Applied Data Science Project

"Generation of video reviews based on textual descriptions"

Checkpoint I:

- Objective(s)
- Service design
- Functional diagram
- Gantt
- A brief spoiler

FLOWYGO

Project and Goals

- New technologies is being released at ever increasing speed
  - More than 600 phones released in 2021
  - On *icecat*, 8068 technical devices released in 2021
- This is a chore for consumers: this translates in huge costs both in terms of time and clarity
- Producing reviews for so many products is a huge investment in human resources

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Project and Goals

- The project is in line with the 12th SDGs: sustainable consumption and production
- The objective is to increase the chance of a better match between customer and products
- The output will be a model capable of producing reviews both in textual and in slideshow-speech formats, starting from structured data
- This will allow creating amounts of reviews for tech devices in an easily digestible format, to be used both by companies and consumers

Where we're starting from

"credit where credit's due"

- **The Datasets:**

  - Product catalog

  - Reviews with entity recognized.

- **The NER:**

  A Customised Named Entity Recognition model

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PERSONA N. 1 -CUSTOMER

John

Waiter

20 - 35 y.o.

"Clarity is true elegance

PROFILE

BACKGROUND

John is a dynamic waiter and works in a restaurant in the center of Turin. He is also passionate about music production, so he needs a smart way to plan and manage his day. Technology attracts him, but he is not very confident with it.

Digital Savviness

[Level of familiarity with the digital world]

Tech expertise

[Knowledge of the technology]

Frequency of usage

[How often do you use the service]

NEEDS AND FRUSTRATIONS

OBJECTIVE

John is searching for simple and clear information about the products to buy

NEEDS

- Have a trustable source of information
- Easy comparison of a large amount of products
- Have an engaging media to retrieve the information

FRUSTRATIONS

- Textual reviews are boring and hard to digest
- Some characteristics are too specific, so they are not meaningful for his research
- Finding reviews on different websites can be dispersive

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PERSONA N. 2 -CUSTOMER

Emily

Web Developer

35 - 45 y.o.

"You can always do better

PROFILE

BACKGROUND

Emily works in a prestigious tech company as a web developer. Speed, concreteness and time management are crucial aspects for her life.

Digital Savviness

[Level of familiarity with the digital world]

Tech expertise

[Knowledge of the technology]

Frequency of usage

[How often do you use the service]

NEEDS AND FRUSTRATIONS

OBJECTIVE

Emily's goal is to find accurate product reviews and quickly comparing the large amounts of suitable products

NEEDS

- Have a specific and detailed description of the product
- Need feedbacks from other advanced users
- Have a trustable source of information

FRUSTRATIONS

- User reviews are often made by non-domain experts
- Some descriptions are too generic
- Information is often incomplete or untrustworthy

PERSONA N. 2 -REVIEWER

Emma

Reviewer

35 - 45 y.o.

"Work smarter not harder

PROFILE

BACKGROUND

New-technologies enthusiast, Emma is a reviewer for upcoming tech products on the website www.findyourdevice.com. Technology is her passion, her work and possibly an important tool to help her in her duties

Digital Savviness

[Level of familiarity with the digital world]

Tech expertise

[Knowledge of the technology]

Frequency of usage

[How often do you use the service]

NEEDS AND FRUSTRATIONS

OBJECTIVE

Emma needs a tool to help her in her job of writing reviews for upcoming tech products.

NEEDS

- Have a tool to support and ease her activities
- Maximize the efficiency of her work
- Jump from static textual reviews to more dynamic media

FRUSTRATIONS

- It's hard to give complete and non-ambiguous reviews of the products
- Cold-starting for each and every review takes up a lot of time

JOHN, 25-30 y.o., Waiter

Scenario: Jhon is a waiter passionate about musc. He wants to buy some new good noice-cancelling headphones for when he comes home from work

Expectations:

- clear online information in an easily digestable format
- ability to filter products according to his needs
- quickly find a matching product

DEFINE → AWARNESS → RESEARCH → COMPARE → PURCHASE → ADVOCACY

	DEFINE	AWARNESS	RESEARCH	COMPARE	PURCHASE	ADVOCACY
Actions	1. Consider current headphones 2. Define most-desired features	3. Ask friends and coworkers 4. Follow Google ads	5. Browse e-commerce platforms 6. Search "best noice cancelling headphones" online and browse tech-reviews websites	7. Start comparing products 8. Search for video reviews on Youtube	9. Decide the new product to buy 10. Perform the purchase	11. Suggest the product to your friends 12. Leave a review
Touch-points		Ad banner Landing seller page	E-commerce sites Search bar Tech blogs Product pages	Excel document Comparison tools Youtube search bar	Cart confirmation Payment page Order confirmation	Reviewing system
Improvements		Build efficient algorithms to intercept users' needs	Have an all-in-one place with text and video reviews Allow for ad-hoc filtering	Have a website that does the comparisons and stores the desired products	Allow for several payment methods	Give some rewards for leaving reviews and answering surveys

End Users

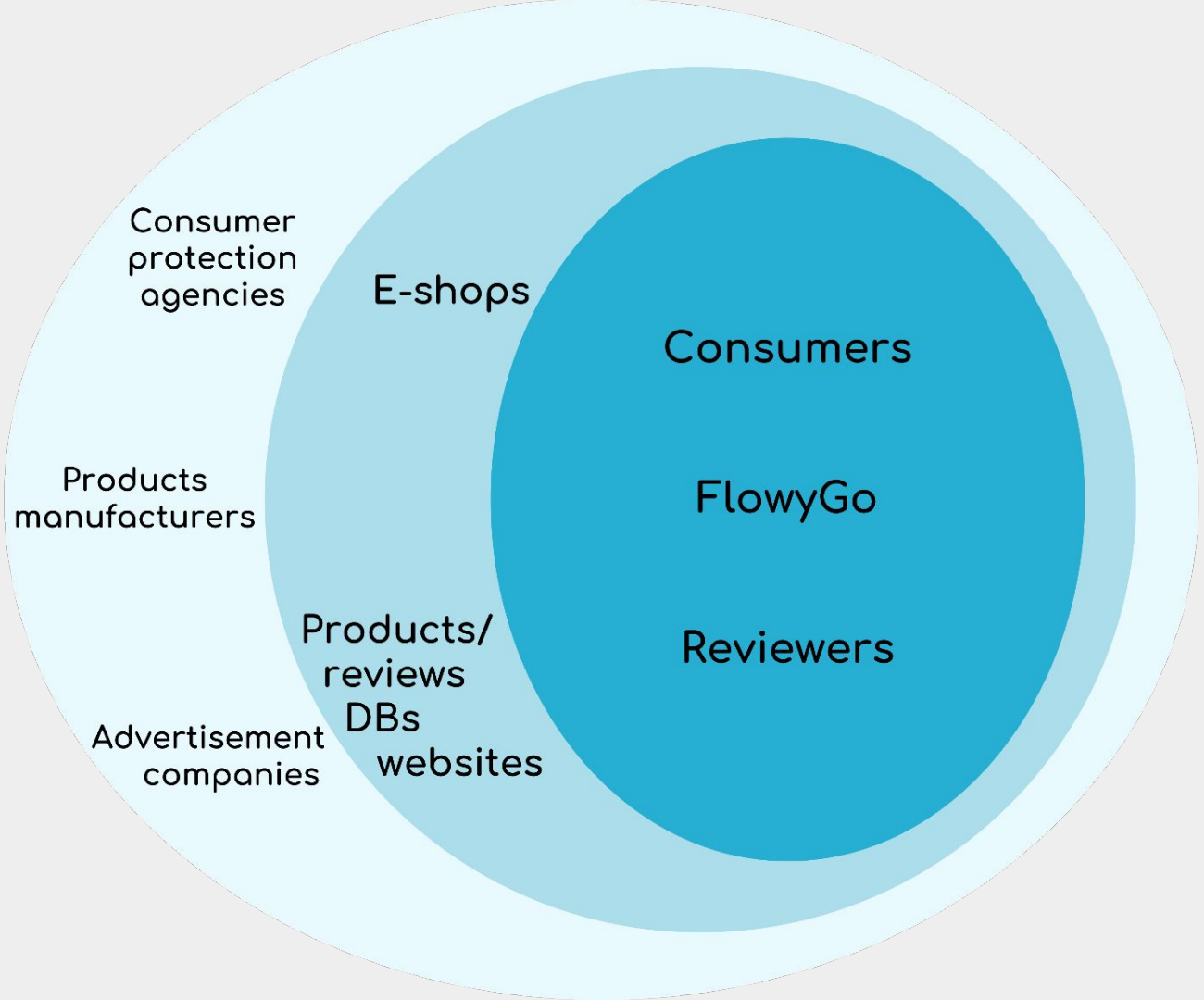
Direct and indirect enitities that will interact with the system and/or outputs.

Secondarly affected

Enitities who will be somewhat strongly affected even if not directly interacting with the system

Indirectly affected

Entities who will be indirectly affected by the presence of the service



FUNCTIONAL REQUIREMENTS

No.	Requirement	Notes	Category
1	Users should be able to compare products by filtering by specifying features, such as screen size, price or range	N/A	Technical
2	The system will provide both a text review and a video (slideshow) review of the desired product(s)	N/A	Technical

NON FUNCTIONAL REQUIREMENTS

No.	Requirement	Notes	Category
1	The system provide a review in a reasonable time	N/A	Technical
2	The reviews achieve a minimum threshold in terms of clarity/ readability/ coherence	N/A	Technical

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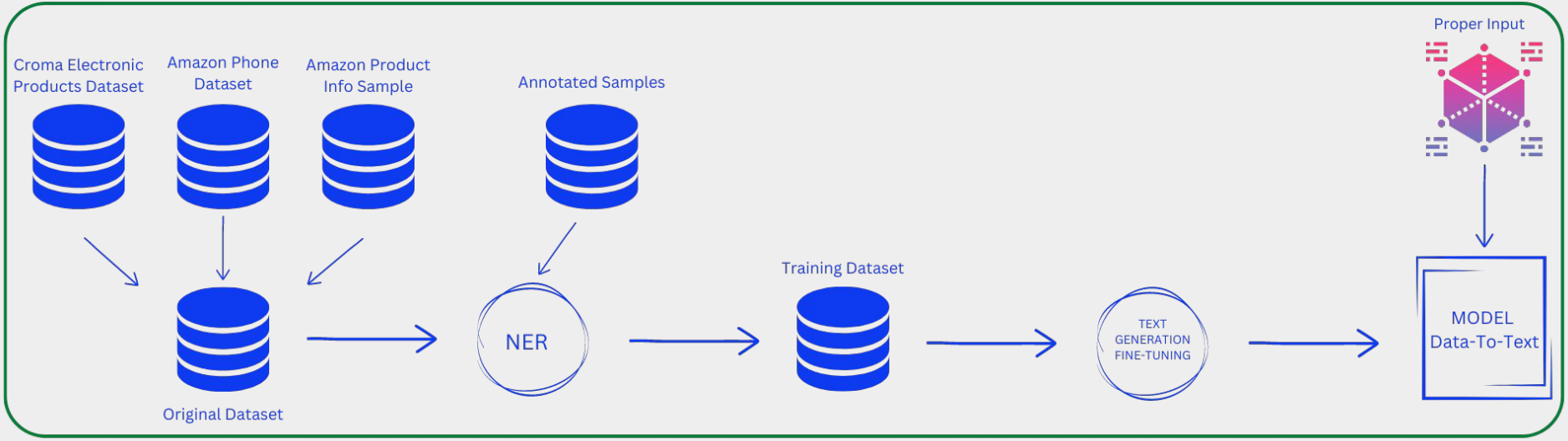
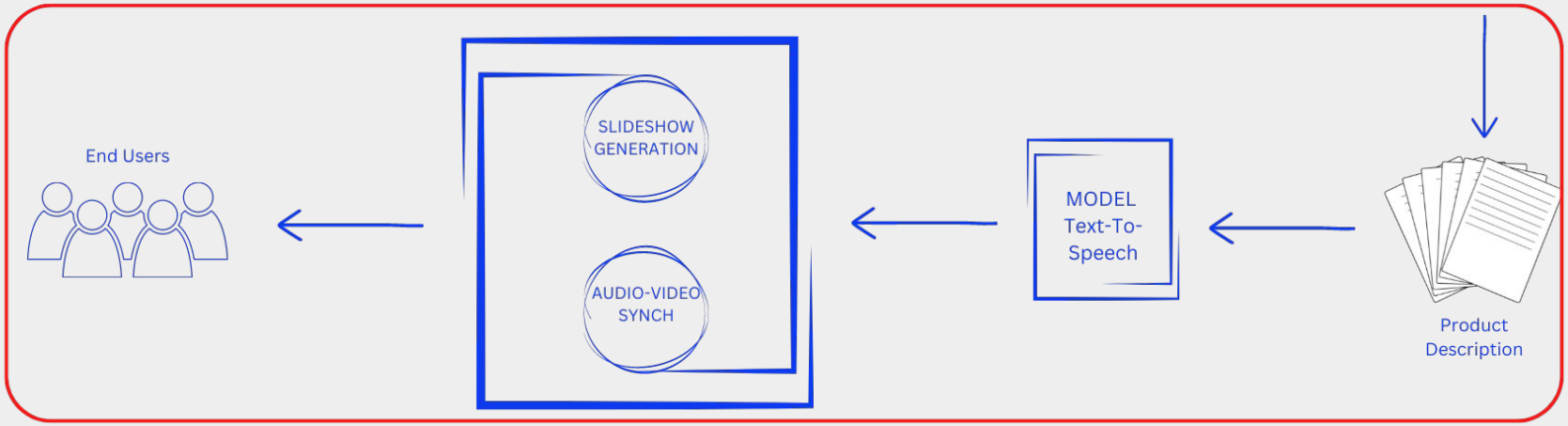

Croma Electronic Products Dataset
Amazon Phone Dataset
Amazon Product Info Sample
Annotated Samples
Original Dataset
NER
Training Dataset
TEXT GENERATION FINE-TUNING
Proper Input
MODEL Data-To-Text


End Users
SLIDESHOW GENERATION
AUDIO-VIDEO SYNCH
MODEL Text-To-Speech
Product Description

GANTT CHART

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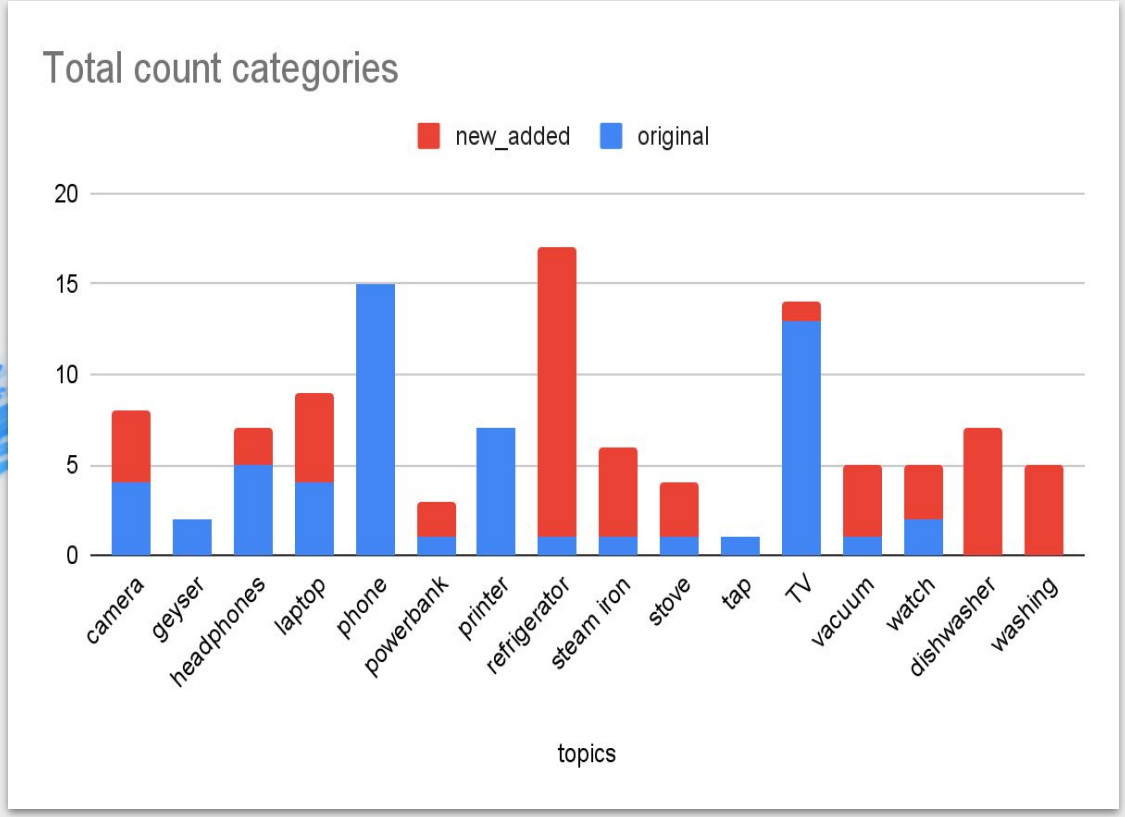
NER: a brief spoiler



Thanks you for your attention. Questions?

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