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Making Use of AI Tools for the Preparation and Analysis of Design Workshops

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One person, three roles

AI extended the capacity of each role - the judgment stayed human

BEFORE

Designer

Design & prep of the workshop plan and activities.

Need to follow client Brief + context

You encode the method + own the design decisions

AI applies the method

DURING

Facilitator

Read and run the room live, aim to reach outcome.

Need to capture what happens in the room.

You run the room live

AI keeps the session records

AFTER

Researcher

Make sense of every session without losing nuances.

Need pattern recognition + scalability

AI structures notes + surfaces patterns

You interprets findings + trains for improvements

THE QUESTION

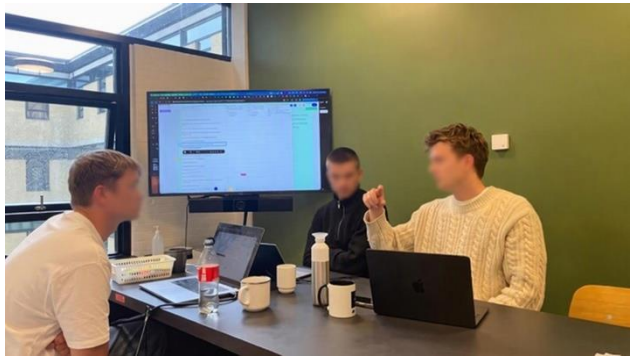
Can AI take on part of that work without fabricating what it cannot observe?

The setting

A DTU Skylab startup with a mobile makerspace, extending STEM teaching into Innovation Training for companies & universities









Four of the six pilot workshops

6 **design workshops**
run as pilot tests of the new service

4 **teams**
two independent startups, two university student teams

4 **aims**
ideation, problem definition, user testing, rapid prototyping

How AI was used

A defined collaborator, not an ad-hoc chatbot

1

Working tool

Managing information, documenting, drafting and processing data

2

Game-design skill

Follows our design framework to check a game works, while it still changes

3

Game write-up skill

Follows a document format: writes up settled games as print-ready guides

4

Debrief skill

Turns mixed session inputs into one structured, comparable debrief

WORKED EXAMPLE

5

Brand skill

Keeps client-facing material consistent

Reusable skills fixed formats, installed once

Project memory context held across months

How each skill was built

A human-and-AI build loop; the encoded rules are grounded in the discipline of the task

conceptualization: a discussion, not one prompt

1 Ground it

You observe workshops; read the literature

AI gather and cross-check sources

2 Make the method explicit

You surface the reasoning; set the criteria

AI propose structure, flag gaps, draft

3 Encode with the right rules

You hand over discipline-grounded specs; verify

AI draft the skill (SKILL.md, project memory)

specs grounded in the task's discipline

refinements from real use

put to work in two modes

Preparation
design skills: game & session docs

Analysis
the debrief skill: structured records

4 Put it to work

You run the session

AI draft the outputs

5 Iterate from the room

You real use drives the changes

AI update the skill

How the debrief skill works

After every session, raw observation becomes one comparable, checked record

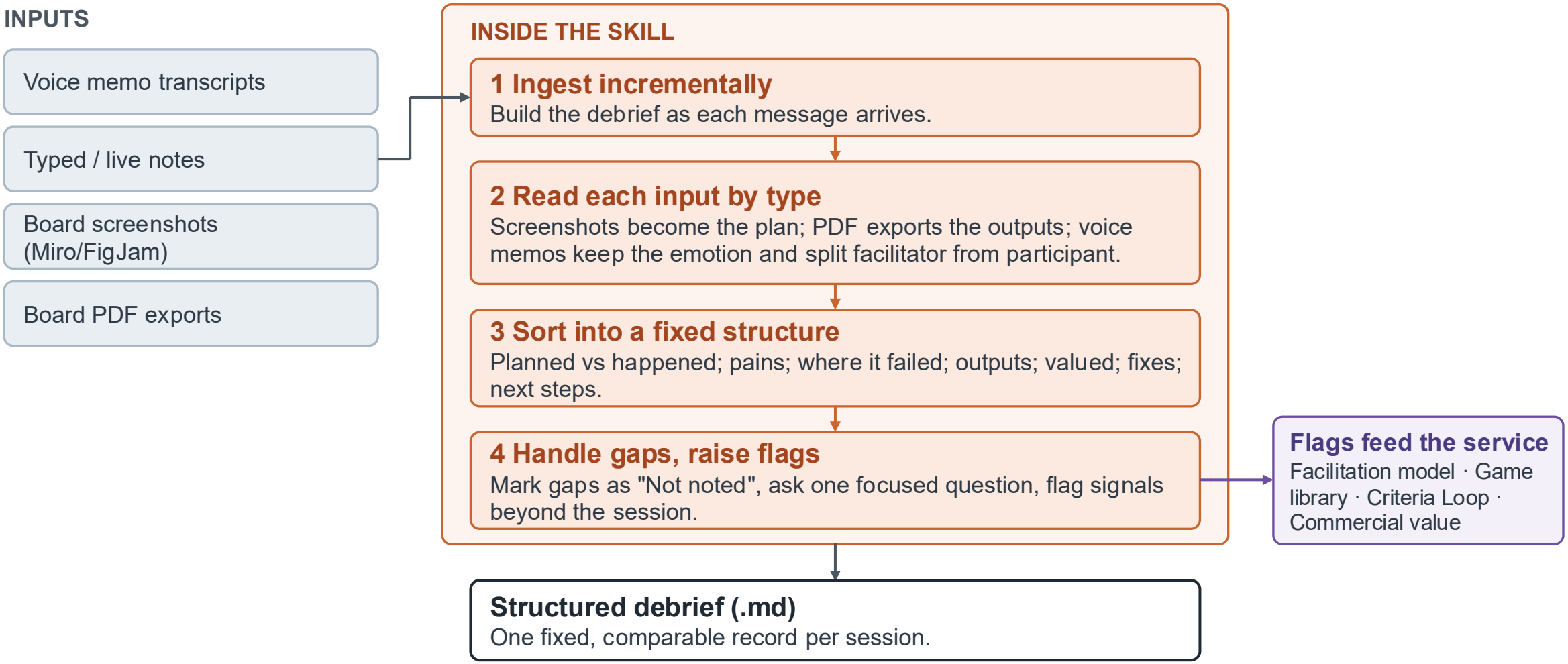
HUMAN (OBSERVER)	HUMAN	AI SKILL	HUMAN CHECK	OUTPUT
1 Observe in the room Capture raw material and read each reaction: engagement, distraction or confusion	**2 Feed the skill** Give the AI the material and the observer's read of the cues. By role, never by name	**3 AI structures it** Sorts everything into the fixed debrief template, plus a cluster for what does not fit	**4 Check every insight** Verify each claim against its source; restore the nuance and outliers the AI flattens	**5 Structured debrief** One comparable record per session, across all workshops

Each debrief improves the next workshop and the skill itself

Evaluation
Each insight is mapped to a success criterion (the Criteria Loop)

Inside the debrief skill

How the skill turns mixed, multi-message input into one fixed, comparable debrief



Iterated like a micro-product

The first version organised the material; the second version read it more like a researcher

VERSION 1

Three fixed clusters

- Gains
- Frictions
- Facilitation feedback

Flattened the quality and complexity of the insights

VERSION 2

Rebuilt around the observer

- Carries the observer's reading of behavioural cues
- Holds new clusters as they emerge
- **A cluster for what does not fit**

Leaves room for the unknown, the way researchers do

Outcome and limits

Faster and more structured, but only as good as what the observer feeds it

OUTCOME

Days → hours

- Analysis time dropped from days to hours
- Material was organised following the researcher's workflow.

The AI cannot see the room

- It **depends on the observer** to supply the cues and to name who did what.
- Given **thin input**, it invents readings and reports patterns that were never there.

Every AI-produced insight checked by hand against its source · participant data entered by role, never by name

What worked, and what did not

A critical account across all five uses of AI

What worked

- Consistent output quality once a task was encoded as a skill
- Speed on structure, drafting and formatting
- Project memory kept context aligned across months

What did not

- Over-smooths, fabricates synthesis, assumes patterns not in the data
- Weak at weighting what matters → needs the observer's cues

Recommendations to designers

What we would tell another designer running workshops with AI

Encode recurring tasks as skills

Not one-off prompts → Invest in project context first

Keep human judgment as the gate

Verify each claim against its source → Keep a category for what does not fit

Protect participants

Enter data by role; blur or mask identifying detail in photos and exports (GDPR)

Keep the input unbiased

The information and logic fed to the AI should be as unbiased as possible

AVOID IF REPEATED

Over-trusting the AI's synthesis · treating it as a chatbot rather than a defined collaborator · letting a fixed format flatten the nuance · feeding the tool biased input

Scope and open questions

A single practitioner's account, not a controlled study

NEXT STEPS

- Involve more researchers and facilitators as the actual users of the skill, researched the way user research informs a digital product
- Ground the practice in cognitive science, to model how experts reason
- Ground it in behavioural psychology, as a principled basis for reading behaviour

OPEN QUESTIONS

1 Where should the line for human judgment sit, so that both the researcher's bias and the AI's own bias are surfaced rather than trained in?

2 How can an AI tool be taught to treat what it cannot neatly categorise as valuable, flagging the outliers it tends to smooth away?

Thank you

Questions and discussion welcome

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Topic drawn from an MSc thesis in Design & Innovation, DTU, supervised by Josef Oehmen. Developed with the startup Gnist Education, test groups from the DTU student body, and the startups Fluidan and AgoraXR.



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Abstract

Introduction

The challenge

The setting

One person, three roles

How AI was used: As a tool and a design Product

How each skill was built

Results — The debrief skill as the worked example

The analysis (debrief) skill, as the worked example

Iterated like a micro-product

The AI cannot see the room

Outcome

Inside the debrief skill

Conclusions

What worked

What did not work

Recommendations to designers

What should be avoided if repeated

Scope and next steps

Open questions

Acknowledgements