

Intro to Human AI Interaction

— Mental Model

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A photograph of six diverse children (three boys and three girls) looking up and smiling at the camera. They are of various ethnicities and are wearing casual clothing like shirts and jackets. The background is plain white.

User Needs

(Requirements Engineering
and Human-Centered Design)

A close-up photograph of a white soccer ball with dark blue and black panels hitting the back of a white goal net. The ball is positioned in the center-left of the frame, angled towards the right. The background is a blurred green field.

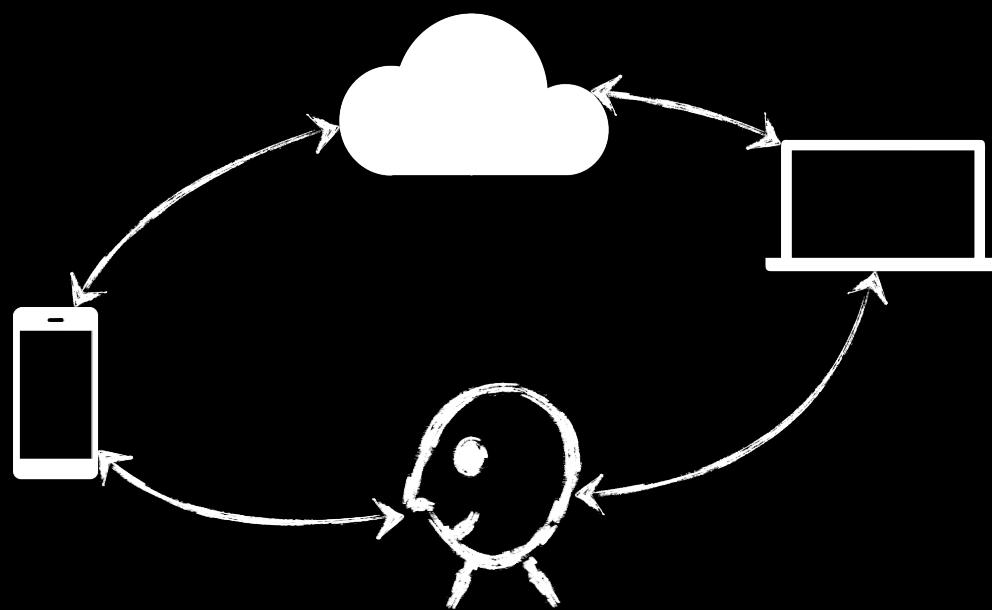
System Objectives
(Requirements Engineering
and Model Quality)

User Needs
(Requirements Engineering
and Human-Centered Design)

**Human-AI
Interaction
Design**

System Objectives
(Requirements Engineering
and Model Quality)

WHAT do designers design?

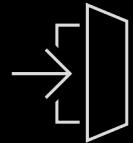


Interaction

Information flow

Emergence

WHAT do designers design?



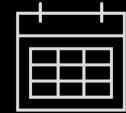
Onboarding



Interaction



Failure



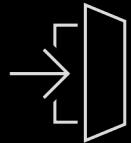
Evolution

WHAT do designers design?



*Mental
Model*

*Introduce
and set
expectations*



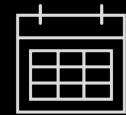
Onboarding



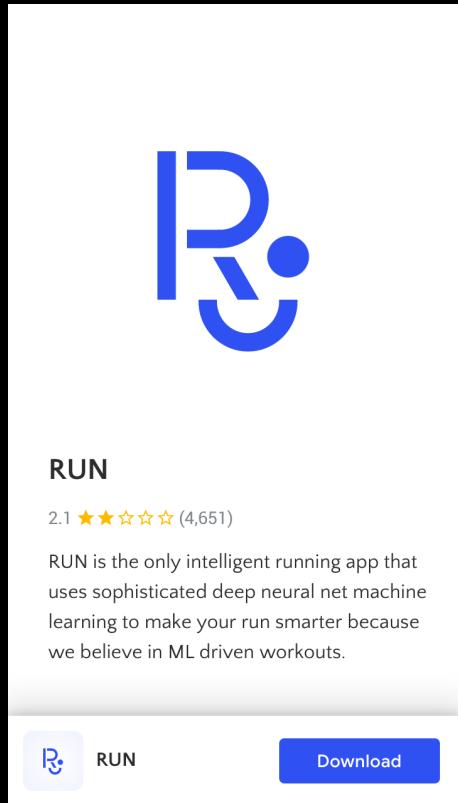
Interaction



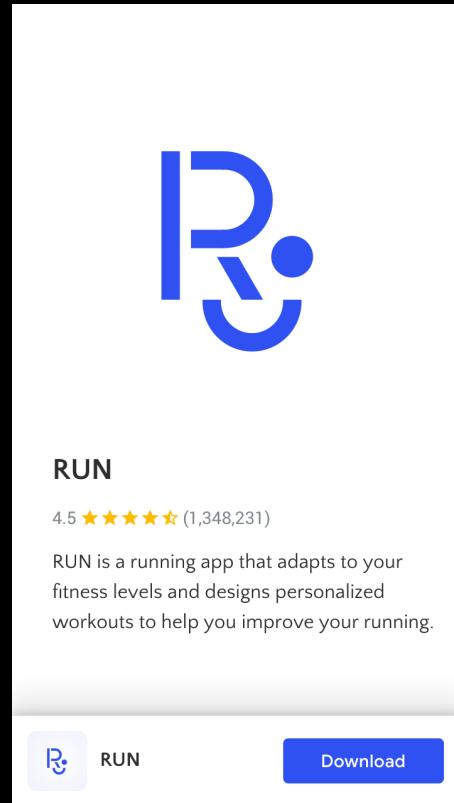
Failure



Evolution



Version 1

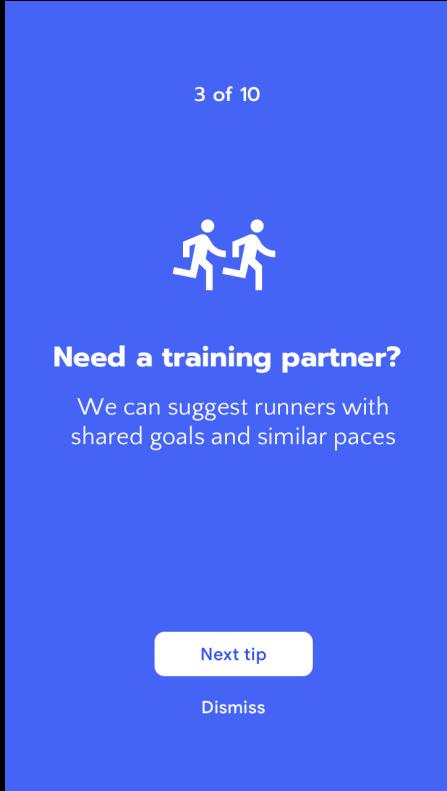


Version 2

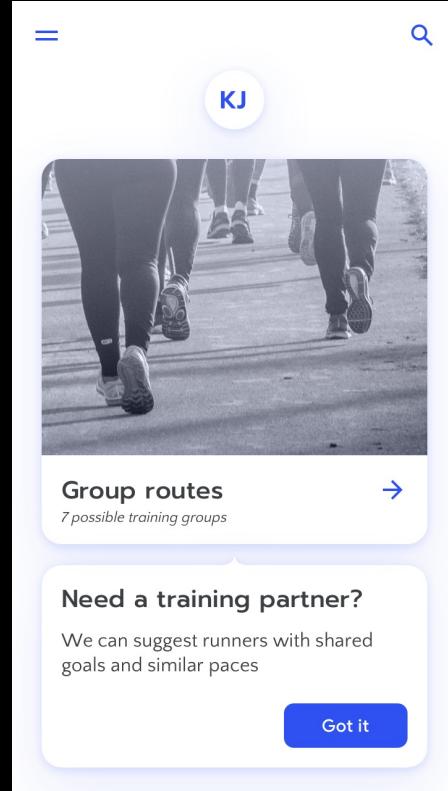
Make clear what the system can do.

Explain the benefit, not the technology

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



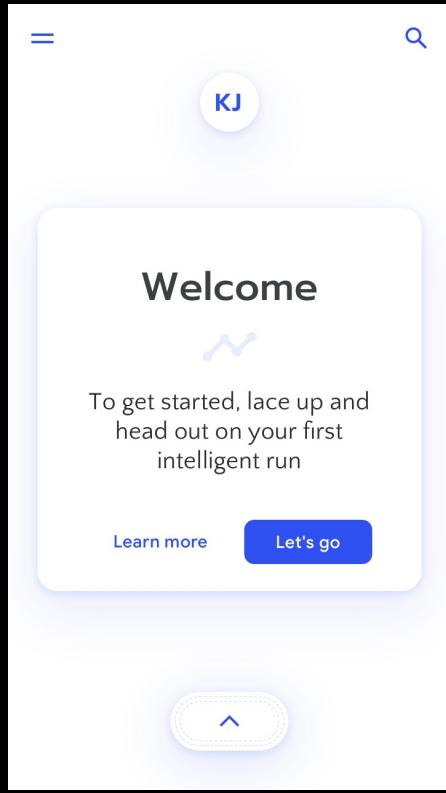
Version 1



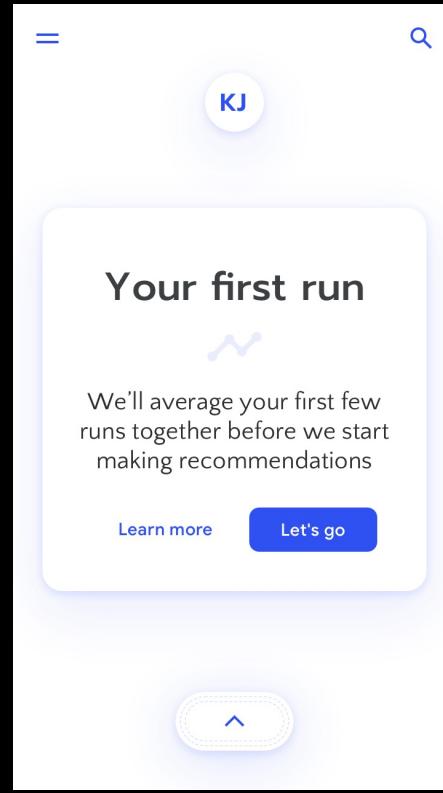
Version 2

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

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



Version 1



Version 2

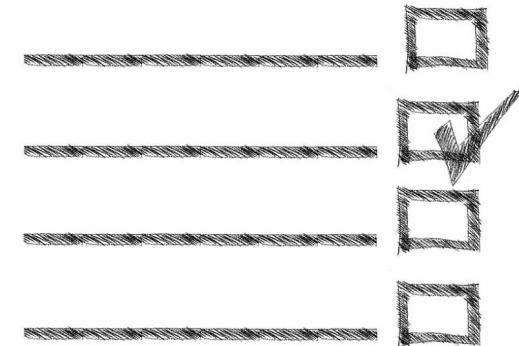
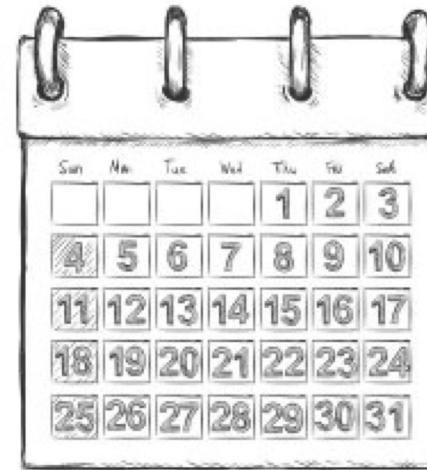
Encourage experimentation and reassure users that experimenting won't dictate their future experiences

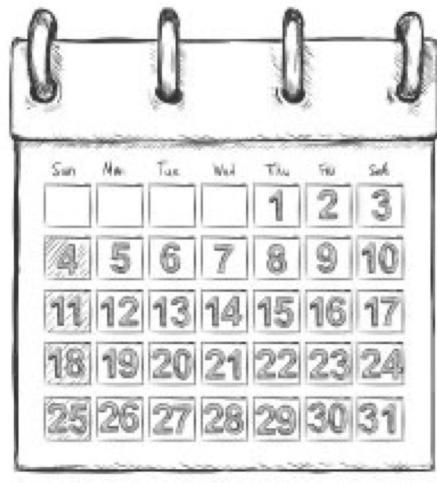
<https://pair.withgoogle.com/chapter/mental-models/>

Activity from RE lecture

Design a schedule management experience for

The person next to you





Draft your onboarding message

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

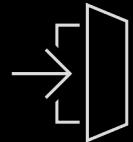
WHAT do designers design?



Mental
Model

*Introduce
and set
expectations*

*Communicate
AI limits and
capabilities in
context*



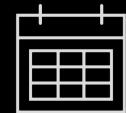
Onboarding



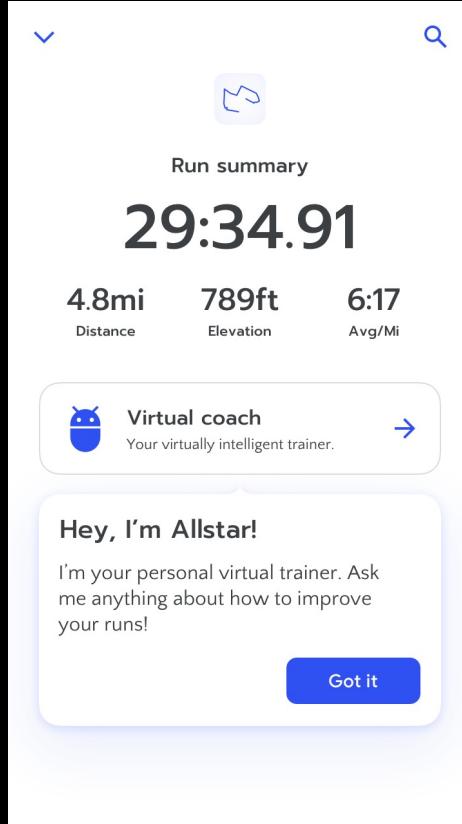
Interaction



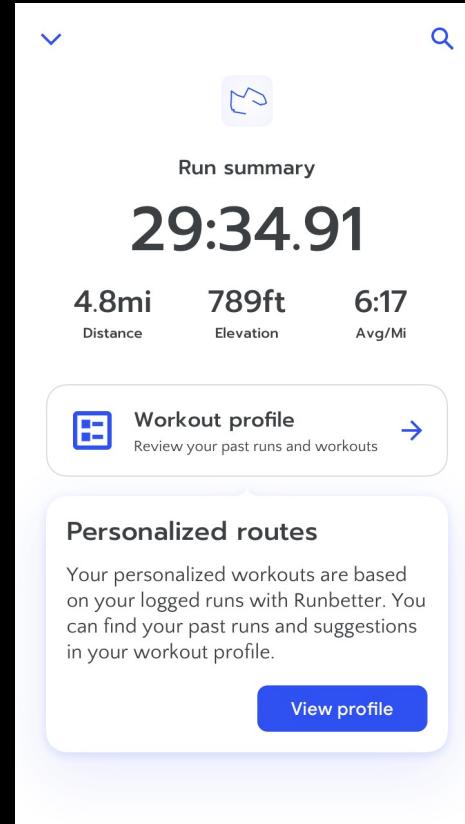
Failure



Evolution



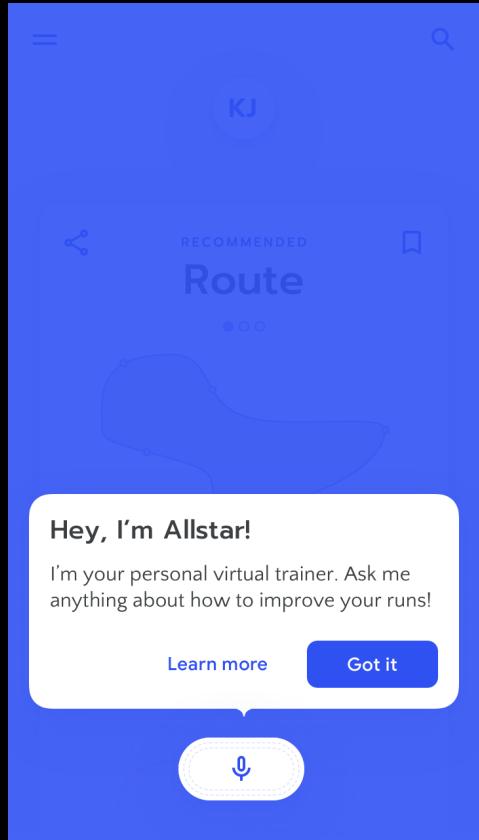
Version 1



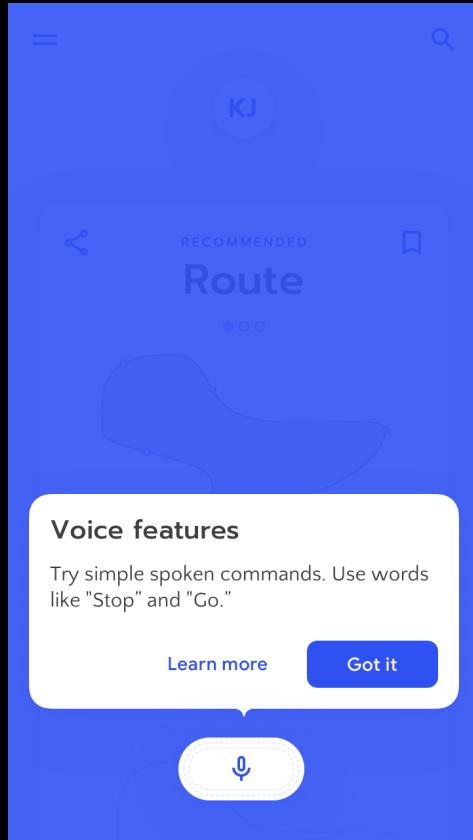
Version 2

Choose the level of humanization based on the AI's capacity

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



Version 1



Version 2

Cue the correct interactions.

Reinforce the right mental models.

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

WHAT do designers design?

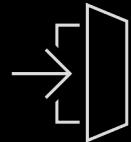


Mental
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*Introduce
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*Communicate
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*Fail
gracefully*



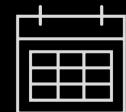
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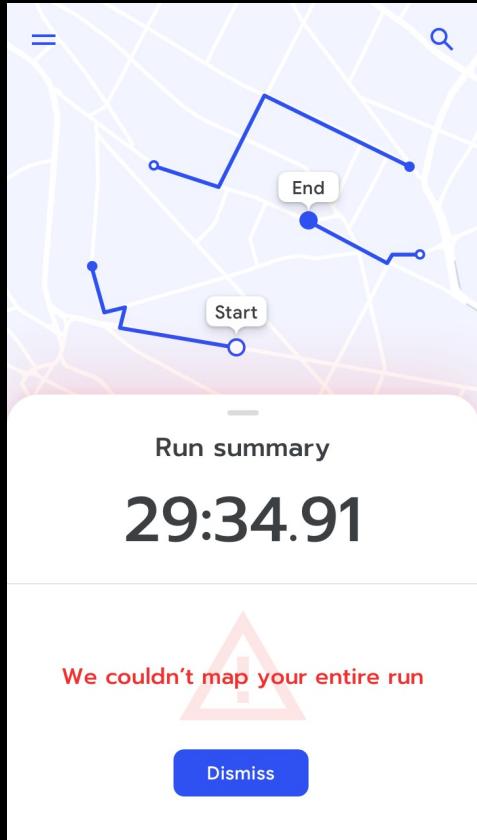
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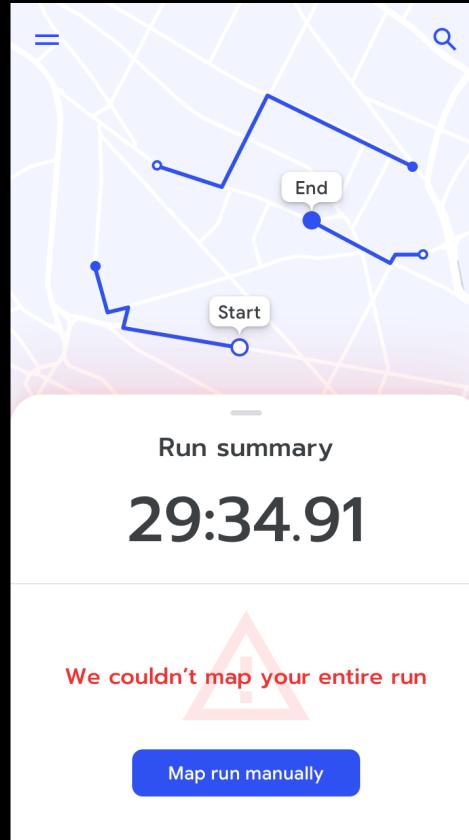
Failure



Evolution



Version 1



Version 2

Let users know an error occurred and why.

Make it easy to recover when AI fails

WHAT do designers design?



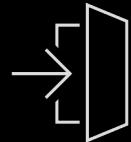
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*Plan for Co-
Learning*



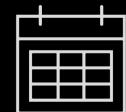
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Interaction



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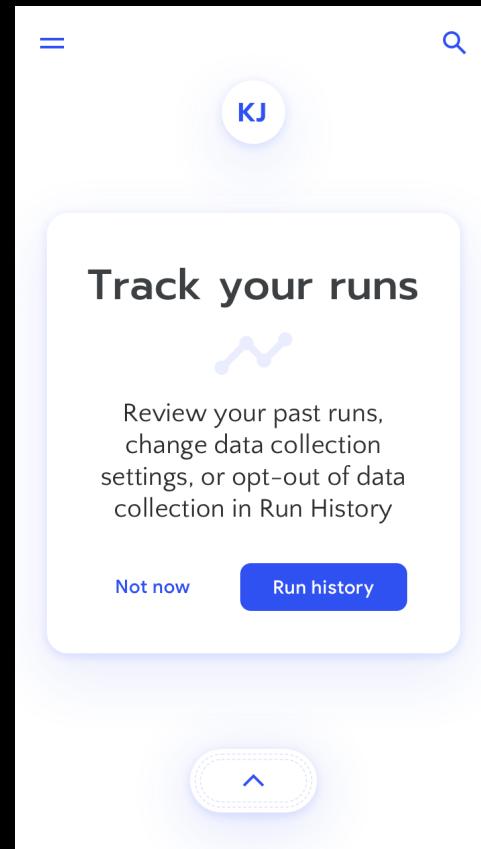


Evolution

Implicit Feedback

- Telemetry design

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



Explicit Feedback

Prompt in context.

Explain how continually teaching the system
benefits the user.

Thank you for your feedback!

OK

Communicate scope & time to impact!

WHAT do designers design?



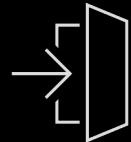
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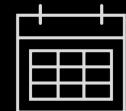
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Interaction



Failure



Evolution

On Next :

Human-AI Interaction (continued)