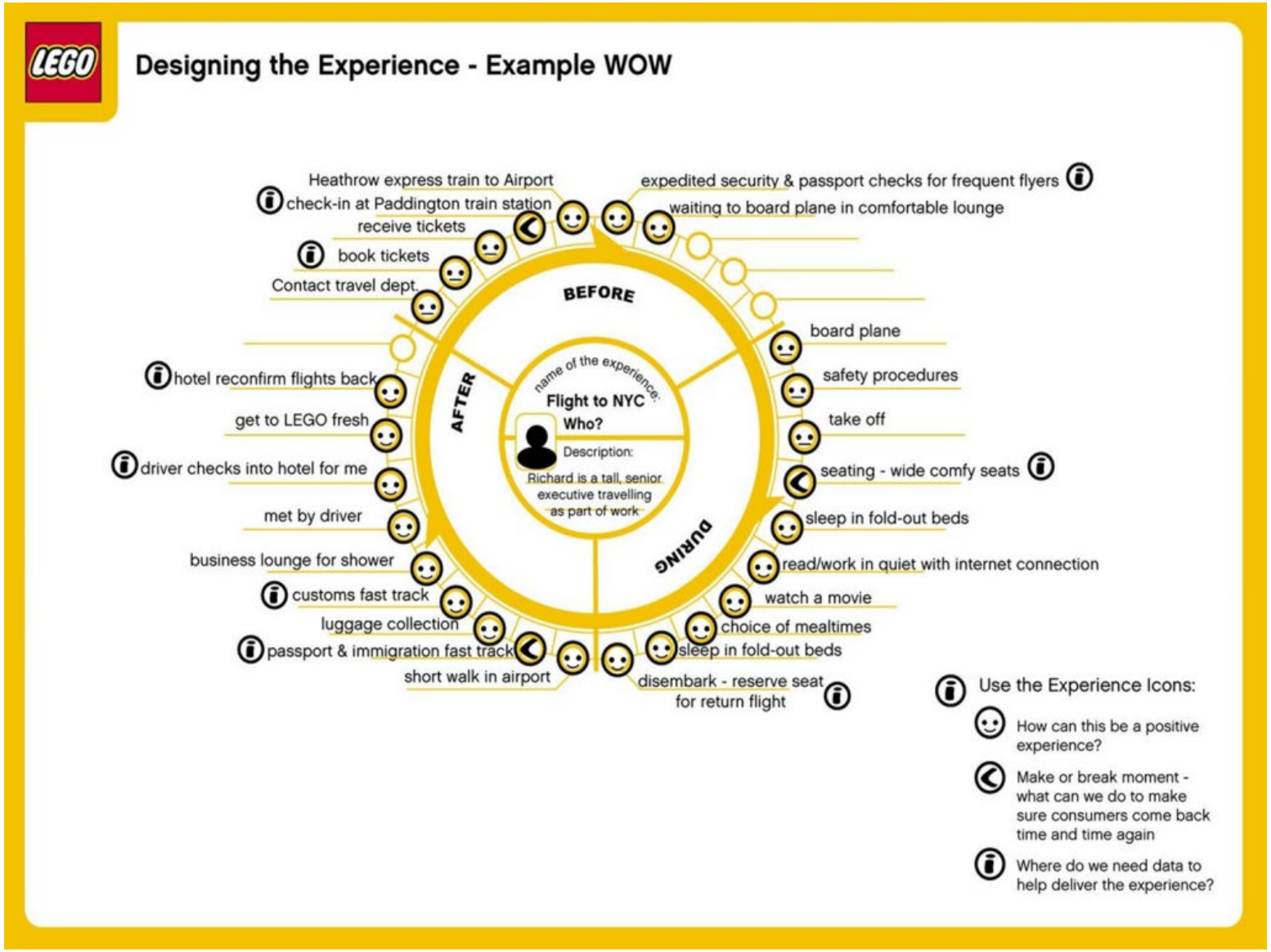
Journey Mapping in Real Life: A Survey of UX Practitioners NN/g

Template

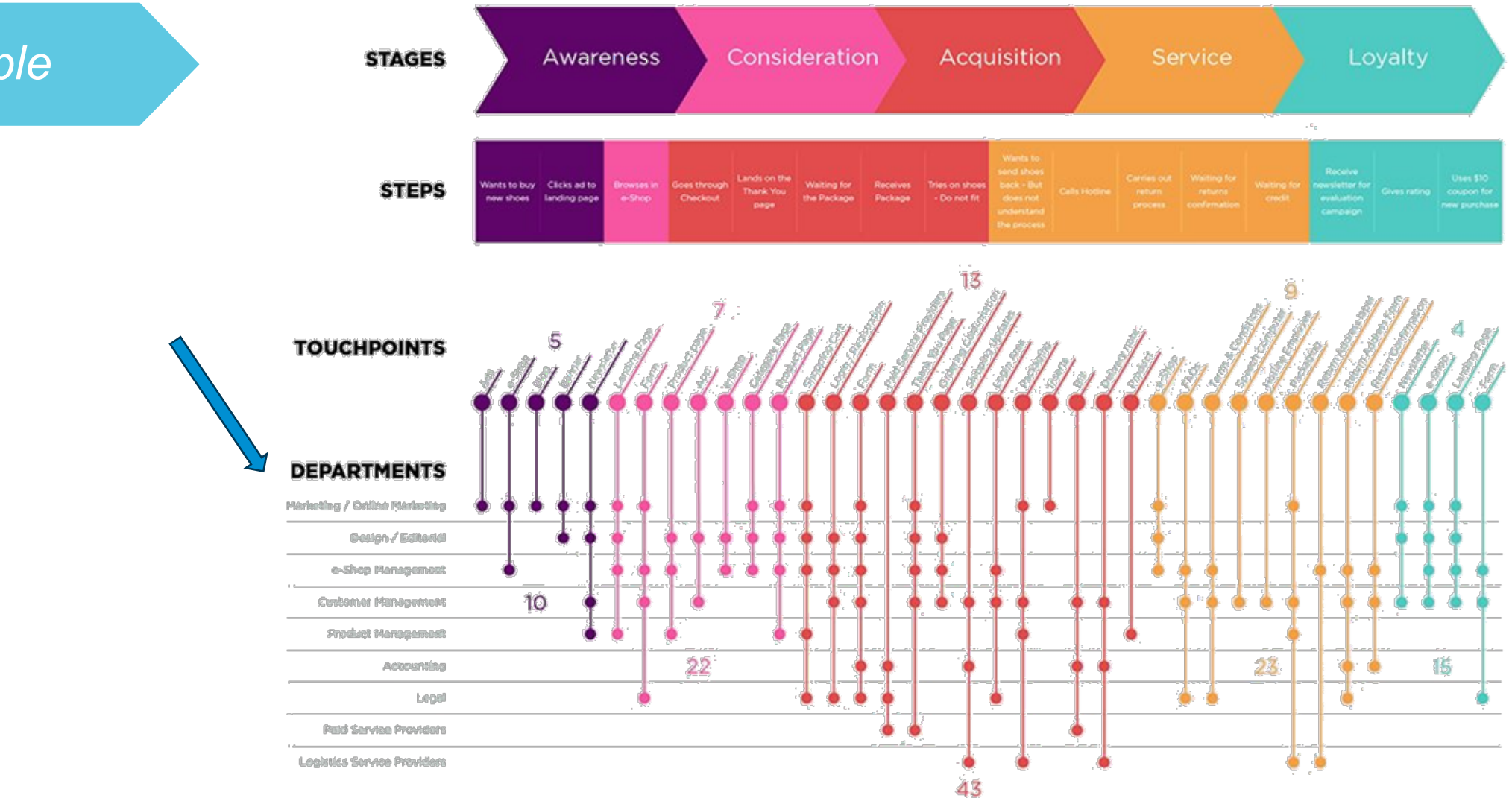

UX MAP
Persona
Data
Fase
Fase
Fase
Fase
Fase
Attività
Canali
Dispositivi
Emozioni
Opportunità

Example

- Longitudinal
- Phygital
- Emotional



Example


STAGES
Awareness
Consideration
Acquisition
Service
Loyalty
STEPS
Wants to buy new shoes
Clicks ad to landing page
Browses in e-Shop
Goes through Checkout
Lands on the Thank You page
Waiting for the Package
Receives Package
Tries on shoes - Do not fit
Wants to send shoes back - But does not understand the process
Calls Hotline
Carries out return process
Waiting for returns confirmation
Waiting for credit
Receive newsletter for evaluation campaign
Gives rating
Uses $10 coupon for new purchase
TOUCHPOINTS
DEPARTMENTS
Marketing / Online Marketing
Design / Editorial
e-Shop Management
Customer Management
Product Management
Accounting
Legal
Paid Service Providers
Logistics Service Providers
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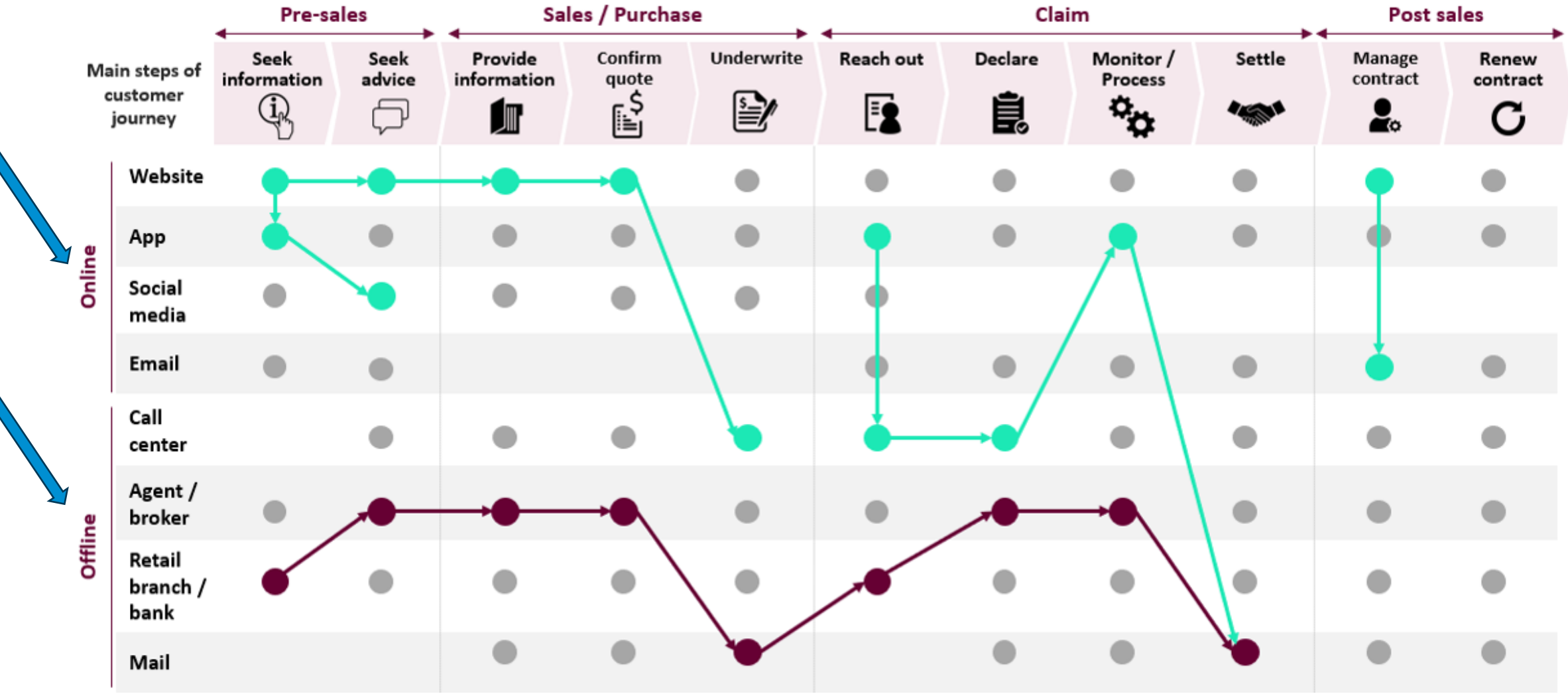
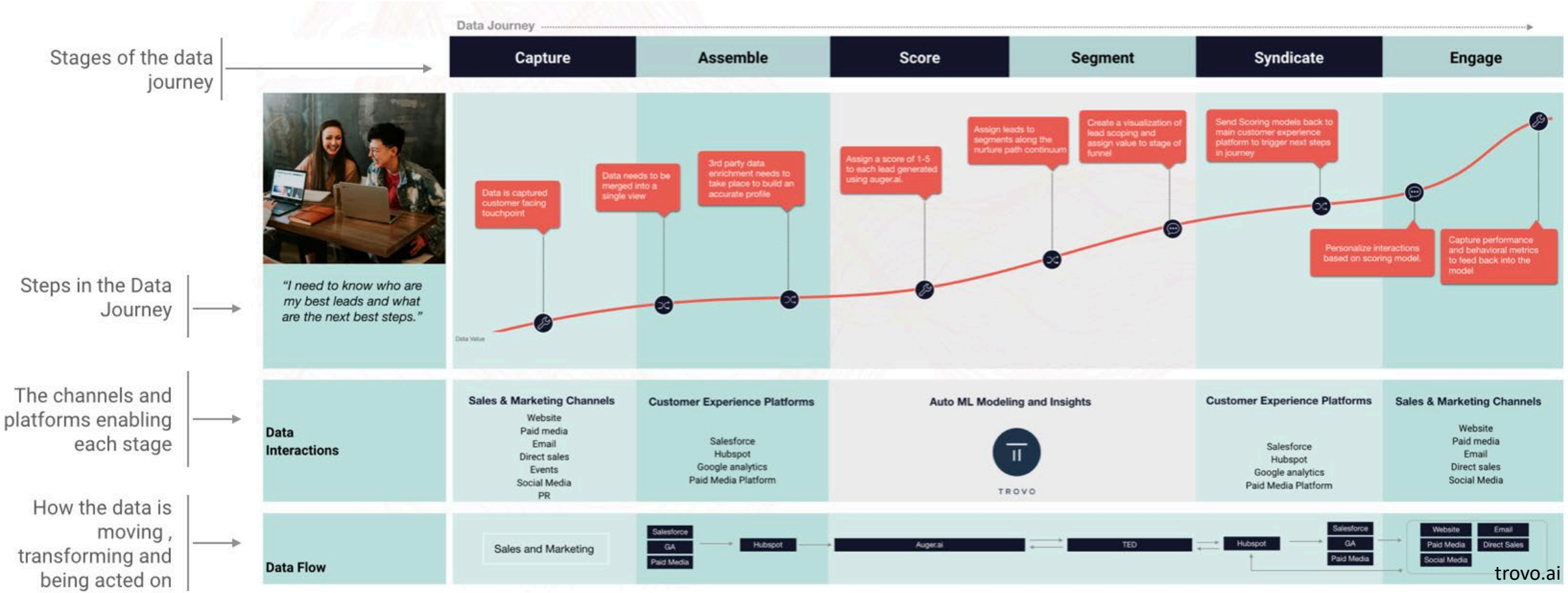
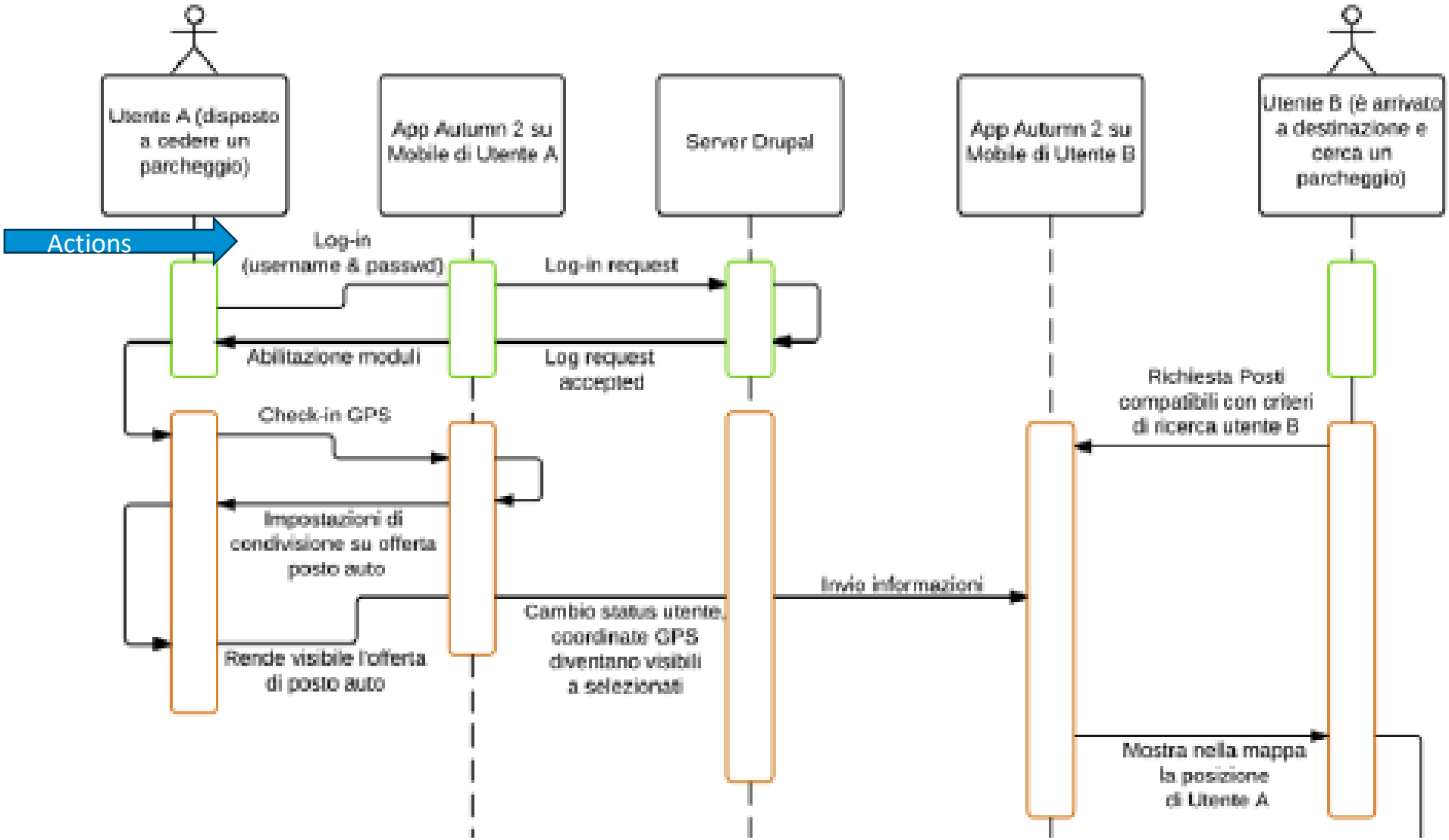

Pre-sales
Sales / Purchase
Claim
Post sales
Main steps of customer journey
Seek information
Seek advice
Provide information
Confirm quote
Underwrite
Reach out
Declare
Monitor / Process
Settle
Manage contract
Renew contract
Online
Website
App
Social media
Email
Offline
Call center
Agent / broker
Retail branch / bank
Mail

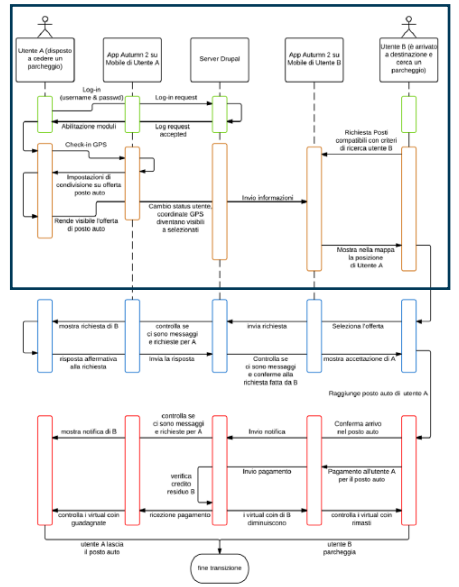
The data journey

The Data Journey explores **the interactions with data**.
It helps to identify which data are needed in the various steps of the user journey,
supporting better to define the data architecture and the further development phases.

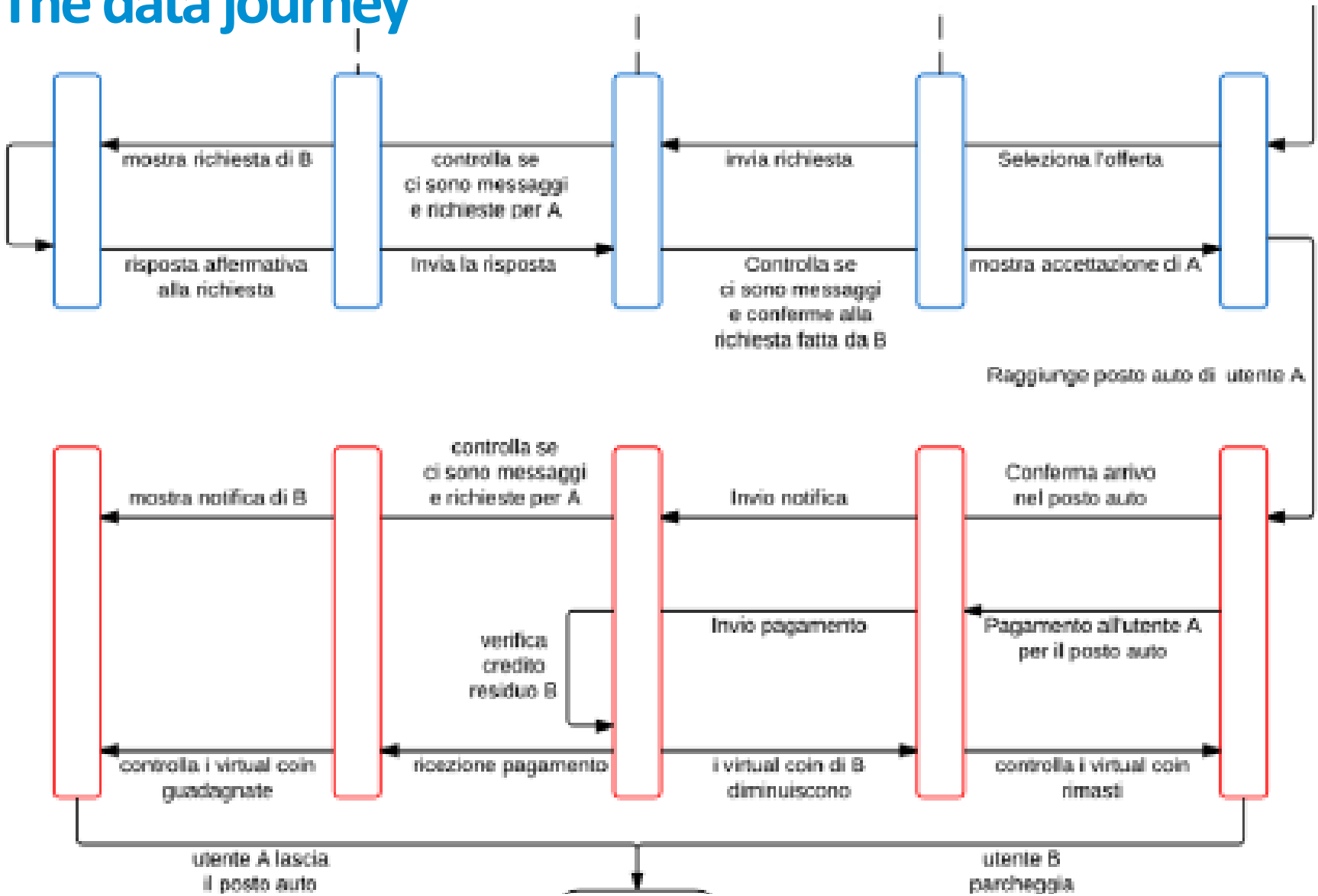


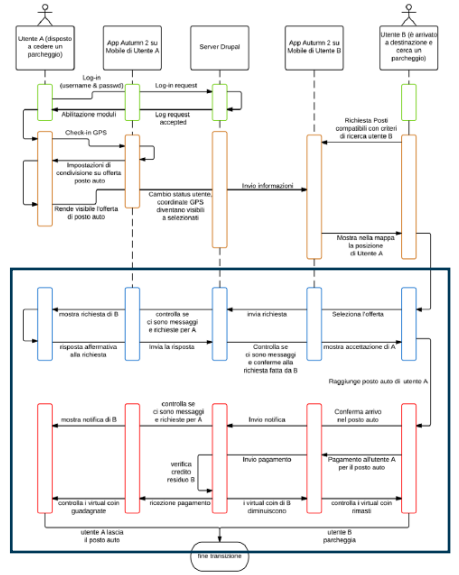
The data journey



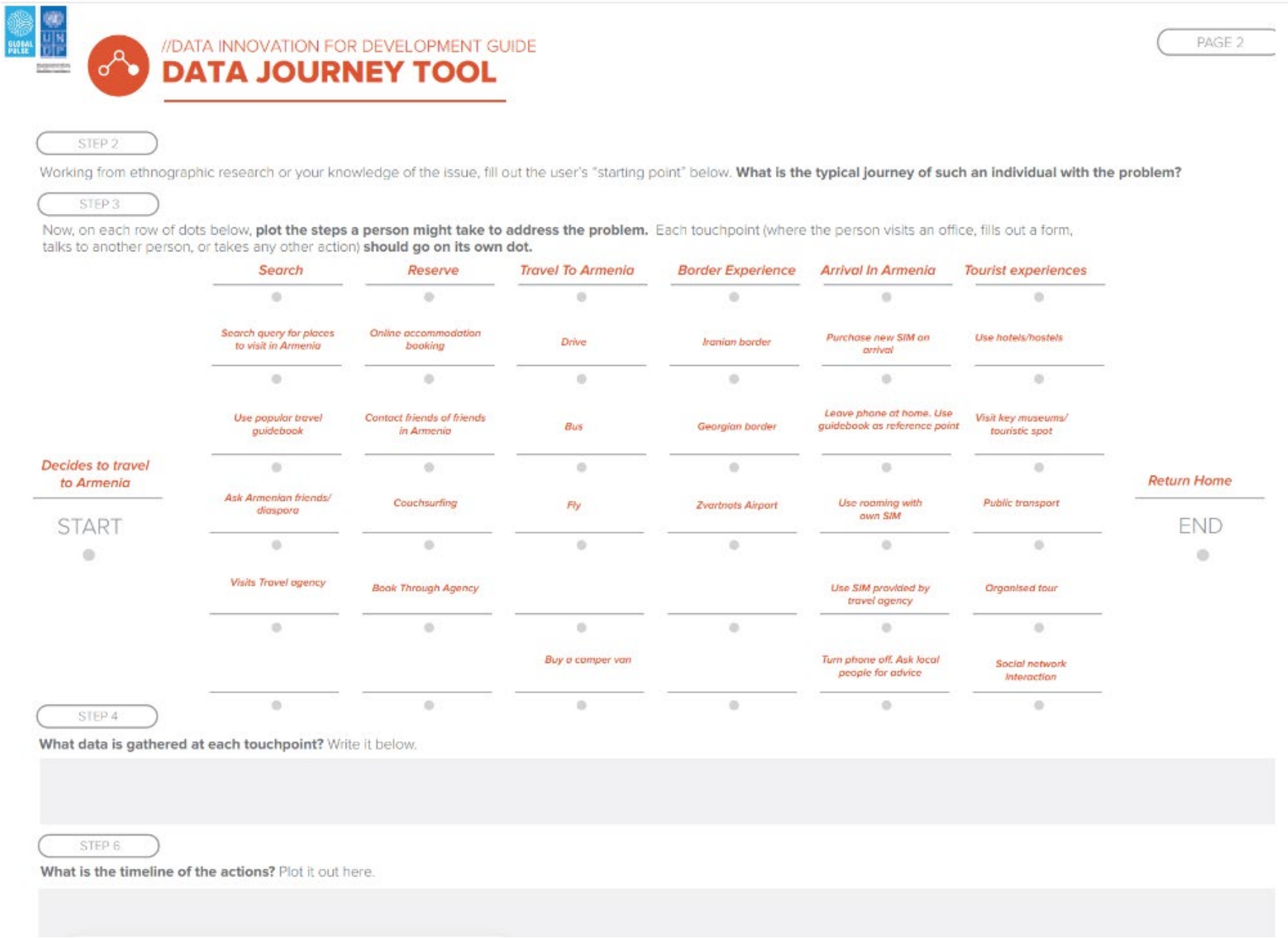


The data journey





Template



//DATA INNOVATION FOR DEVELOPMENT GUIDE

DATA JOURNEY TOOL

PAGE 2

STEP 2

Working from ethnographic research or your knowledge of the issue, fill out the user's "starting point" below. **What is the typical journey of such an individual with the problem?**

STEP 3

Now, on each row of dots below, **plot the steps a person might take to address the problem.** Each touchpoint (where the person visits an office, fills out a form, talks to another person, or takes any other action) **should go on its own dot.**

	Search	Reserve	Travel To Armenia	Border Experience	Arrival In Armenia	Tourist experiences	
	Search query for places to visit in Armenia	Online accommodation booking	Drive	Iranian border	Purchase new SIM on arrival	Use hotels/hostels	
	Use popular travel guidebook	Contact friends of friends in Armenia	Bus	Georgian border	Leave phone at home. Use guidebook as reference point	Visit key museums/ touristic spot	
Decides to travel to Armenia	Ask Armenian friends/ diaspora	Couchsurfing	Fly	Zvartnots Airport	Use roaming with own SIM	Public transport	Return Home
START	Visits Travel agency	Book Through Agency			Use SIM provided by travel agency	Organised tour	END
			Buy a camper van		Turn phone off. Ask local people for advice	Social network interaction	

STEP 4

What data is gathered at each touchpoint? Write it below.

STEP 6

What is the timeline of the actions? Plot it out here.

UNDP, A Guide To Data Innovation For Development, 2016

HCD | THE USER JOURNEY

HANDS-ON

Map the interaction with data

1. Identify the **main steps of the process** you want to provide with your solution
    - Define a timespan

2. Assume the perspective of one of the User Personas you developed/direct-user to **detail the Actions that the users can do in every step**
    - Which activities will they perform in every step?
    - Which touchpoints will they use?
    - What information do users need? What do they already have?

3. **Detail Alternative Routes and loops**

To fill in the journey, use all the information and knowledge you have till now from secondary and primary research.
You can make hypotheses, then find a way to validate them with real users (ask for feedback on your journey)

Use www.miro.com to collect, display, rearrange and share your work.

STEPS

ACTORS

ACTIONS

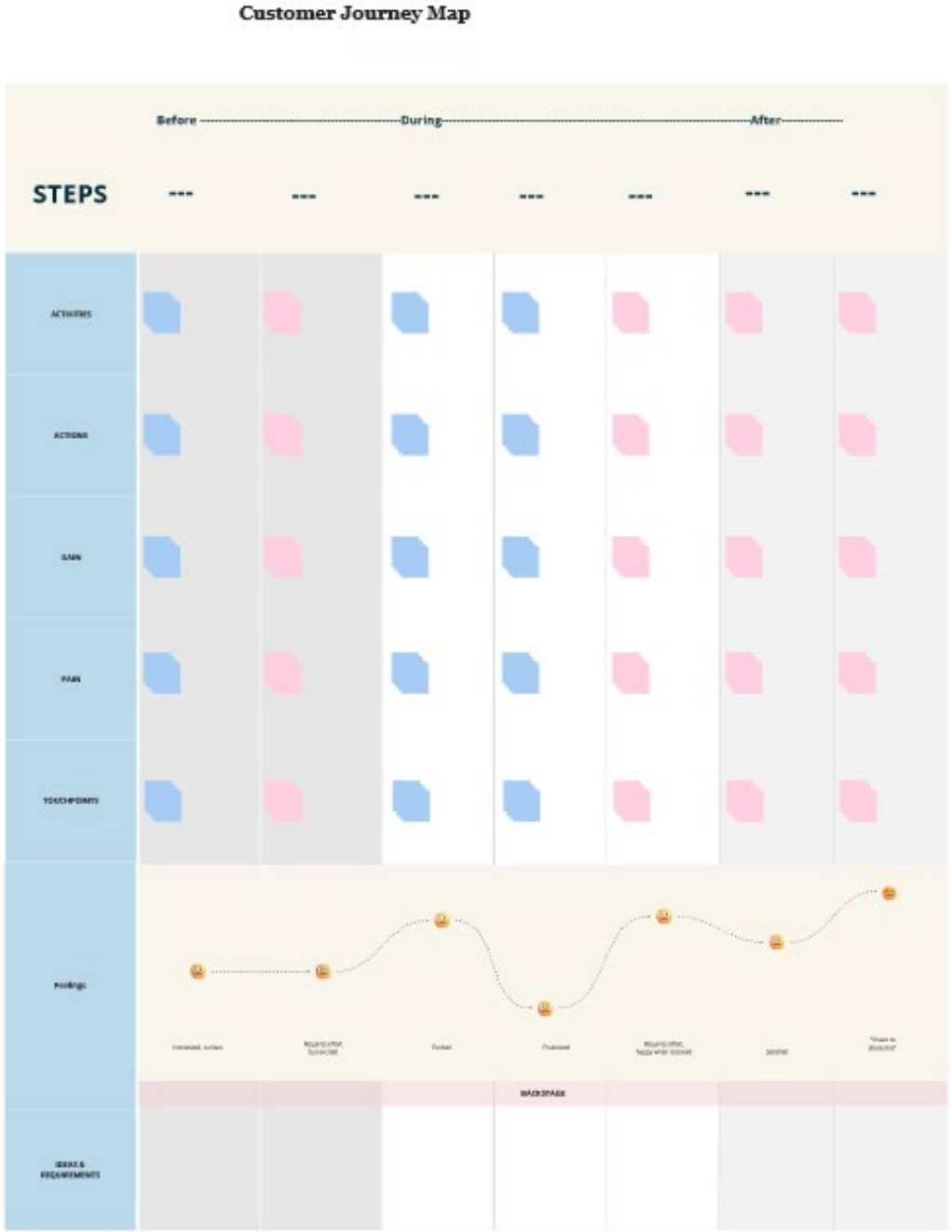
GAIN

PAIN

TOUCHPOINTS

Feelings

IDEAS
REQUIREMENTS



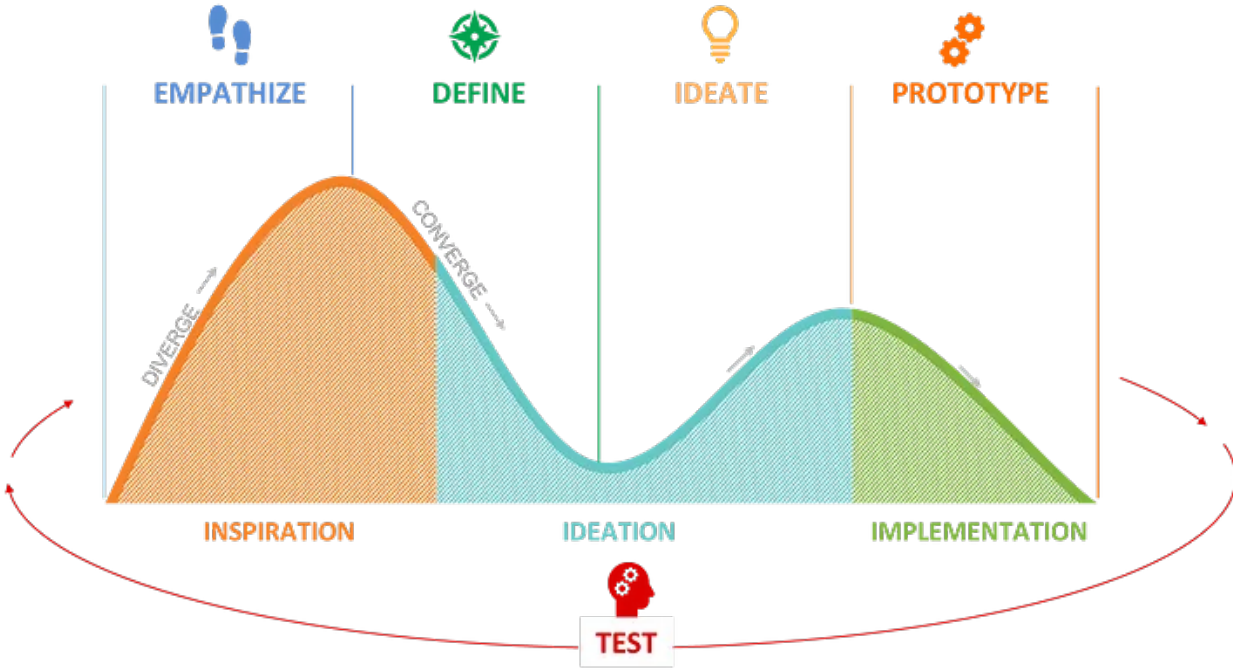
Let’s share and discuss

New questions?
Confirmations?
Difficulties?
Applicability?

Keep on working

The journey will help you identify and specify
the core elements of your solution in a higher fidelity shape:

- USE CASES/USER STORIES
- USER REQUIREMENTS
- TECHNICAL REQUIREMENTS
- DATA ARCHITECTURE
- ERROR RECOVERY STRATEGIES
- INTERACTION RECOMMENDATION
- MICROCOPY/CONTENTS



Human-Centered Design - Design Thinking

Keep on applying the design-oriented approach to

- **Define the strategy before developing**
- **Err e refine** your work
- Integrate the user knowledge and validation
  into your work and outputs
- and **design good solutions <u>for the real world</u>.**

Contacts

Antonella Frisiello
. Researcher in Digital Ergonomics [LINKS Foundation]
. Adjunct Professor [Politecnico di Torino]

antonella.frisiello@polito.it