Contextual Inquiry [Discover]

“Create an out of the world picture that is cute, relevant to pacific northwest and about a detective finding new clues that are hidden in difficult places” ChatGPT

Announcements

- Team assignments (double check)
- Non-AI teams – we have 2!!! Great, but no use of AI for any project deliverable component.
- Quick look at Canvas – Project Deliverable #1
  - Due: April 16 ~2 weeks
- Any questions?

Today: Contextual Inquiry

Double Diamond: Phase: Discover

Objective: Understand problem space and use context

Method: User & Market research, Interviews, Empathy mapping

Class: **Contextual Inquiry**, Empathy mapping

Outcome: insights into user needs, pain points, opportunity for innovation. Challenge your assumptions.

Design Prompt

Improve public transportation

Understand the problem space & use context

Understand the problem space & use context

Learning about your users

This is empirical work.

"Empirical" = based on data. So you have to collect data.

There are 2 kinds of empirical work:

Formative: to inFORM your design. (This is what we're talking about here.)

Summative: to evaluate your design later. (We'll talk about this later.)

But it's really a continuum...

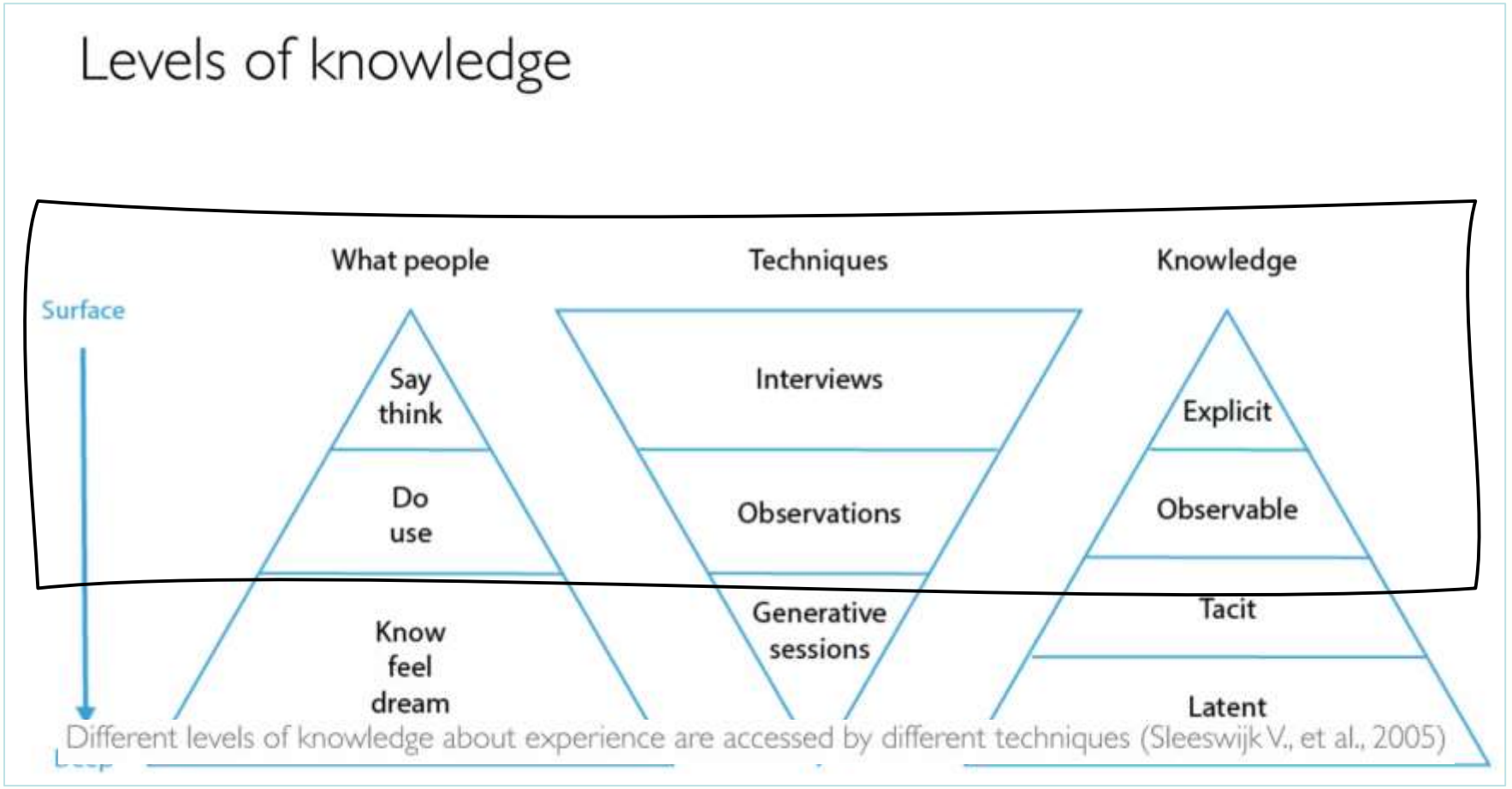
- (See Rogers ch 7 readings)

Contextual Inquiry – Formative work

- In this course we'll cover only these two:
- Observations of users (in the field)
- Interviews of users (in the field)

Contextual Inquiry – Formative Work

For Project: Recommend Field observations



Why observations?

- Clearly identify existing problem or user need
- Tacit knowledge: What's in users' heads
- Empathy: walk in someone else's shoes

How to conduct contextual Inquiry: observation/Interviews

- You need goals for your Discovery!
  - What do you already know about the application space and your target users
  - What information is missing from your team

How to conduct contextual Inquiry: observation/Interviews

- How to get this information:
  - Consider relationship w/ participants.

    Comfort, trust, IRB...
  - Triangulate!!

    Independent ways of getting to same conclusion.

    Examples? (data, investigator, …)
  - Pilot, pilot, pilot!

    ...your PROCEDURE and everything in it.

How to conduct observations

Plan observations sessions

- Define Objectives and Information requirements
- Define times, places, and people to observe
- Decide how to record data

Running the sessions

- Try to be unobtrusive
- Document in situ: notes, recordings, photos,…
- Write down first impressions right after the session

What you should be looking for

- What do people do now?
- What values and goals do they have?
- How are these particular activities embedded in a larger context
- What are the similarities and differences across people

What about the usability goals?

But when you can't do field observation

Guidelines for Interview Questions

- Avoid long/complex questions
  - Users will get confused and answer only parts
- Avoid asking users about hypothetical question
  - Users are not designers. Henry Ford – ask how to improve horse and buggy
- Avoid questions about general recall
  - People may make up answers (how many times do you exercise)
  - Be concrete (this week…)
- Avoid leading questions/be alert to unconscious biases.
  - People will answer in affirmative (is the daily update an important feature to you)
- Avoid binary questions.
  - Wont be interesting answers

Interview Sequence

1. Introduce yourself and study.

   who are you exactly, and why are you here?

   reassurances about confidentiality, IRB process,

   IMPORTANT: ask their permission for recording,

   set up data collection (quickly/efficiently).

2. Warm-up:

   Ask them some easy questions related to context

   E.g., “What made you interested in [this] product?”, “What other similar products do you use?”, “What was the first social media platform you used?”

Interview sequence (cont.)

3. Main observation:

   In logical sequence, save hardest for the end.

4. Cool down

   Easy questions, to defuse tension if arose.

   Ask them if there is anything else, they have to say

5. Closing

   Thank them!!

How often/many to observe

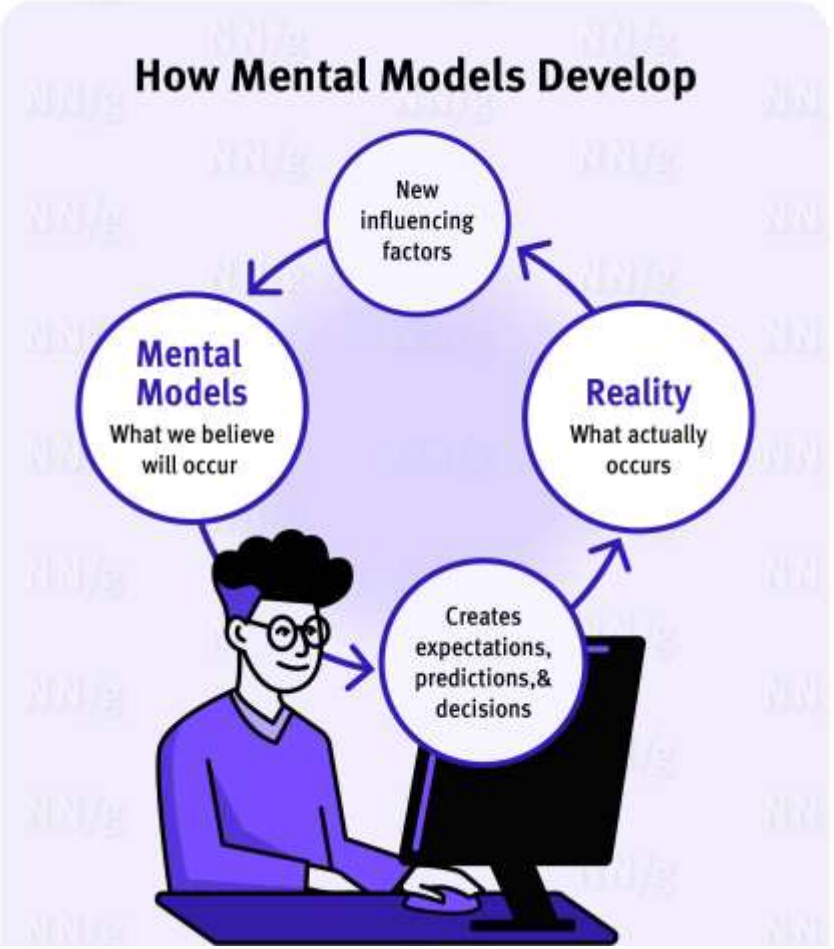
- In real world, if you're a developer:
  - Steve Krug ("Rocket Surgery Made Easy") recommends spending at least 1 morning/month at this.
- He recommends observing 3 users during that morning.
- For class (1 regular user, 1 fringe user)

Contextual Inquiry helps you:

- Discover users' needs and practices via empirical data
- Understand their mental model

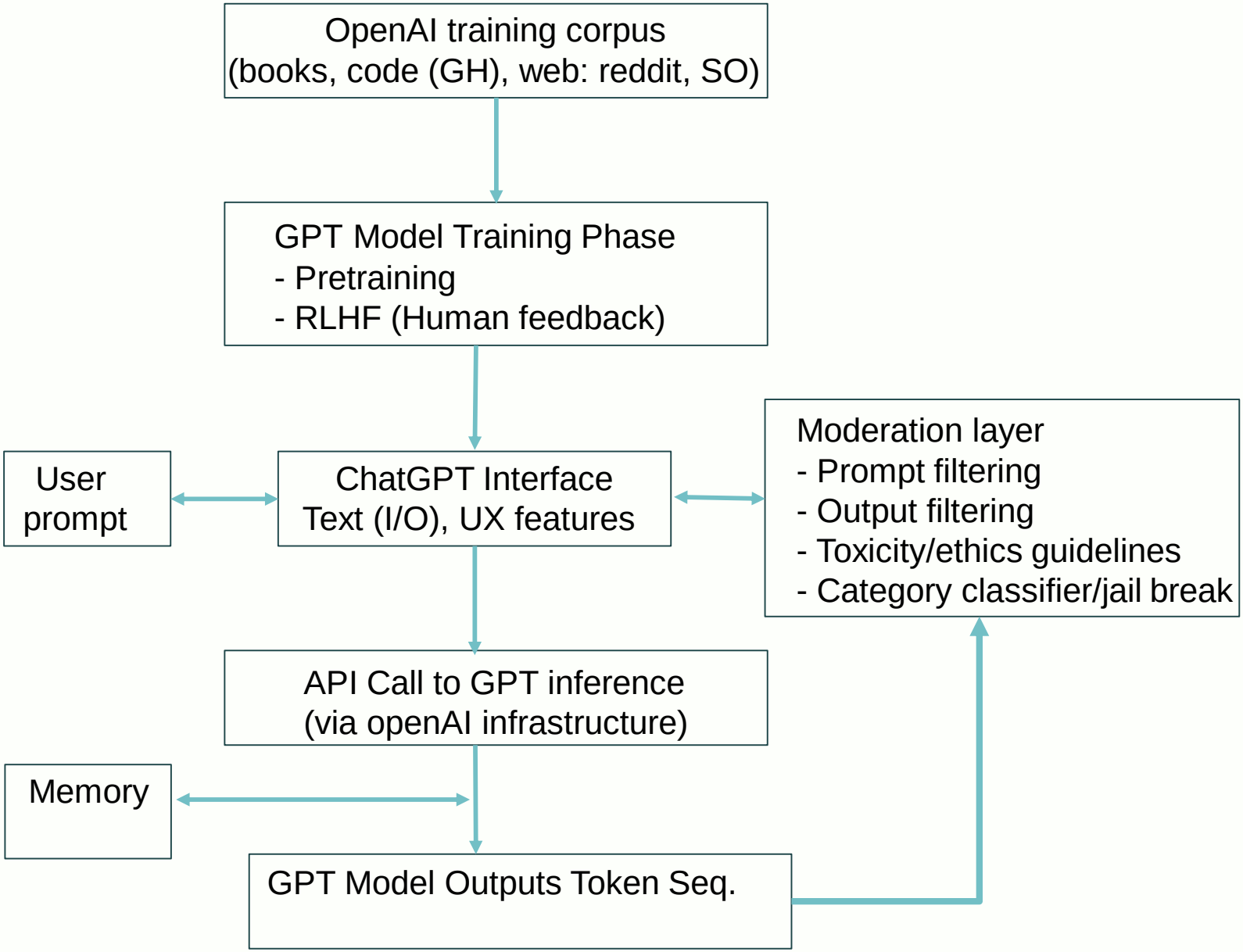
Mental Models

- What the user believes about the system
- It influence how they interact with an interface
- Based on beliefs, not facts
- Each user has their own mental models



Let's try out

- Take 3 min to think/reflect on:
  - How the ChatGPT application works: starting from when the user poses a query/ what data was used to train the model/ and what it does before outputting. Don't worry about what happens inside the model

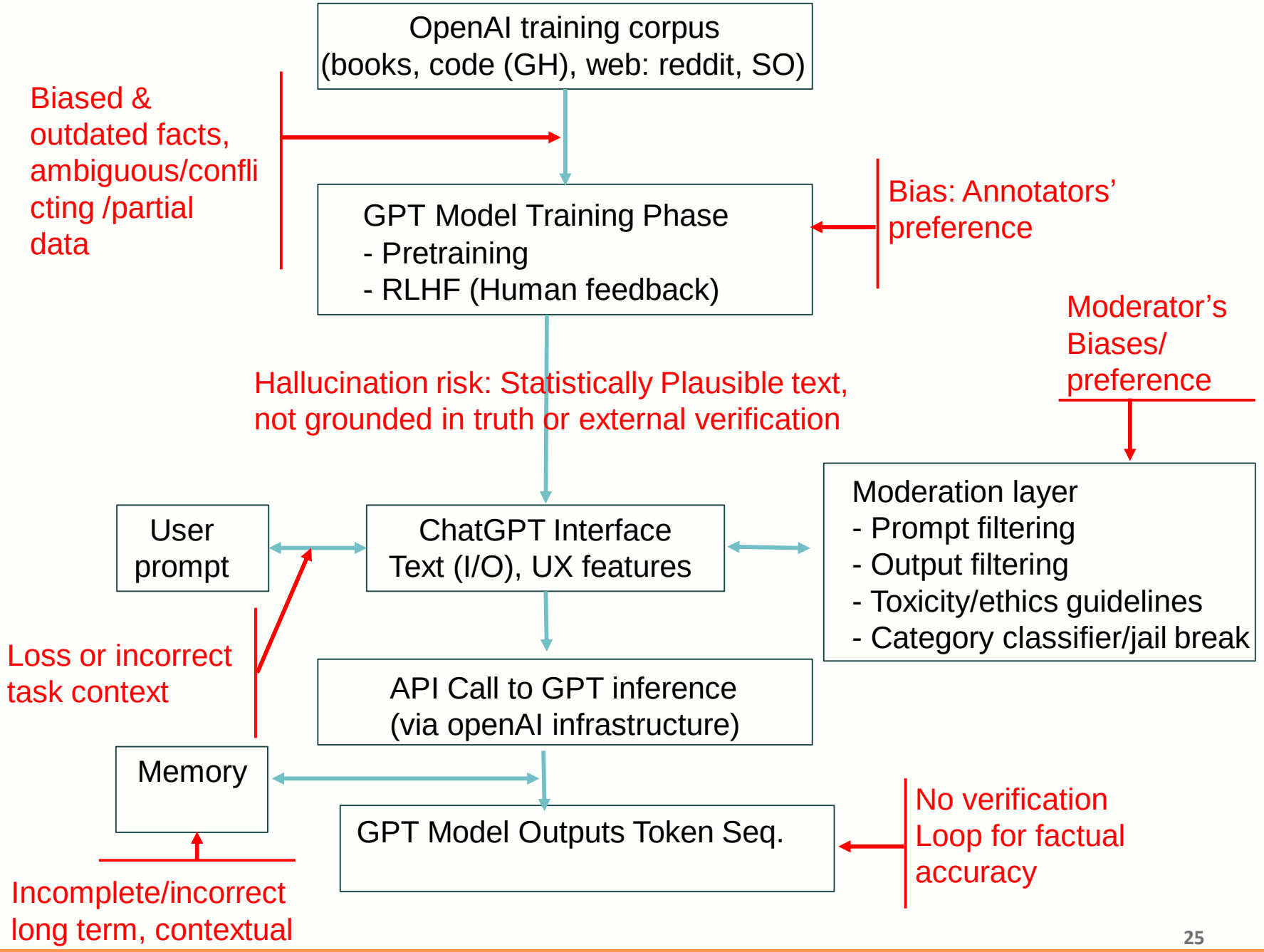

OpenAI training corpus
(books, code (GH), web: reddit, SO)
GPT Model Training Phase
- Pretraining
- RLHF (Human feedback)
User prompt
ChatGPT Interface
Text (I/O), UX features
Moderation layer
- Prompt filtering
- Output filtering
- Toxicity/ethics guidelines
- Category classifier/jail break
API Call to GPT inference
(via openAI infrastructure)
Memory
GPT Model Outputs Token Seq.

Moderation Layer

- Prompt Filtering: checks for harmful, illegal, or manipulative intent in user inputs.
  - Filters out requests for: Instructions on illegal activity
  - Hate speech generation, Jailbreak attempts (trying to make the model behave badly)
- Output Filtering: screens responses for offensive or unsafe content.
- Detect if content falls under categories such as:
  - Hate speech, violence, harassment, self-harm or suicide sexual content, Misinformation
- Toxicity Scoring
  - Uses pre-trained toxicity classifiers (e.g., adaptations of Google's PerspectiveAPI) to assign risk scores to content.

Let's try out

- Take 3 min to think/reflect on:
  - How the ChatGPT application works: starting from when the user poses a query/ what data was used to train the model/ and the steps before the model outputs back to the user.
  - Where can ChatGPT (the application) make mistakes: biases, hallucination, ….


OpenAI training corpus
(books, code (GH), web: reddit, SO)
Biased &
outdated facts,
ambiguous/confli
cting /partial
data
GPT Model Training Phase
- Pretraining
- RLHF (Human feedback)
Bias: Annotators'
preference
Moderator's
Biases/
preference
Hallucination risk: Statistically Plausible text,
not grounded in truth or external verification
User
prompt
ChatGPT Interface
Text (I/O), UX features
Moderation layer
- Prompt filtering
- Output filtering
- Toxicity/ethics guidelines
- Category classifier/jail break
Loss or incorrect
task context
API Call to GPT inference
(via openAI infrastructure)
Memory
GPT Model Outputs Token Seq.
No verification
Loop for factual
accuracy
Incomplete/incorrect
long term, contextual

Summary

Contextual Inquiry helps you:

- Discover users' practices, pain points, needs via empirical data
- Understand their mental model

Next Class:

Persona, User Journey

Activity