

Lec 21

# Defining Requirements

Intro to requirements, personas, scenarios, use cases.

*Omar Hammad*

**What was the first slide in  
the first lecture about?**

# Let's get to know you

Name, Major, Background, Motivation

One thing you know about **humans**?

**Moody**

**Emotional**

**Different**

**Creative**

**Lazy**

**Surprises**

**Helpful**

**Intelligent**

**Have diff expectations**

**Need for appreciation**

**Need relationships**

**Friendly**

**Different way of thinking**

**Valuable**

**Complicated**

**Adaptable**

**Love to learn**

# Personas



## Julien, 31

Julien works at a large city-based University. He regularly visits his local pub with his friends, and enjoys gigs and concerts.

He uses a wheelchair as he has a condition which causes muscle weakness. He owns an electric wheelchair, but finds that most of the places he wants to go are not accessible for it, so he mostly uses a manual wheelchair.

He lives alone three miles from his workplace. He uses taxis a lot as he gets tired easily and finds it difficult to move himself in his wheelchair when he is tired. He often uses taxis to get to work, to get to the pub, or to move between parts of the campus. If he is already out, he uses a ride hailing app on his phone, but if he's travelling from home he calls a local firm.

*"When a driver is willing to help me with the wheelchair it makes a huge difference to my day. Just getting into and out of the taxi can really tire me out."*

*"A lot of drivers are unwilling to accept short journeys, but I rely on them to get around. I couldn't get there by myself."*

Julien has an Apple iPhone which he uses a lot. He has an iPad which he mostly uses at home.

He has an Apple laptop for his work, sometimes he takes it home in order to work from home.

Julien has found that it often takes a lot of effort to find out if a venue or service is wheelchair accessible. He has to do a lot of online research and planning if he wants to go somewhere new.



### Travel & Transport

Top 3 modes of transport

Taxi

Lifts with others

Bus

Willingness to share a taxi

Top 3 reasons for taxi usage

Business

Leisure

Holidays

### Technology and Income

Technology acceptance

Openness to experience

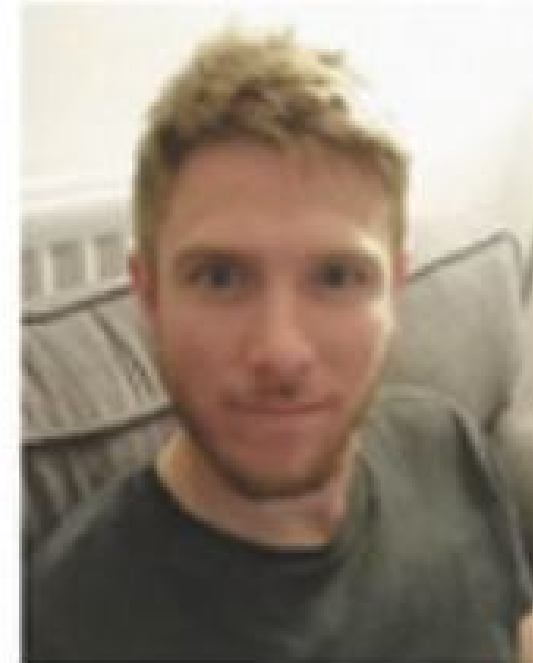
Budget



**Figure 6.** Example persona Julien. Photo by [ELEVATE](#) from [Pexels](#).



## Family traveler



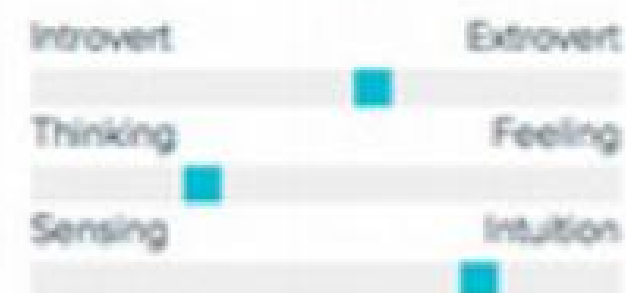
"I want a travel organiser that will offer me a range of potential vacations that suit our needs"

Age: 35

Work: Plumber

Family: Married, two children

### Personality



Organised

Practical

Expects high standard

### Goals

- To book comprehensive travel quickly
- To find a trip that meets the needs of the whole family
- To feel supported and guided from the beginning of the booking experience right to the end.

### Frustrations

- Wasting time filling in forms
- Too much irrelevant information
- Existing systems tend to be too diverse and complicated

### Bio

Will loves to take his family on adventure holidays to explore new challenges. His children, Sky (8) and Eamonn (15) are old enough to take part in several sporting activities and he wants to make the most of this before they no longer want to go on trips with him and his wife, Claire. He likes the fact that choosing travel options is so much easier than it used to be, but is frustrated by the many different sources and disjointed options that this can result in. He wants a travel organiser that can provide clear support for family holidays while offering as wide a choice as possible.

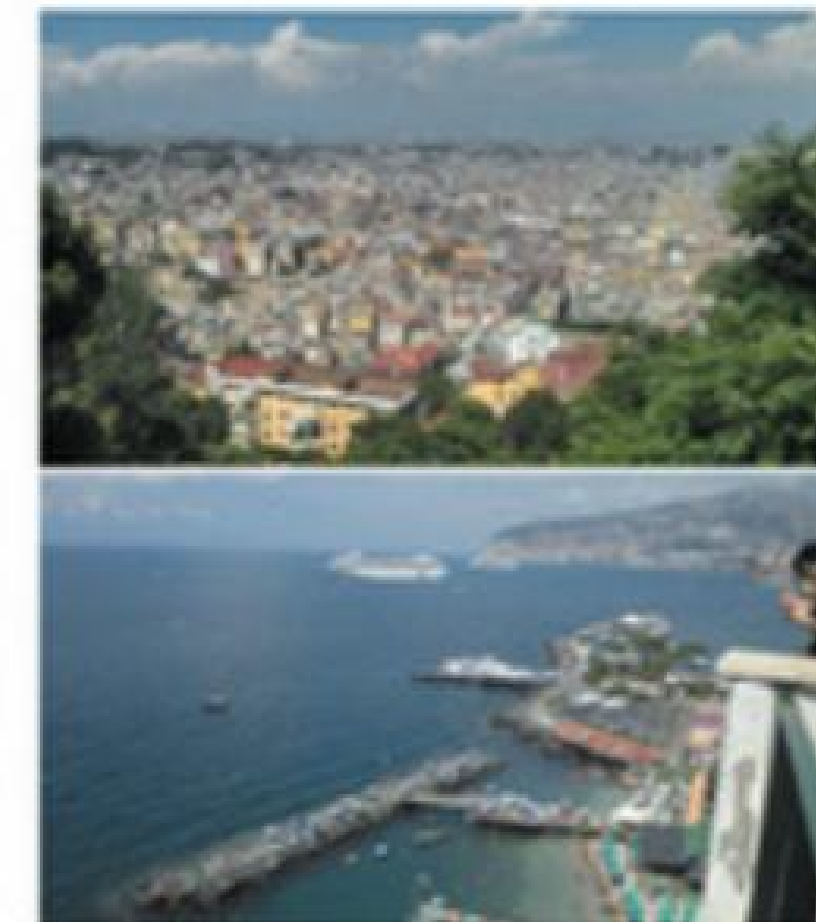
### Motivation

Price

Comfort

Choice

### Favourite destinations



# Create a persona for the most typical user

Include the following:

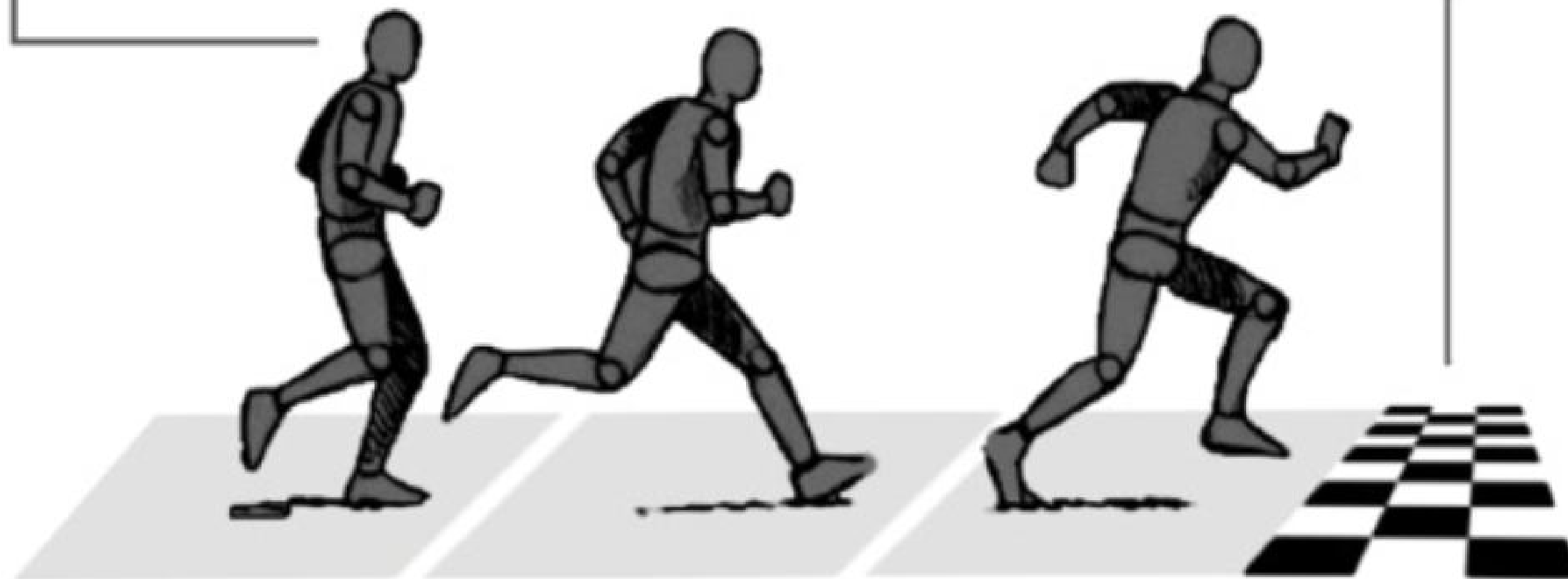
- image
- name
- age
- bio
- personality
- relevant goals
- relevant frustrations
- ...

## 1. Persona

Defines who the story is about. This main character has attitudes, motivations, goals, and pain points, etc.

## 3. Goal

Defines what the persona wants or needs to fulfill. The goal is the motivation of why the persona is taking action. When that goal is reached, the scenario ends.



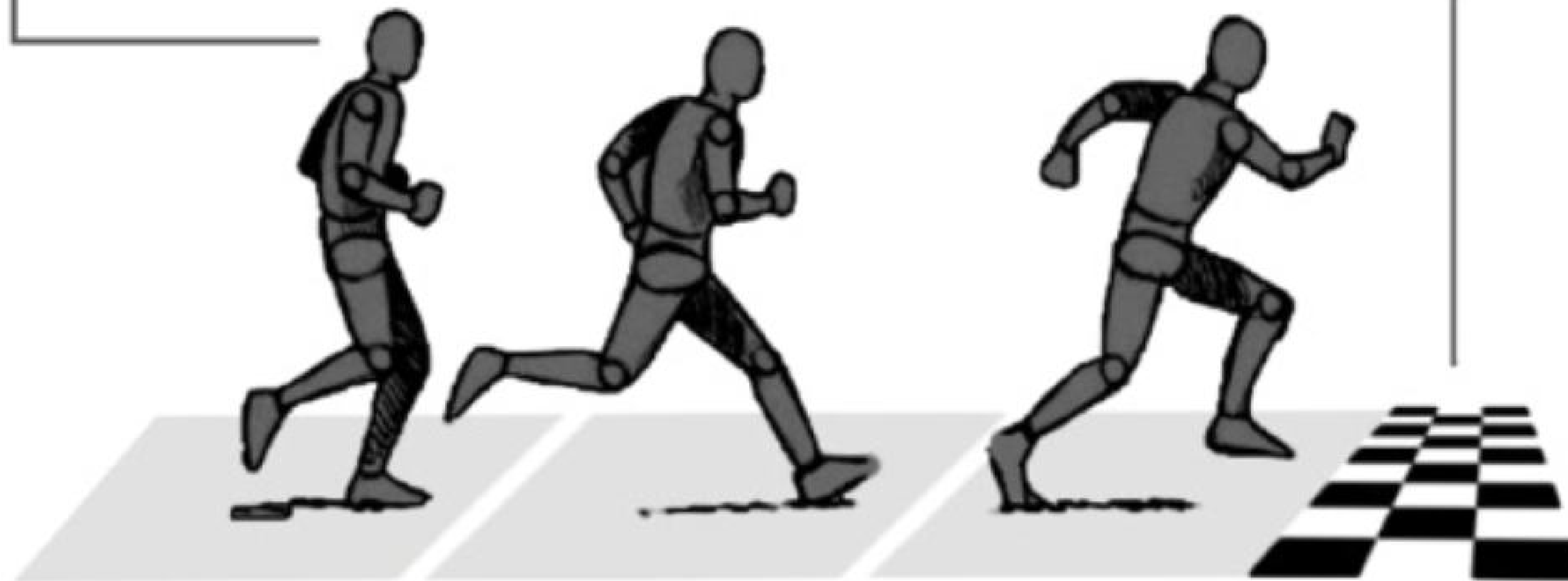


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## 2. Scenario

Defines when, where, and how the story of the persona takes place. The scenario is the narrative that describes how the persona behaves as a sequence of events.

# Scenarios

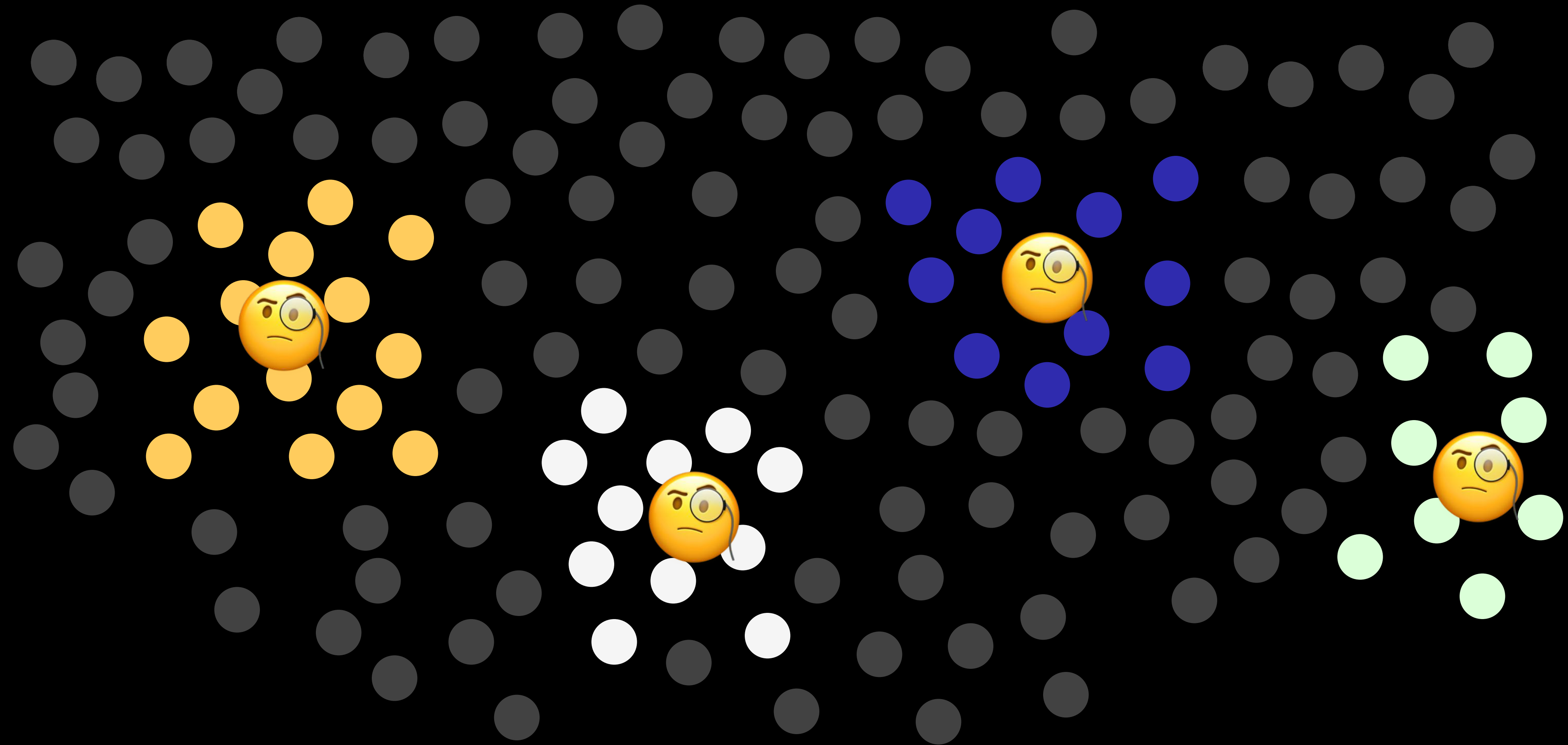
aka. details narratives of our users  
achieving their goals

# **components of a scenario**

- A Persona
- A Goal
- A Narrative

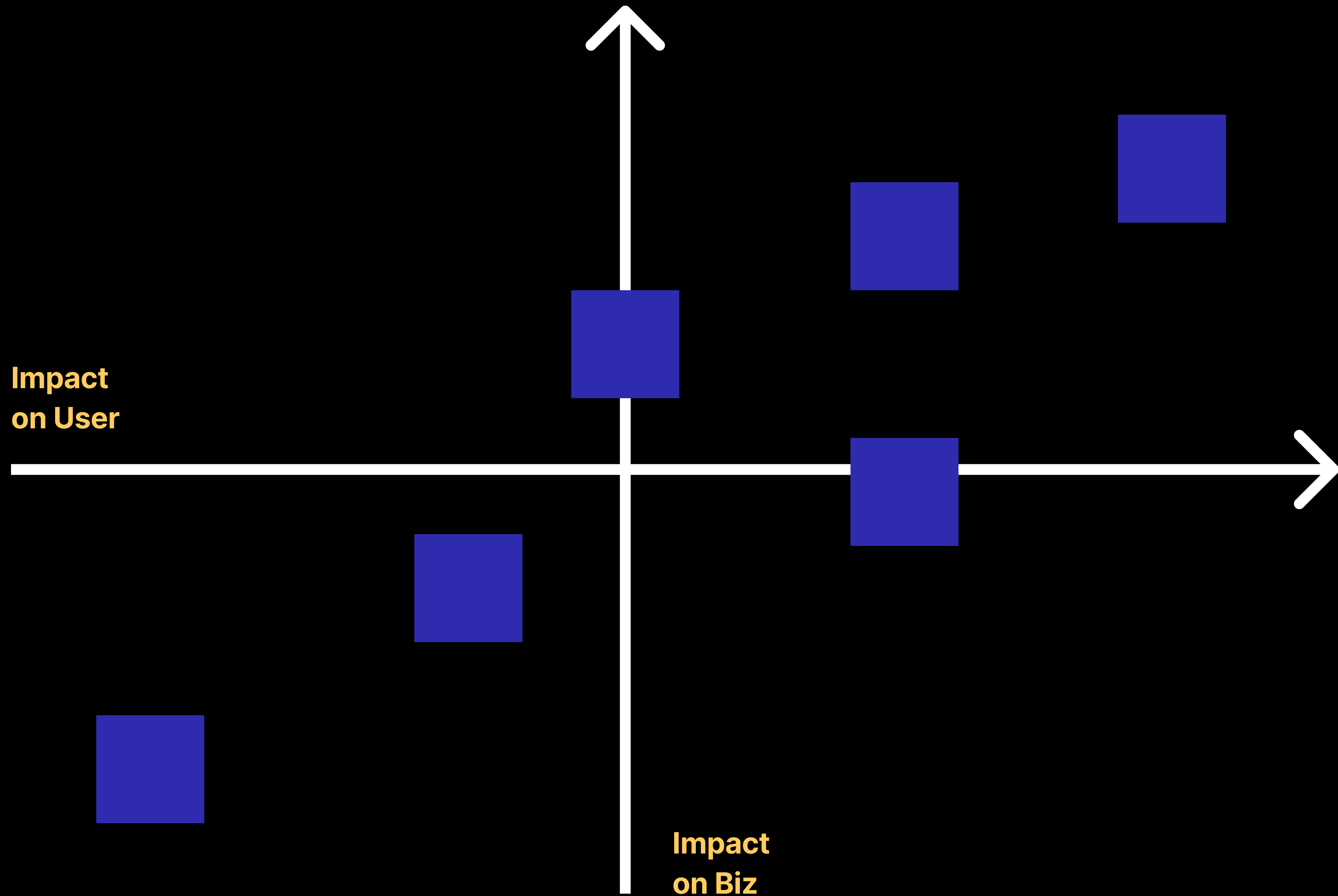
**Sketch one scenario of your  
persona trying to achieve on goal**

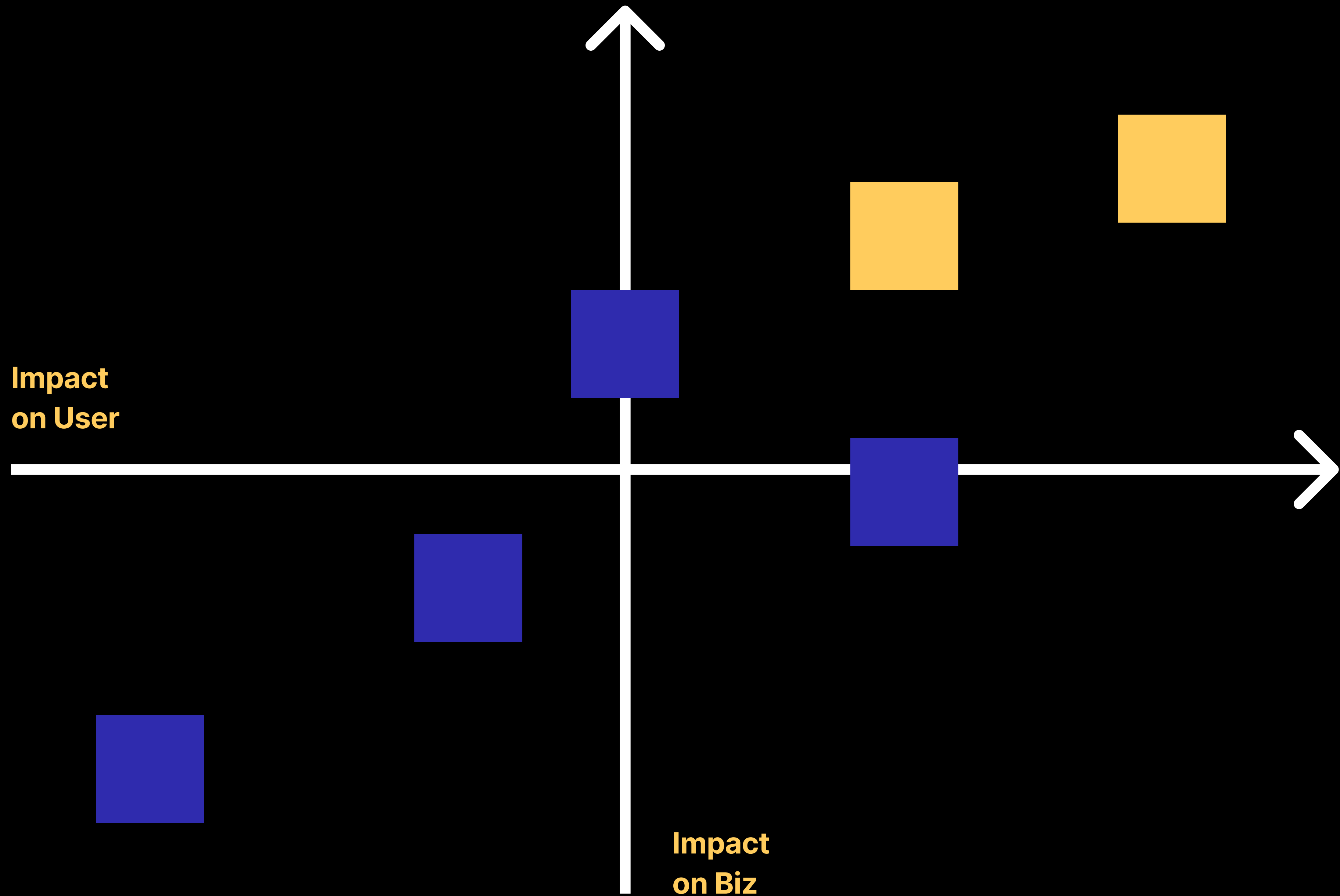
# How can we know which ones to work on?



# Prioritization







How can we write the  
theme in an **insightful** &  
**actionable** way?

**Write vague statements about  
the themes**

# **Problem Statements & User Stories**

# Problem Statement

First-time users of the fitness tracking app struggle to **log their workouts** due to **unclear navigation labels** and **lack of onboarding guidance**. This causes frustration, particularly when they are at the gym and **need a quick solution**, resulting in **reduced app usage** and **poor retention rates**. Observational studies showed that **70% of new users abandoned** the app after their first attempt to log a workout.



# **components of a problem statement**

- The User's Goal
- The Problem/Pain
- The Context
- Impact on the User
- Evidence
- Why It Matters

As a **trainee**, I want to a **quick and easy way to log my exercises** so that I **focus on my workout**

**Modify your previous problem statement & write one user story from it**



## Practical Assignments 2/4 Define

### Objective:

To analyze and synthesize data gathered during the Discovery phase, using various analytical methods to identify themes, user needs, and pain points. This phase will help define clear, actionable problem statements for the next phase.

### Instructions:

#### 1. Data Analysis:

- Quantitative Analysis:
  - Organize and analyze numerical data (e.g., ratings, frequency of feedback themes).
  - Create at least three statistical visualizations (e.g., bar charts, pie charts) to summarize key findings.
- Qualitative Analysis:
  - Perform thematic analysis to identify at least 5 recurring themes from user reviews, interviews, and observations.
  - Conduct semantic analysis to extract deeper insights from user sentiments.

#### 2. Mapping Tools:

- Design personas for one distinct user group, including their goals, frustrations, and needs.
- Create empathy maps for at least one user archetypes, focusing on their thoughts, feelings, actions, and challenges.
- Develop a user journey map for one primary task, highlighting pain points and opportunities for improvement.
- Draft two scenarios for your persona, describing its interaction with the product in a specific context.

#### 3. Problem Definition:

Summarize your analysis and define at least 3 key problems to be solved in the next phase. Each problem statement should be user-focused, actionable, and rooted in the analysis. an example of a well-defined problem:

*"First-time users of the fitness tracking app struggle to log their workouts due to unclear navigation labels and lack of onboarding guidance. This causes frustration, particularly when they are at the gym and need a quick solution, resulting in reduced app usage and poor retention rates. Observational studies showed that 70% of new users abandoned the app after their first attempt to log a workout."*

It includes: The User's Goal, The Problem/Pain, The Context, Impact on the User, Evidence, Why It Matters

#### 4. Presentation:

Create a 5-minute presentation to share your key findings, mapping outputs, and problem statements with the class. Focus on clarity, logical flow, and impactful visual aids (e.g., charts, empathy maps).

### Submission:

Submit your presentation slides to Blackboard. Be ready to present your findings in the next class.

### Grading Criteria:

#### 1. Data Analysis (10 points):

- Were both quantitative and qualitative analyses conducted thoroughly and appropriately?
- Are visualizations and themes well-documented?

#### 2. Empathy and Mapping (10 points):

- Are empathy maps, journey maps, personas, and scenarios detailed and user-centered?
- Do they effectively reflect the analyzed data?

#### 3. Problem Definition (5 points):

- Are problem statements clearly defined, actionable, and based on analysis?

#### 4. Clarity and Presentation (5 points):

- Is the report well-organized and easy to follow?
- Is the presentation engaging, clear, and insightful?