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...

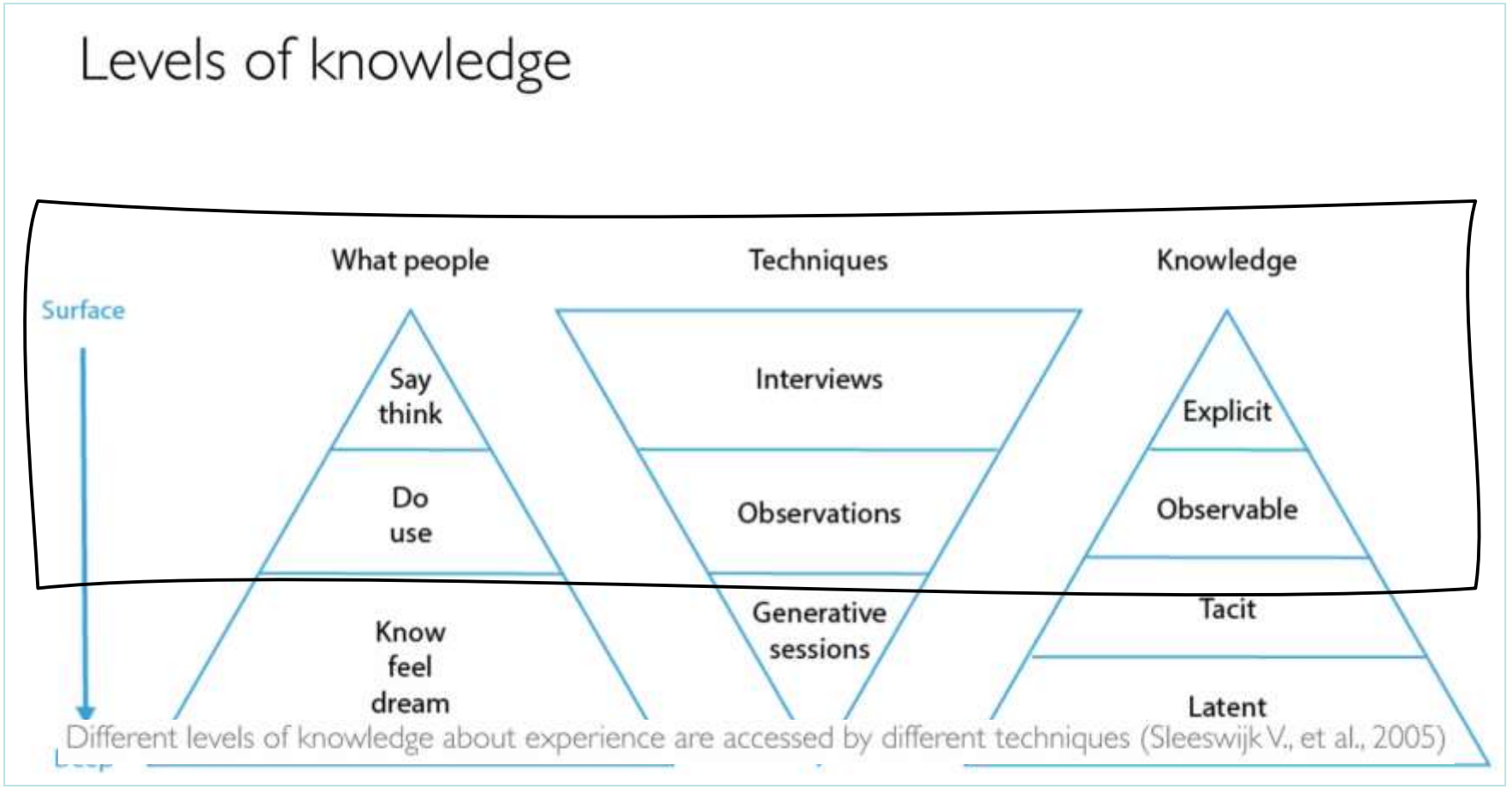
- (See Rogers ch 7 readings)

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

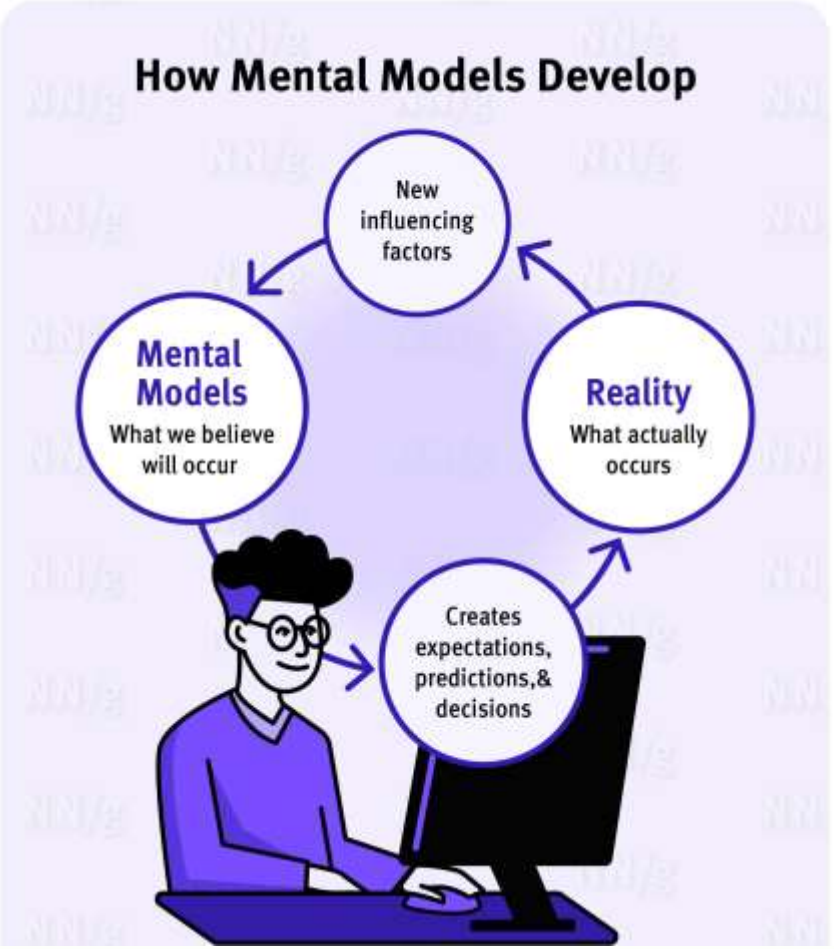
- In real world, if you're a developer:
  - Steve Krug ("Rocket Surgery Made Easy") recommends spending at least 1 morning/month at this.
- He recommends observing 3 users during that morning.
- For class (1 regular user, 1 fringe user)

Contextual Inquiry helps you:

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

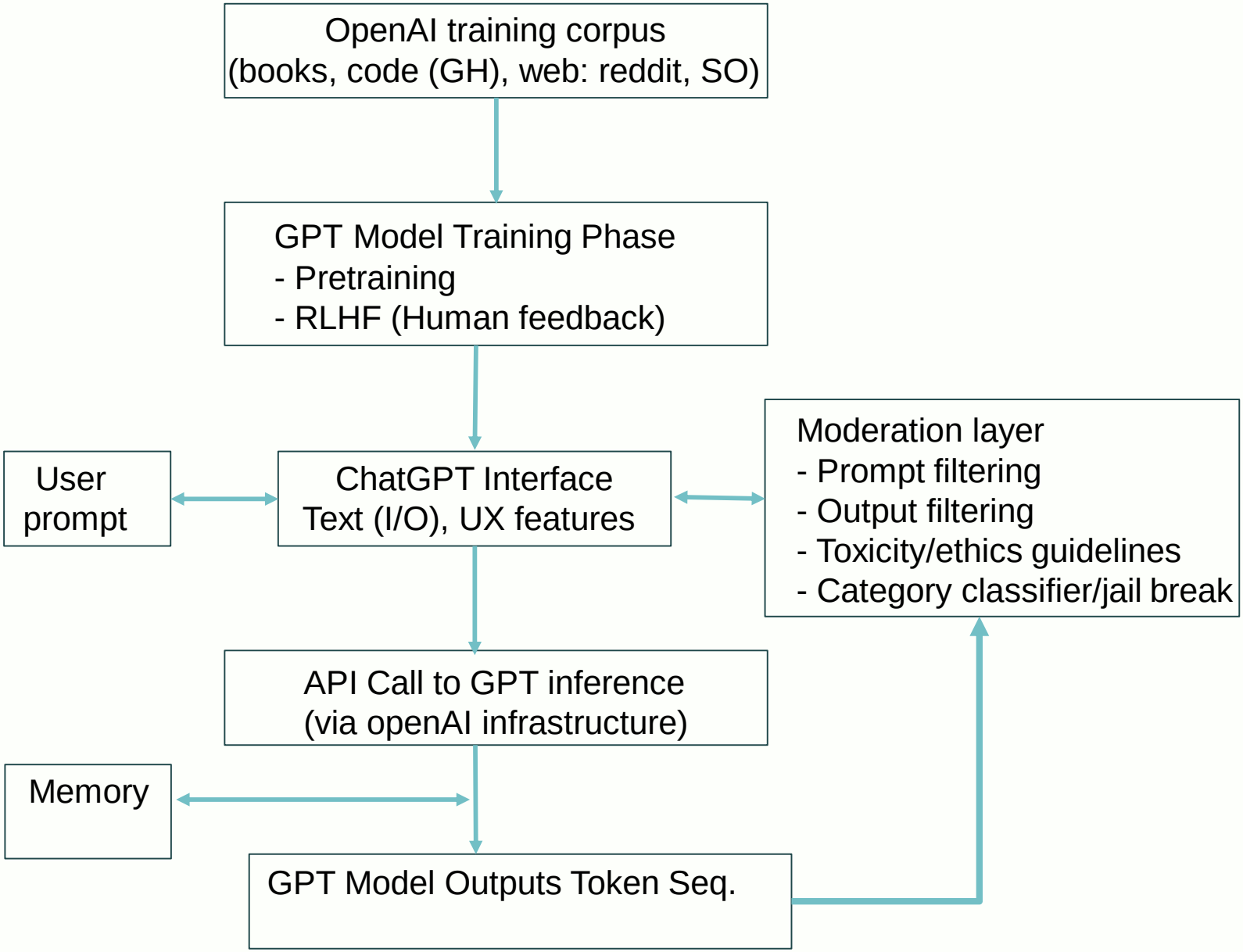
Mental Models

- 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

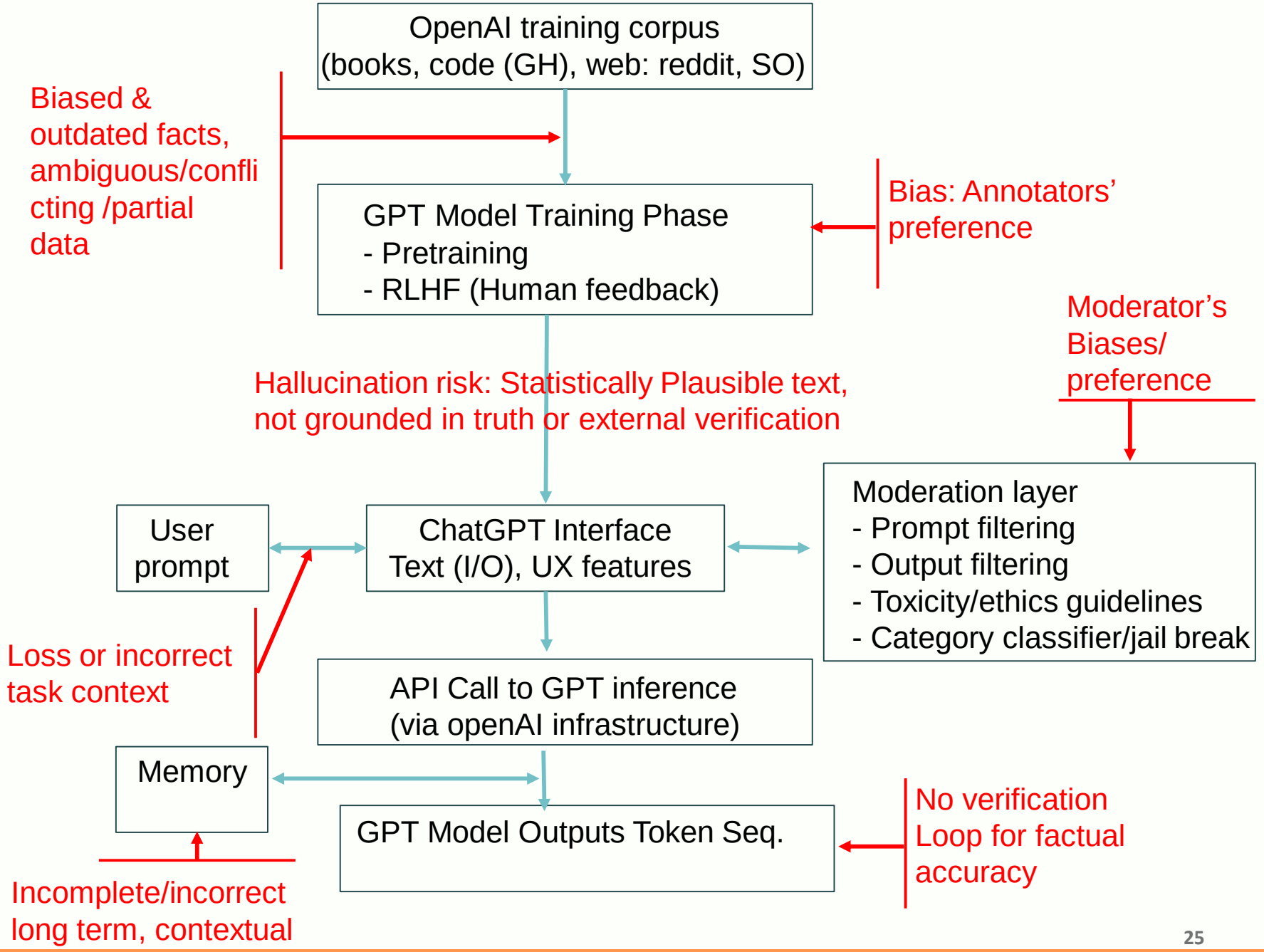

OpenAI training corpus
(books, code (GH), web: reddit, SO)
GPT Model Training Phase
- Pretraining
- RLHF (Human feedback)
User prompt
ChatGPT Interface
Text (I/O), UX features
Moderation layer
- Prompt filtering
- Output filtering
- Toxicity/ethics guidelines
- Category classifier/jail break
API Call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