

IMPERIAL



AI Mediation

A Figma Plugin to Enhance Decision Making in Team Project Based Learning

Dr Stephen Green & Katherine Luo
23/04/2026

Background

Design Engineering Team Project Based Learning (T-PBL)



MIA

COO
The
Coordinator

I'm Mia, as COO my job is to **keep the ball moving**. Dermot and I take the lead in **organising** interviews and team activities; from messy dinners to exhibitions and deaf simulations. My background in graphic design means I've also played a key role in **Brand ID** alongside Eliza.



ELIZA

CCO
The Vision
Lead

I'm Eliza, as CCO I provide a **thread between insight and identity**. I partner with Mia on the **Brand ID** while working alongside Freddie on **insight synthesis**. I ensure our project remains cohesive, transforming deep research into a clear, identity-driven narrative.



FREDDIE

CTO
The
Architect


I'm Freddie, as CTO I **ground the team's ideas**, ensuring that our direction stays **aligned with the brief**. Alongside Eliza, I primarily focus on **synthesising research**, and curating insights, while aiming to provide **technically viable** design opportunities.



DERMOT

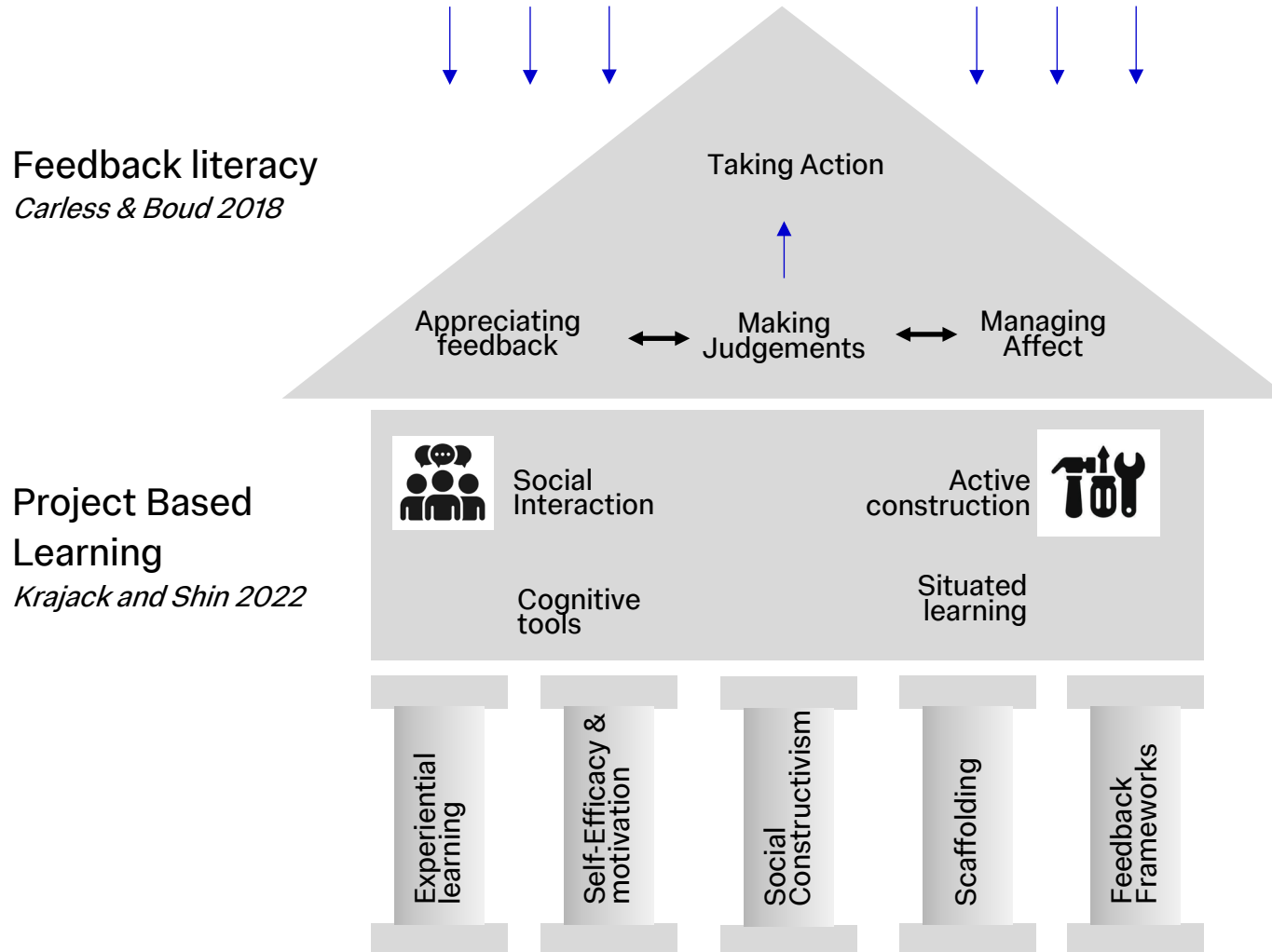
CIO
The
Custodian

I'm Dermot, as CIO my job is to **manage** how our team captures, and presents our research, and that it is **accurate, ethical, and correctly reflects our brand values**. With Mia, I organise interviews, site visits, and group research activities, and **ensure integrity** in our research.

*roles assigned but not conformed, we have approached this project as a collective 

Theoretical foundations

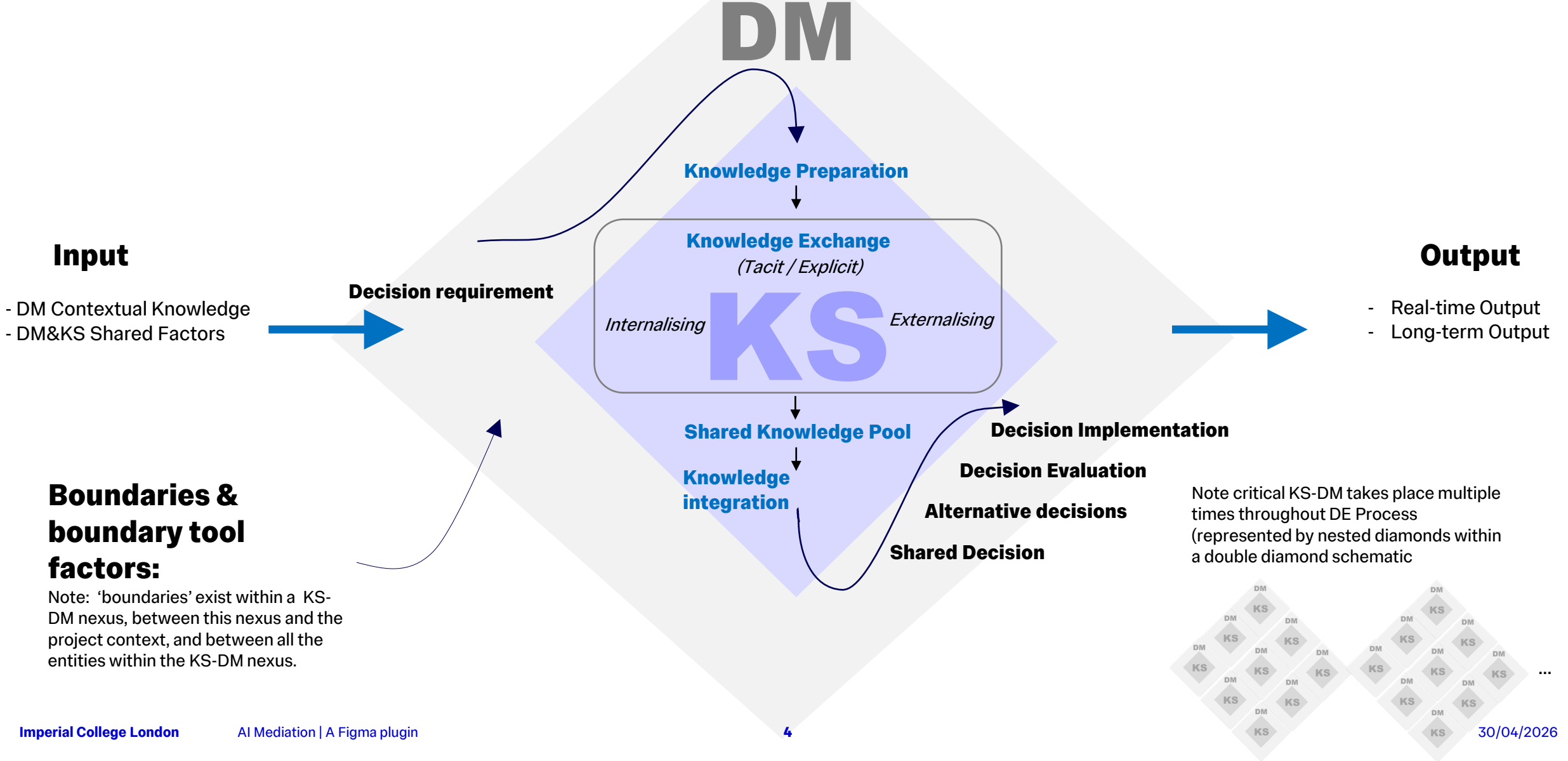
L&T Pillars > Feedback Literacy



AI Impacts on Academic integrity?

Theoretical foundations

Knowledge Sharing & Decision Making



T-PBL

Existing tools & AI adoption

Tutors and students use various tools to support T-PBL.

Typically focused on time optimization

Our focus is on embedding AI within workflows to scaffold **decision making** and **knowledge sharing**

Not generating solutions or making decisions

Research aim:

Explore AI as a boundary tool to support recursive process within T-PBL

Project Plan

Assessment and reflection of organisation systems used

Organisation Structure

To simplify communication and organise information and notes we stuck to 2 main platforms :



Figma

The portfolio was created on *Figma*. We also created numerous *FigJam* pages for mood boards, research, compiling information and divergent explorations.



Notion

Notion was used for more formal organisation and structured notes. Meeting minutes and interviews were kept here.

Aside from assigned roles, tasks were assigned based on individual strengths through communal discussions.

Click - Up

We used *Click - Up* for the Gantt Chart, to assign roles and responsibilities and to check our progress against communally decided milestones in line with the action cards.



Task Kanban

List view, sorted by assignee & due date



Group Reflection :

The Gantt Chart was our main point of reference, which is largely what helped us keep each other accountable. While there were points where we had fallen behind schedule, clear and consistent communication allowed us to adapt to these situations quickly.

One thing to improve in the next term is splitting our tasks into even smaller subtasks, as it would have helped us split the workload, really tailor to each of our strengths and enhance collaboration.

Progress



(15)

Contributions



(16)

Learnings



(17)

Communication

Communication was a top priority from the outset to ensure we could discuss our progress and maintain clear direction, especially if there was absences.



Whatsapp

This was our primary form of communication outside of meetings. We regularly updated the group chat and could track progress and issues on a day-to-day basis.



Calendar

Our primary meeting took place after Thursday lectures, where we reviewed prior progress and planned the work for the upcoming week. We had a supplementary meeting on Mondays when needed.

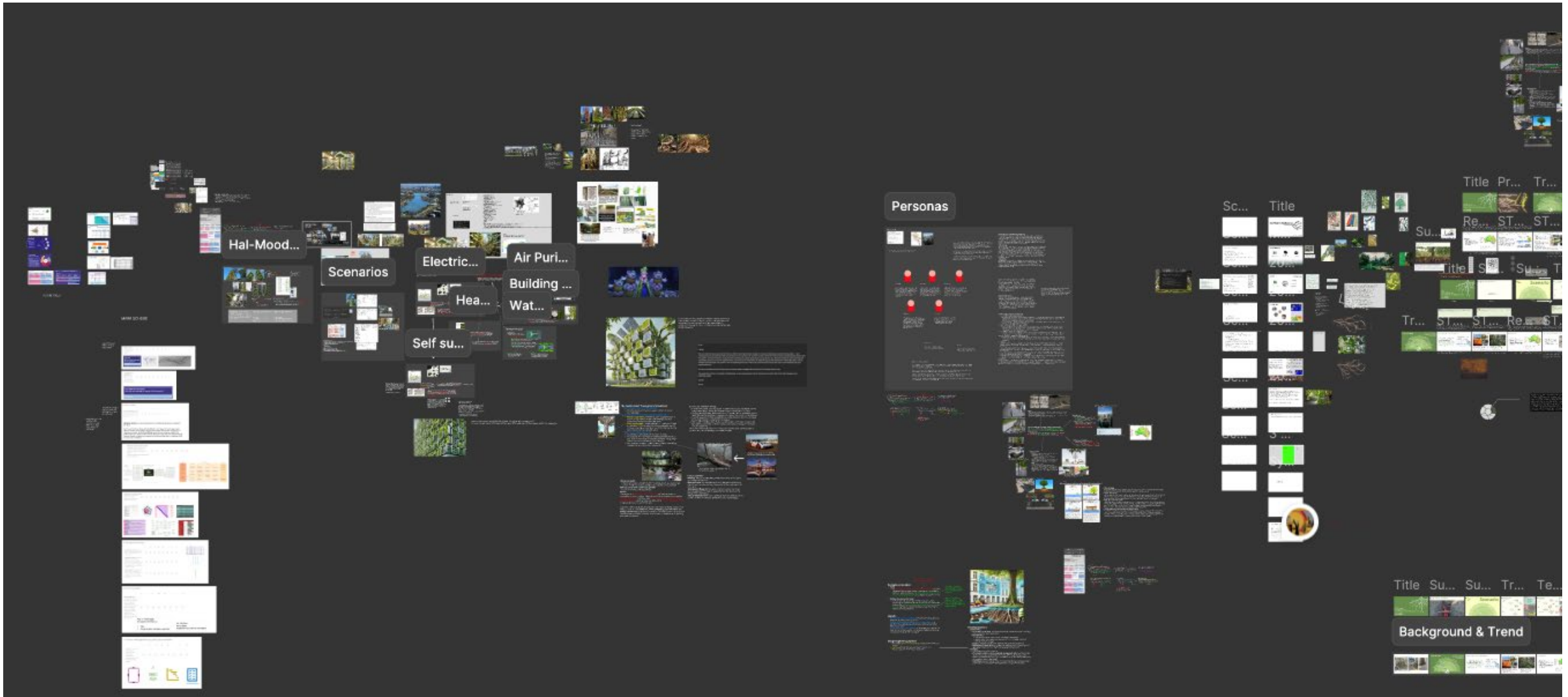
Action Cards

At the start of the project, we created teamwork and leadership action cards to set and reflect on goals on a week-by-week basis, which were reviewed and updated in our Thursday meetings.

	3	4	5	6	7	8	9	10	
Values / Goal setting	<ul style="list-style-type: none"> Establish user group Identify user needs Define user goals Identify user roles Define user tasks 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs
Decomposition & workflow	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs
Review & reflection	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs 	<ul style="list-style-type: none"> Identify user needs Define user goals Identify user roles Define user tasks Identify user needs

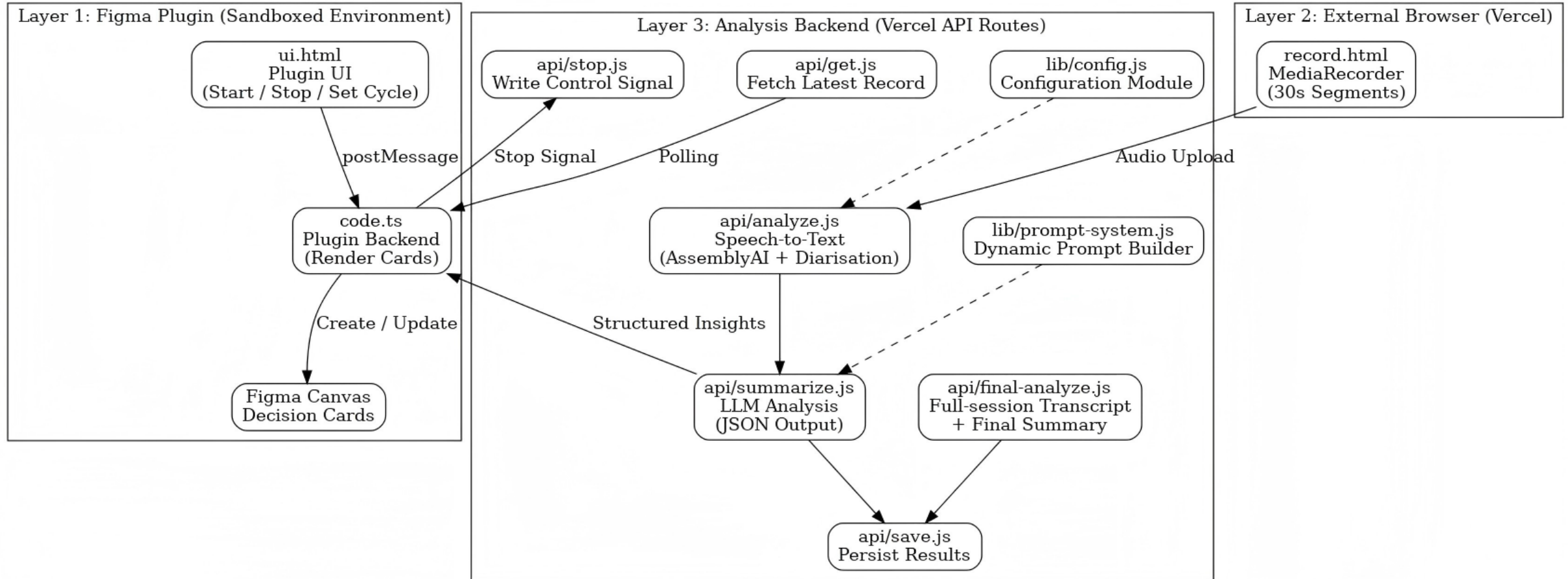
Figma

Web based collaborative end-to-end platform for interface design



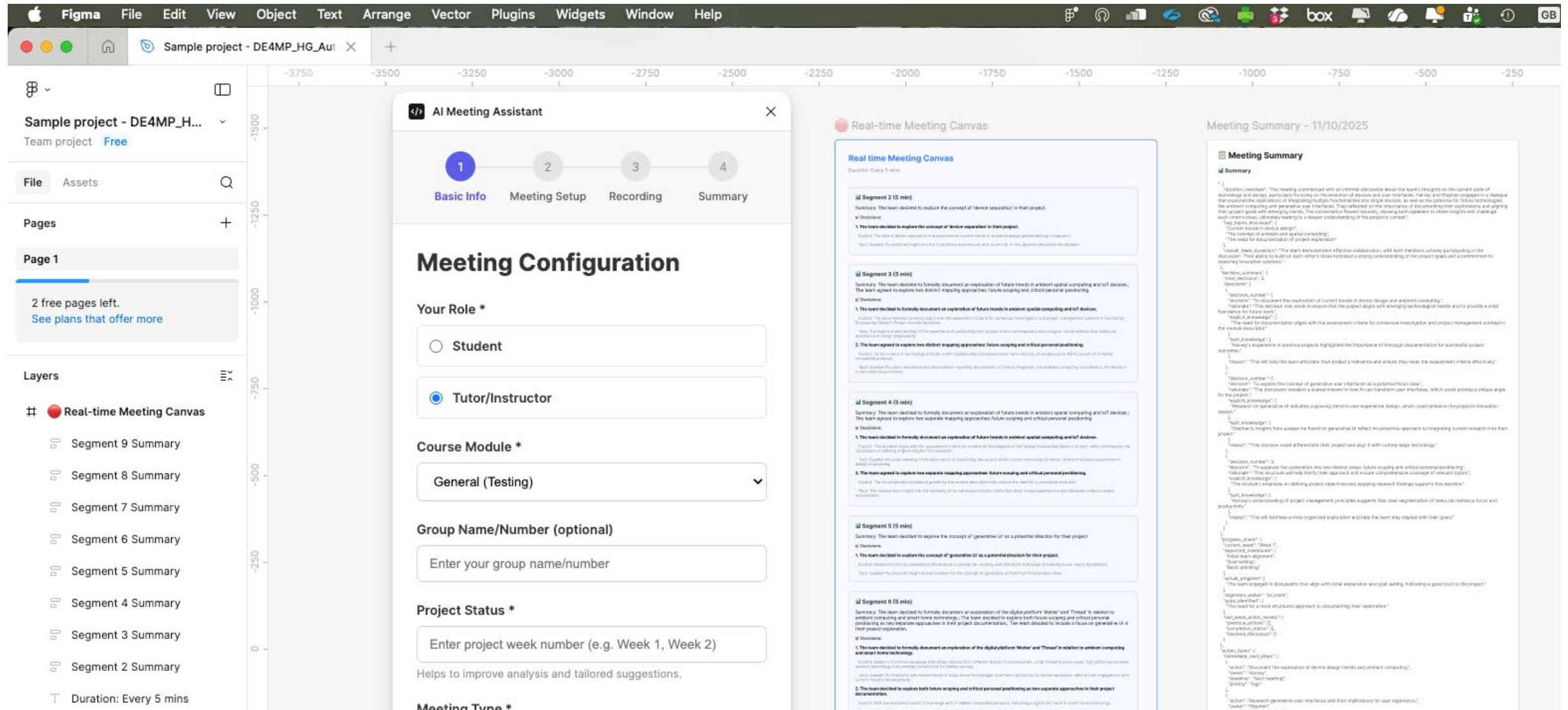
Prototype system architecture

Modular components



Prototype interface

Plugin elements on the Figma board

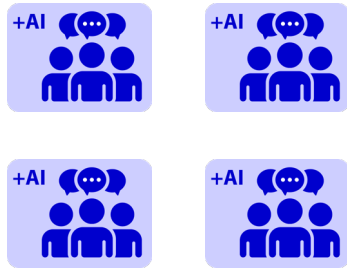


Evaluation workshops

Protocol

PARTICIPANTS

Teams **using Figma Plug-in**
(x4 yr2 teams)



Teams **without** Figma Plug-in
(x4 yr2 teams)

WORKSHOP ACTIVITY

Structured Design
engineering project
(3x10 minutes)

RESEARCH DATA

→ Figma data and
project outputs
(sketches and notes)

→ Post-activity
survey

→ project outputs
(sketches and notes)

→ Analysis

Evaluation workshops

Baseline vs Plugin supported decision making

KS-DM Barriers	Non-Plugin participants	Plugin participants
Forgetting Key Discussion Points	Key decisions were rarely documented during discussion; summarisation often incomplete, leading to overlooked points.	Periodic decision cards record key decisions and supporting rationale, enabling teams to revisit and verify prior reasoning.
Loss of focus due to frequent topic switching	Frequent topic drift within stages; discussion often re-centred only after facilitator prompts.	Topic drift occasionally observed, but periodic card generation re-anchors discussion to prior decisions.
Blurred distinction between explicit & tacit knowledge	Tacit insights articulated but not systematically integrated into shared reasoning.	Explicit-tacit distinctions surfaced within structured summaries, improving knowledge visibility.
Collaboration Tools & Styles Misalignment	Minor coordination inconsistencies within shared workspace.	Minor misalignment observed; shared summaries enhanced alignment across members.

Impact

Short term DM efficiency, shared understanding & participation



Frictions and adoption challenges

Short-term Frictions

- Summary quality drives engagement
- Repetitive outputs reduces trust and willingness to use the tool
- Lack of traceability

Long-term Adoption

- Misaligned expectations of AI role: Users expect idea generation rather than process support
- Lower perceived immediate 'reward'

Implication for Design

- Improve AI summarisation accuracy and contextual alignment.
- Enhance prompt design and model capability to avoid redundancy.
- Add traceability features such as quotes, timestamps for better transparency and credibility.
- Clearly define AI as a *process facilitator*, not solution generator.
- Communicate value of structured decision-making support through a progressive learning path.

KS-DM boundary model

Responsible AI integration

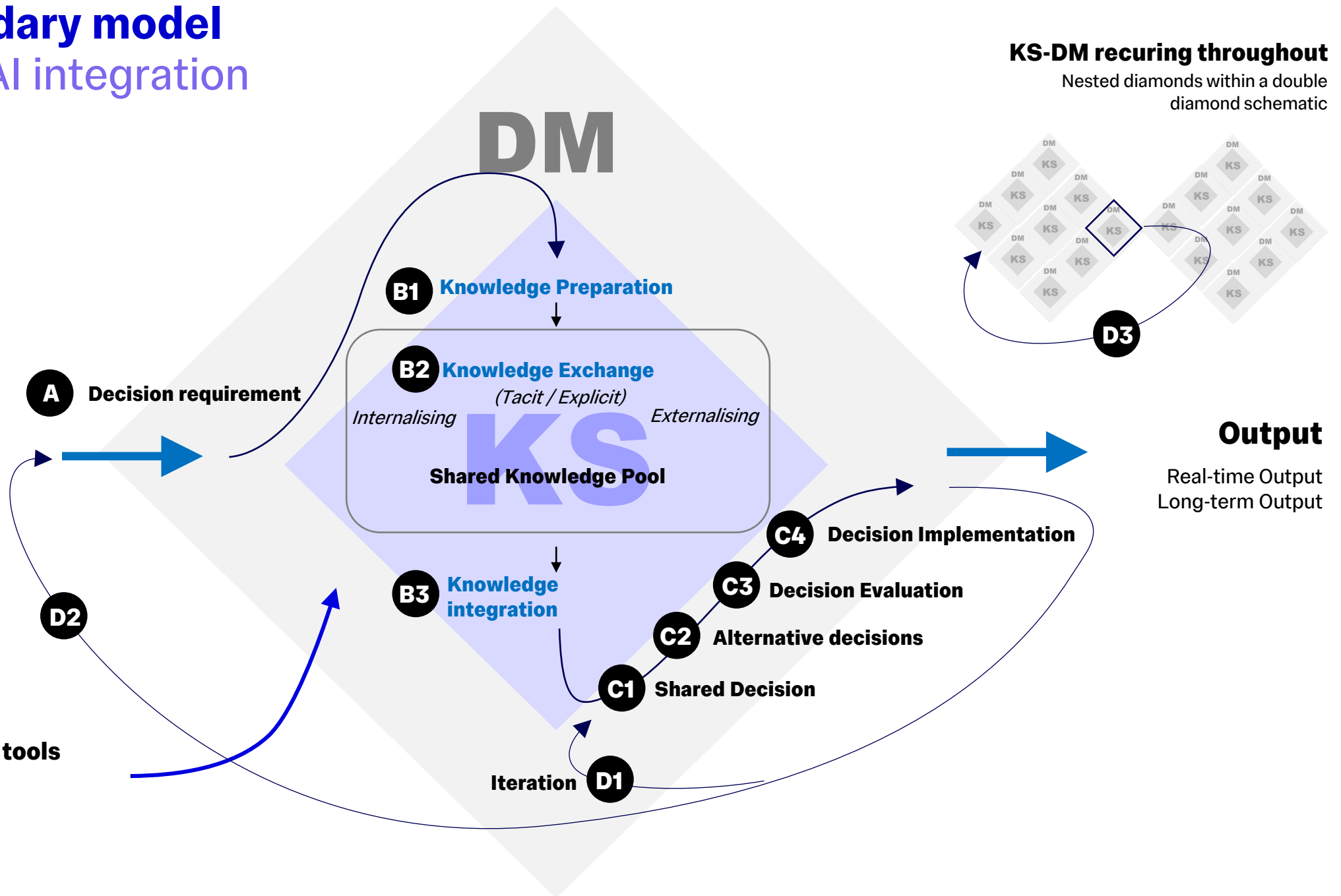
Input

DM Contextual Knowledge
DM&KS Shared Factors

Boundaries & boundary tools

Throughout the KS-DM nexus
AI support for, not making,
decisions

Imperial College London



A Figma Plugin to Enhance Decision Making in T-PBL

Conclusions

- AI as a boundary tool for mediating team dynamics **not replacing cognitive effort**
- Scaffolds collaborative cognition whilst preserving student authorship, judgement and critical evaluation
- Develops internal alignment within teams
- Visibility of Tacit-Explicit reasoning encourages inclusive participation
- A Figma plug-in is a low friction, scalable basis for student/staff adoption

Future work

- Ongoing experimentation across year groups, modules, staff and students
- Developing pedagogic metrics on the **AI influence on learning gain** not efficiency
- Active participation in overall development of AI deployment in learning & teaching

[AI in T-PBL] ...not making decisions,
but helping teams make better
decisions

Questions?

IMPERIAL

Thank you

AI Mediation | A Figma plugin

23/04/2026