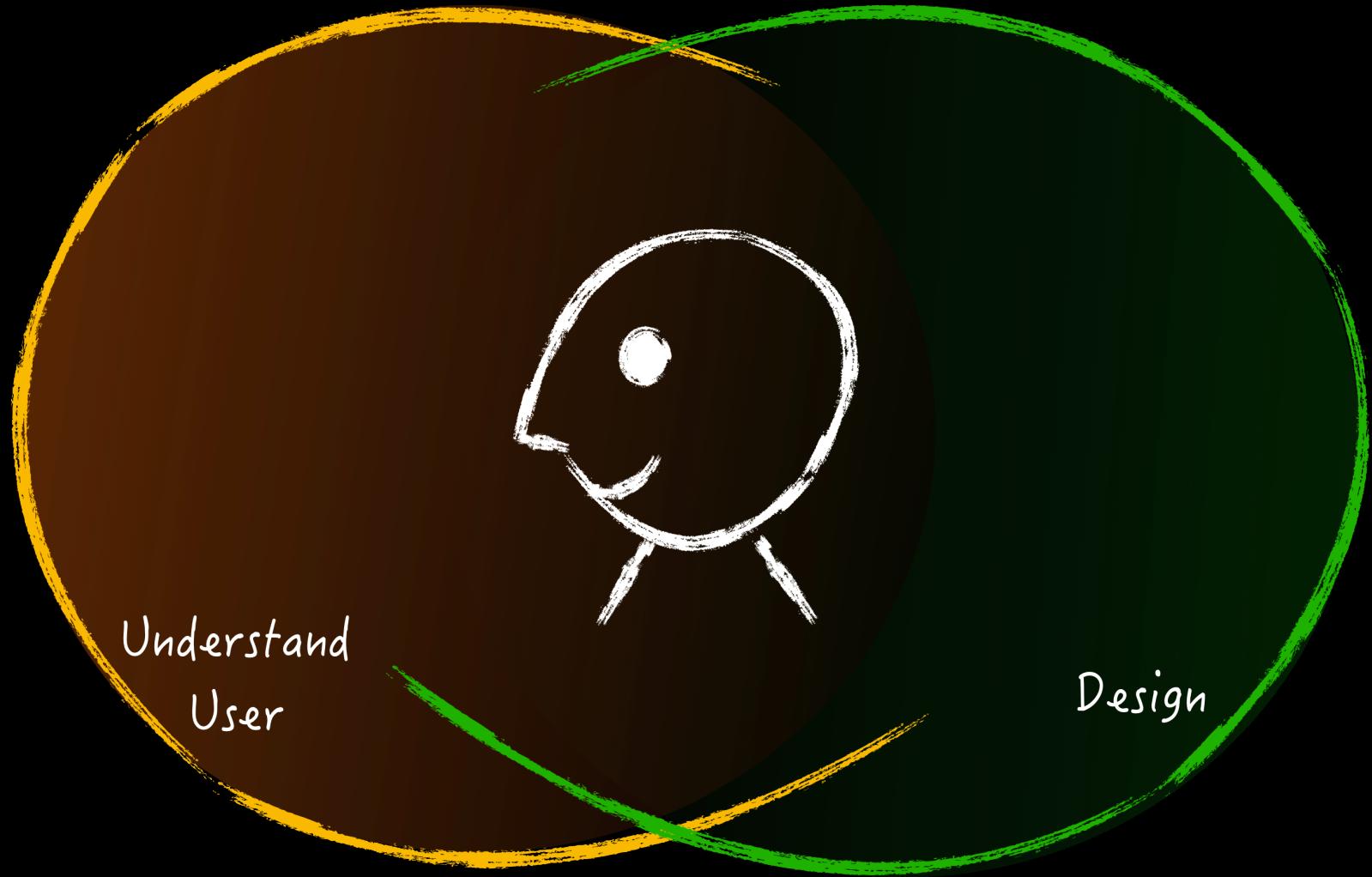


Intro to Human AI Interaction

Jin Guo
SOCS McGill University

Agenda

- Design objectives
- Design for intelligent systems
 - Feedback loop
 - User Control
 - Failure

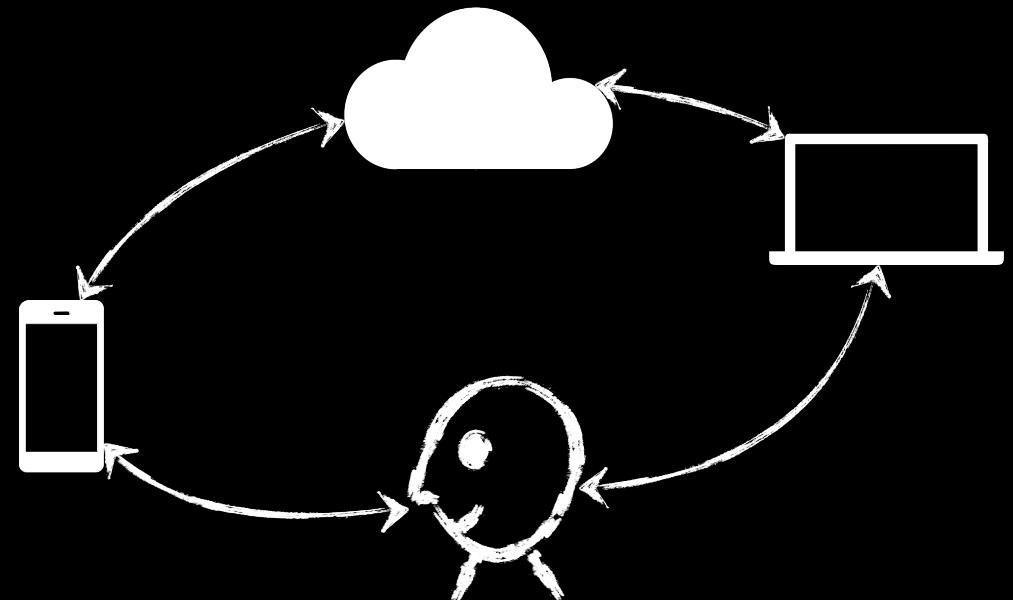


WHAT do designers design?

Interaction

Information flow

Emergence



WHAT do designers design?

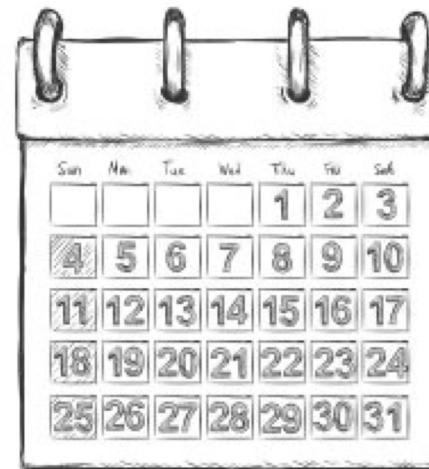
Design for Feedback loop

Identify existing mental models

Activity from RE lecture

Design a schedule management experience for

The person next to you



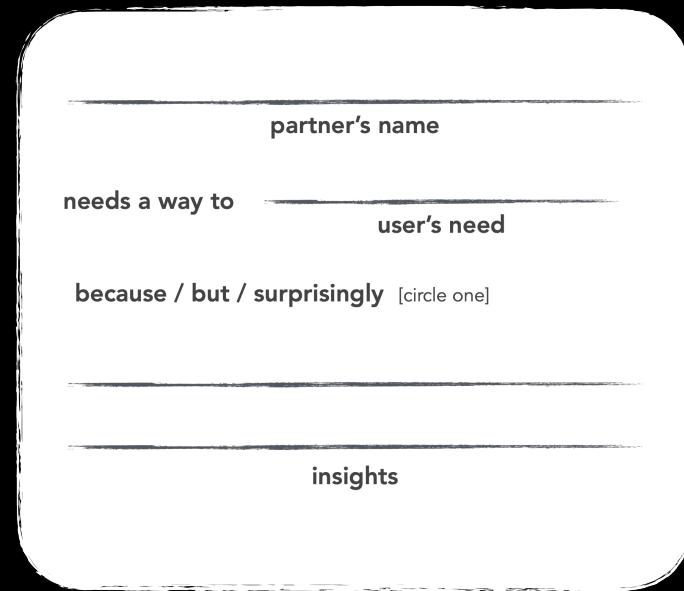
WHAT do designers design?

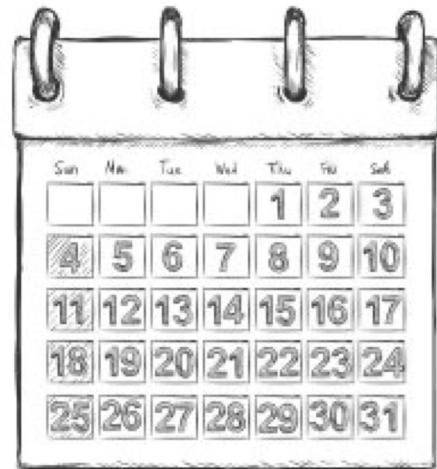
Design for Feedback loop

Identify existing mental models

**Step4: Taking a stand
with a point-of-view**

3 mins





Step5: Make a case for or against AI feature

3 mins

I think AI can / cannot [circle one] help solve

user's need

because _____

Step6: Designing the reward function for the new feature

5 mins

Our AI model will be optimized for

related to user's need

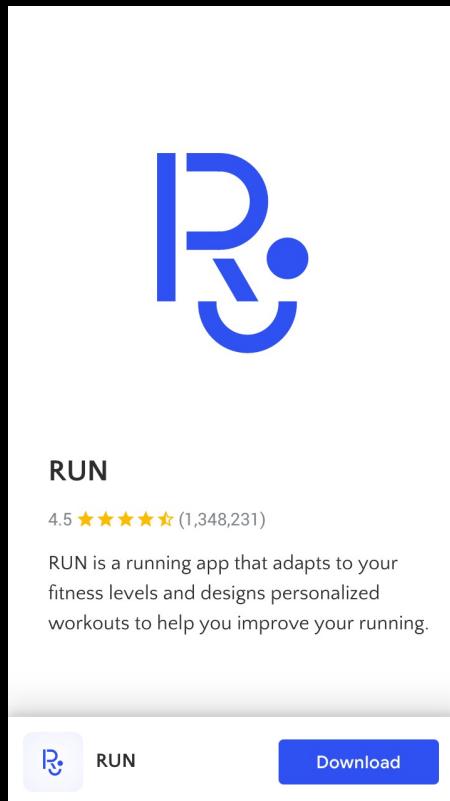
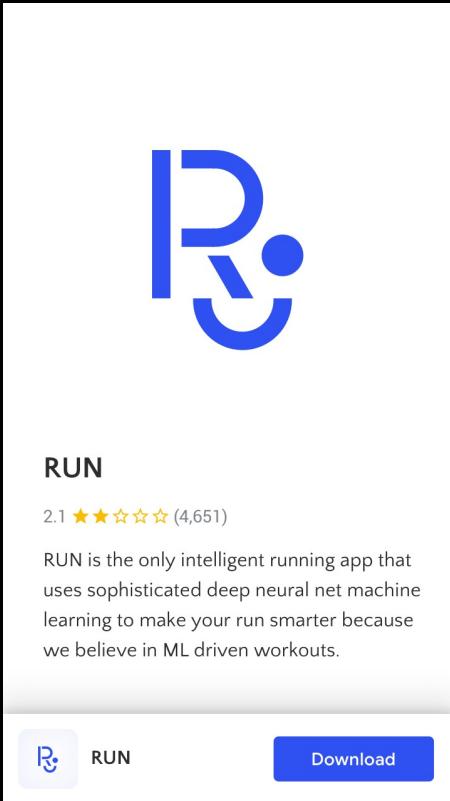
because _____

WHAT do designers design?

Design for Feedback loop

Designing the onboarding stage

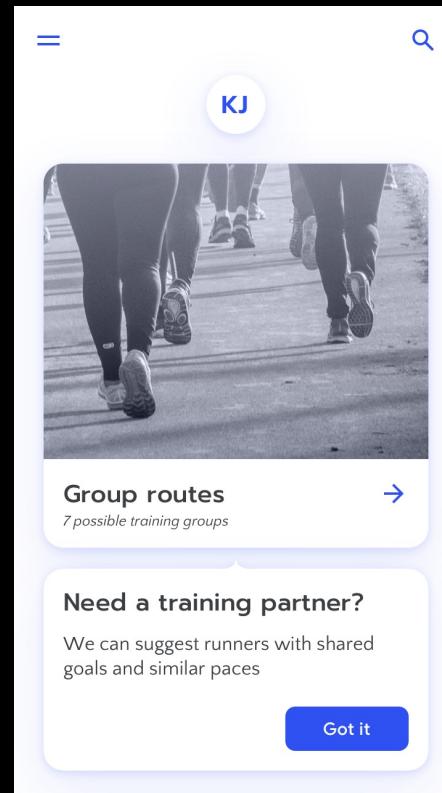
Introduce and set expectations for AI



Explain the benefit,
not the technology

<https://pair.withgoogle.com/chapter/mental-models/>

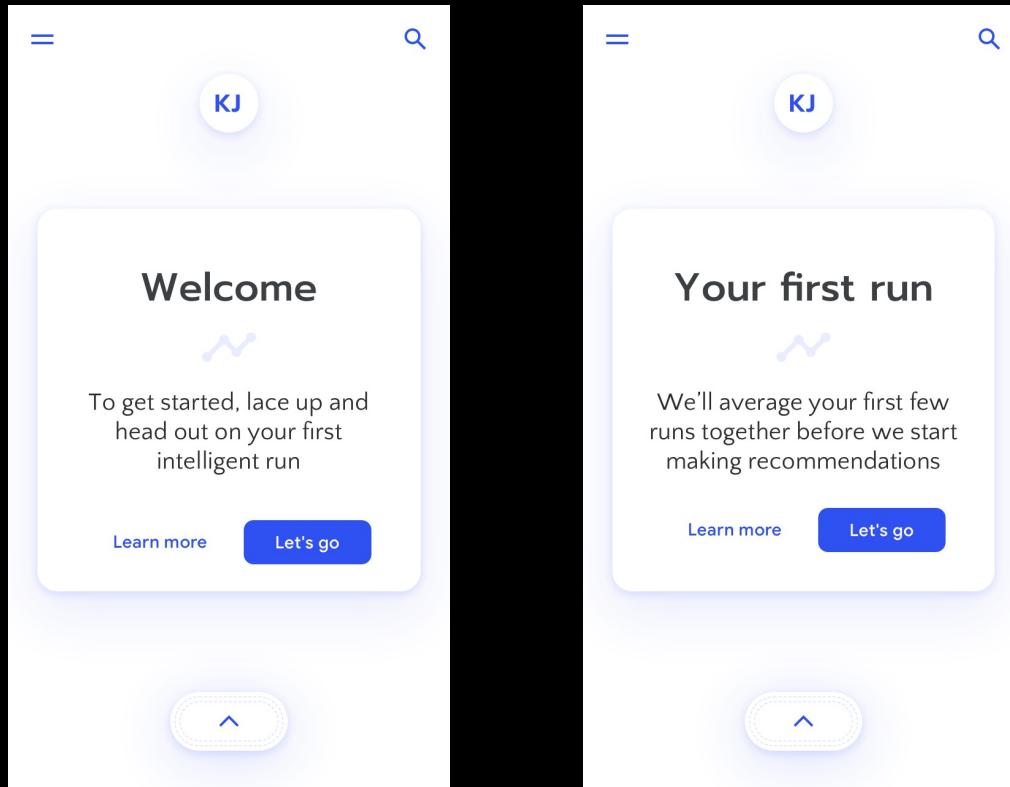
Introduce new features when needed



Introduce an AI-driven feature at the moment when it is relevant to the user.

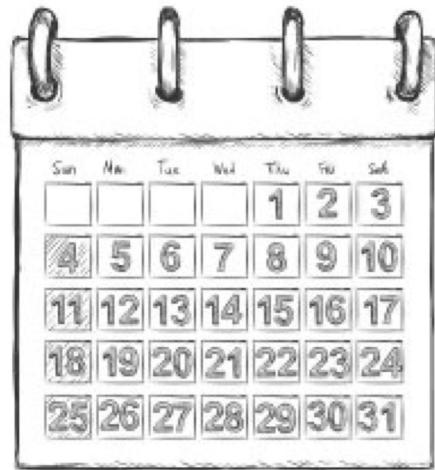
<https://pair.withgoogle.com/chapter/mental-models/>

Design for experimentation



Encourage experimentation and reassure users that experimenting won't dictate their future experiences

<https://pair.withgoogle.com/chapter/mental-models/>



Draft your onboarding message

3 mins

This is _____
the product or feature

and it will help you by _____
core benefit

It is NOT able to _____
primary limitation of AI

Over time, it will change to become more
relevant to you. You can help it get better by _____

actions users can take to help the system learn

Self-assessment of your draft

- Is it easy to experiment with the process in the “You can help it get better by...” phrase?
- Is the description specific and explicit about how the user will interact with and improve the AI over time?
- Are we specific and explicit about how the system will change over time and how that will benefit the user?

Revise and pitch it to your partner of this activity

WHAT do designers design?

Design for Feedback loop

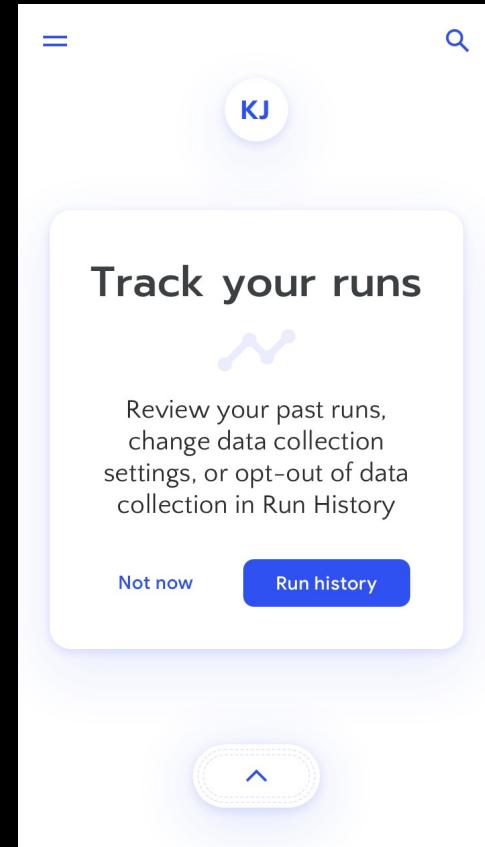
Designing the onboarding stage

Collecting feedback

Implicit Feedback

- Telemetry design

Let the user know you
are collecting it, and
get permission



Explicit Feedback

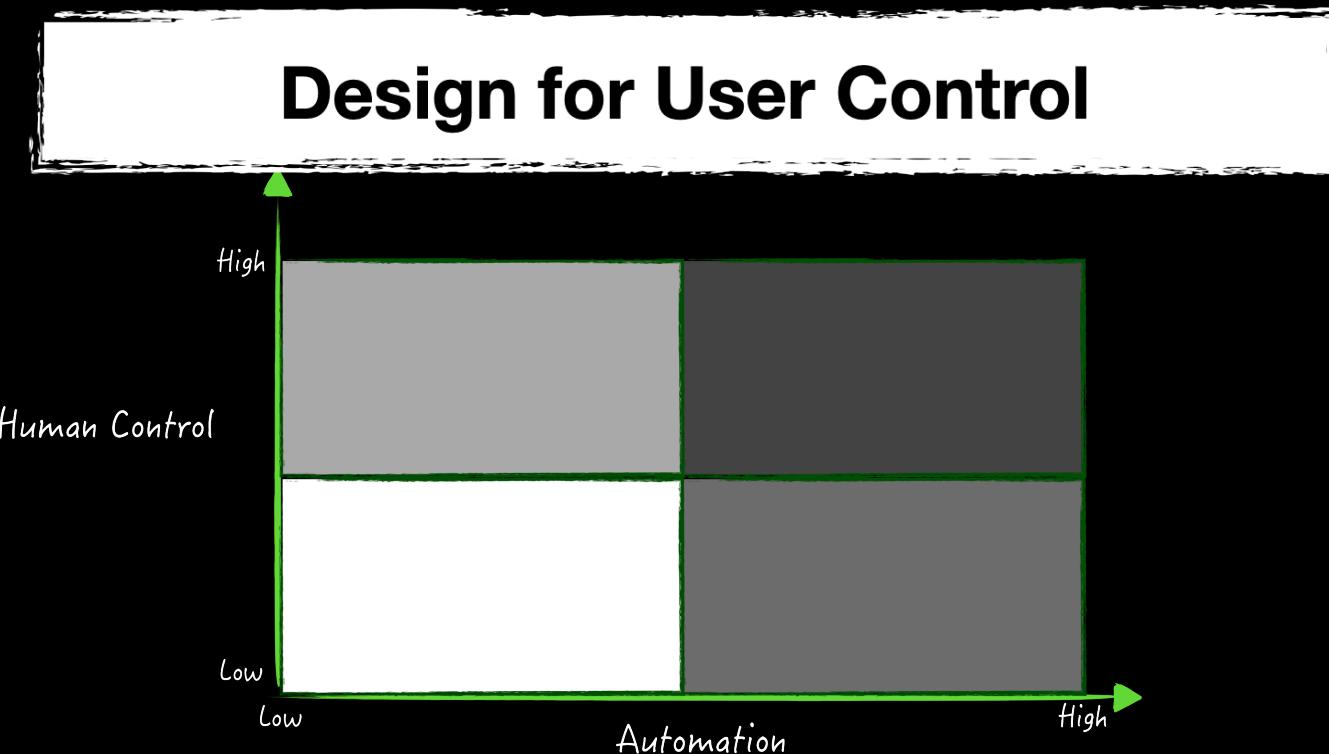
- User intentional specified preferences or comments on the output from the product

Thank you for your feedback!

OK

Communicate scope & time to impact!

WHAT do designers design?

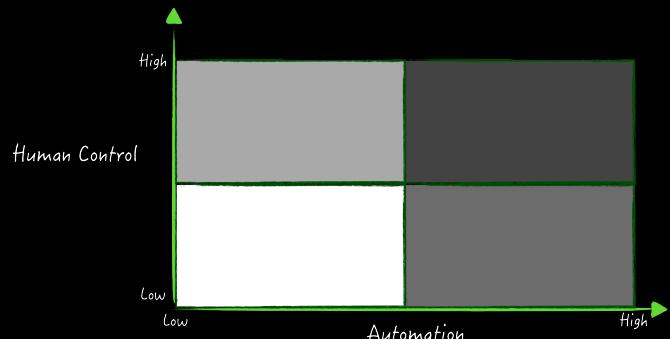


Shneiderman, B., 2020. Human-Centered Artificial Intelligence: Three Fresh Ideas.
AIS Transactions on Human-Computer Interaction, 12(3), pp.109-124.

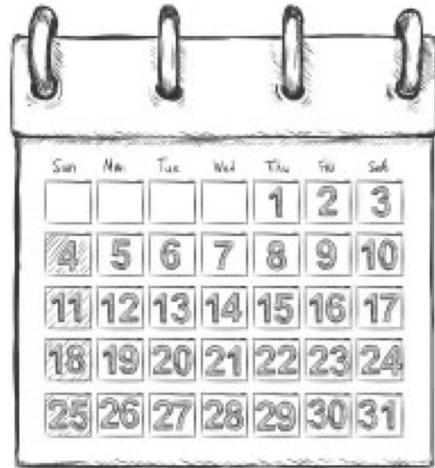
WHAT do designers design?

Design for User Control

- Decide on level of Control and Automation
- Allow for opting out
- Allow for user adjustment



Shneiderman, B., 2020. Human-Centered Artificial Intelligence: Three Fresh Ideas. AIS Transactions on Human-Computer Interaction, 12(3), pp.109-124.



Map a user's need for control

The level of user control needed for this feature
is low / medium / high / unsure

because _____

WHAT do designers design?

Design for Error and Failure

Differentiate

- **Input error:** user provides unexpected input due to misunderstanding of what the system is capable of doing, or breaking habitual interaction.
- **System limitation.** Your system can't provide the right answer, or any answer at all, due to inherent limitations to the system.
- **Context.** The system is "working as intended," but the user perceives an error because the context mismatch the assumptions made by the system.

<https://pair.withgoogle.com/chapter/errors-failing/>

WHAT do designers design?

Design for Error and Failure

- Provide informative and actionable error message
- Create opportunities for feedback
- Return control to the user
- Be careful with subversive uses

<https://pair.withgoogle.com/chapter/errors-failing/>

On Next :

Human-AI Interaction

Data Visualization and Communication