
MILKOSAPIAN · A FIELD GUIDE
VOL. 01 · PORTFOLIO 2027
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INTERACTION DESIGNER
THE CHALLENGER
AMONG MANY CONTENDERS
DESIGN INTERNSHIP 2027
INTERACTION · MOBILITY · PHYSICAL COMPUTING
anuragalladi.com
i am the danger.

SPECIMEN 001

MILKOSAPIAN

MIL · KO · SAY · PEE · AN
noun · rare, highly adaptive

A designer who walks into the "no can do" zone and builds the thing anyway. The handyman for neglected dilemmas.



FIG. 1
SPECIMEN,
MID-PITCH.

COMMON NAMES
Roy Mustang · **Milkosapian** · Anurag Alladi on paperwork

DIET
A warm pack of milk at 8:00 AM. Non-negotiable.

BEHAVIOUR
Research → talk to people → test on myself → build.

TRAITS
bold · quirky · darwinist · flamboyant

NATURAL ENEMY
"That's not possible."

TRAINING
B.Des Interaction Design, UID · Exec. PG, IIT Roorkee

SPEAKS
English · Hindi · Telugu · German (learning)

WHY MOBILITY

My best work lives on the road and on the head: a car that becomes its own interface, and a smarter safety helmet. I want to design where riders and machines meet.

INDEX

SIX TERRAINS. ONE SPECIES.

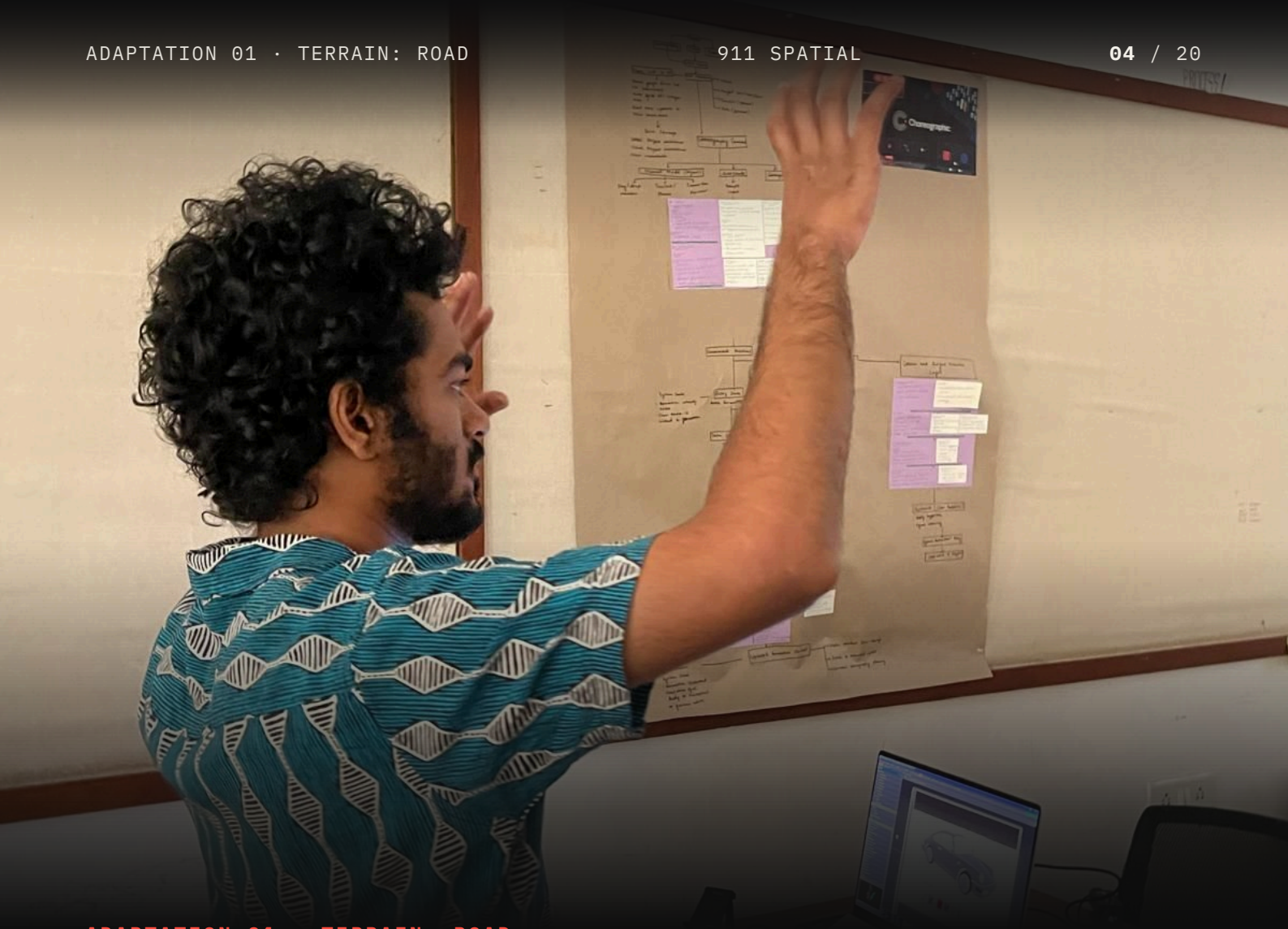
The same instincts, tested on different terrain.

ONE-MINUTE READ

Mobility work first: **911 Spatial** p.04 and **Kavach** p.08. QR codes open the full case online.

01	ROAD	911 Spatial	p.04
02	SITE	Kavach	p.08
03	CROWD	Tiny Traces	p.11
04	SCREEN	Arbeiten	p.13
05	MIND	F2F Protocol	p.15
06	LAB	Puck the Hothead · Self-portrait bust	p.17

++ SIDE QUESTS · p.18 ++ EVOLUTION · p.19 ++ HOW TO SUMMON · p.20



ADAPTATION 01 · TERRAIN: ROAD

911 SPATIAL

A gesture-driven configurator that turns a white 1:18 Porsche 911 GT3 into a live showroom canvas. You raise a hand, and the car you're dreaming of repaints itself.

YEAR · COURSE	TEAM	MY ROLE	STACK
2026 · Immersive Space Design	3 · with Spandan Sarkar & Ankit Kachhap	Interaction design, TouchDesigner pipeline, UI, research	TouchDesigner, Kinect, Python, Blender, Figma, projection

THE PROBLEM

BUYING A DREAM CAR FELT LIKE FILLING IN A FORM.

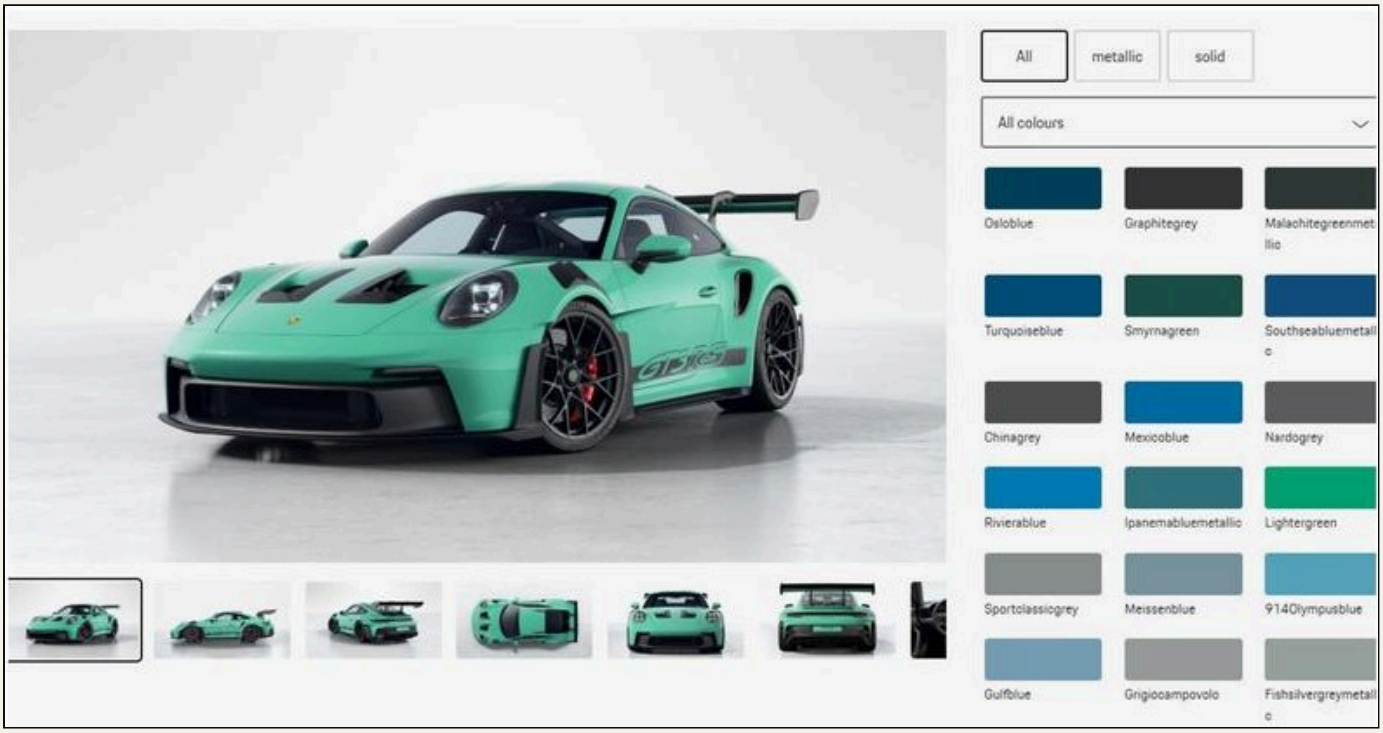
“The process felt like ordering from a menu, not building something you’d dreamed about.”

USER INTERVIEW

01 **The showroom sends you to a website.**

02 **180+ colours and nested menus** hide the finished car.

03 **It feels like paperwork,** not a dream purchase.

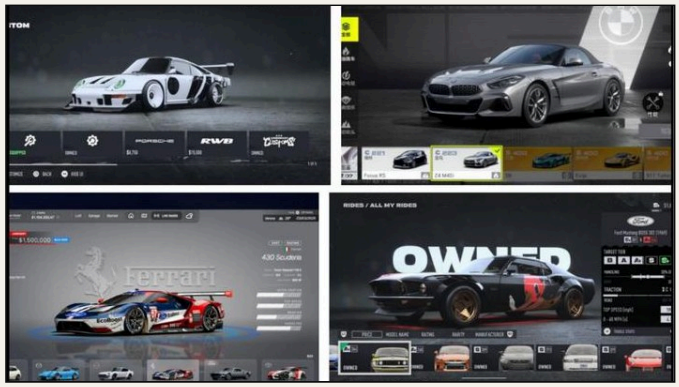


THE ONLINE CONFIGURATOR: EVERY OPTION VISIBLE, NO CAR IN FRONT OF YOU.

RESEARCH · BORROWED FROM TWO WORLDS



Car launches already project onto white cars.



Racing games show instant, central 3D feedback.

THE SYSTEM

THE CAR IS THE INTERFACE.

A Kinect reads your hands, Python tags left from right, and TouchDesigner repaints the car live, projected so the whole room sees it.

KINECT
reads the body from overhead

→

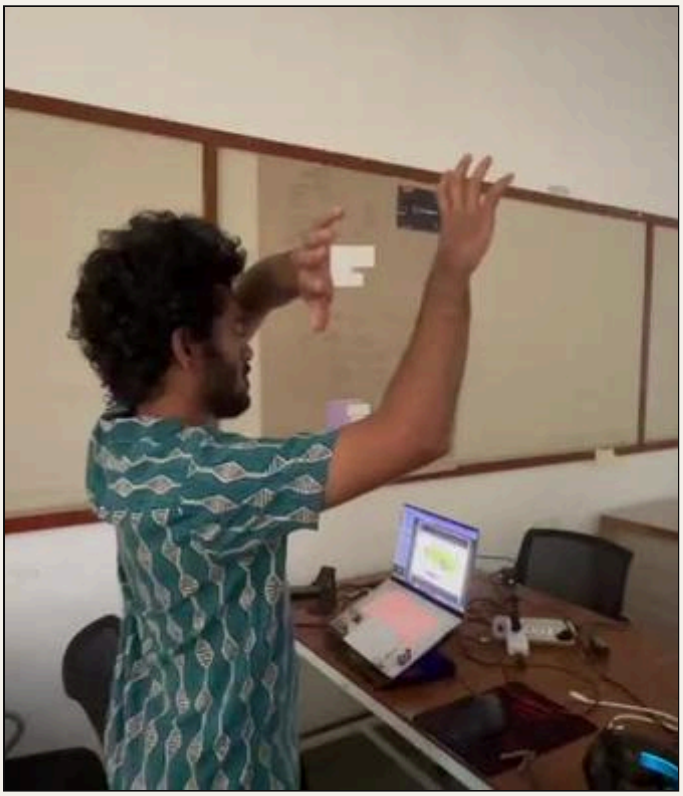
PYTHON
tags left and right hand

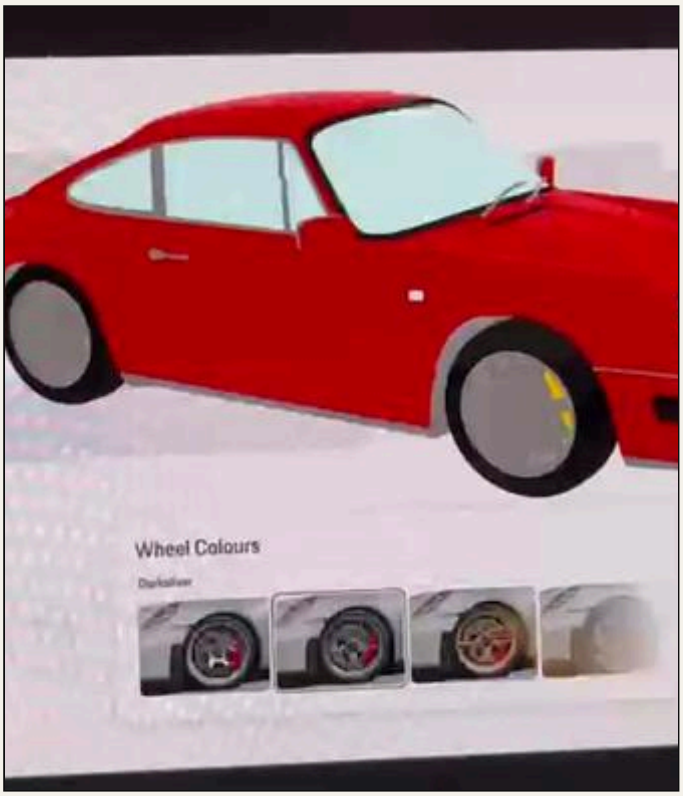
→

TOUCHDESIGNER
FBX car + Figma UI in one live network

→

PROJECTOR
colour, rims and callipers, live





AS BUILT: HANDS UP IN FRONT OF THE PROJECTION · THE CONFIGURATOR UI IT DRIVES.

GESTURE VOCABULARY · I DESIGNED FOUR

LEFT HAND · SWIPE
Body colour

RIGHT HAND · SWIPE
Switch category

LEFT HAND · RAISE / LOWER
Rim design

RIGHT HAND · RAISE / LOWER
Calliper colour

Left hand changes the look, right hand changes the menu.

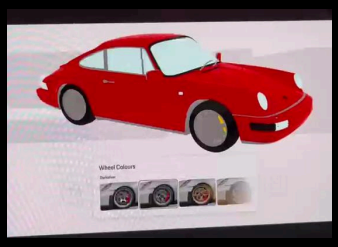
FILM STRIP · THE BUILD IN FOUR FRAMES



01 · TUNING TOUCHDESIGNER



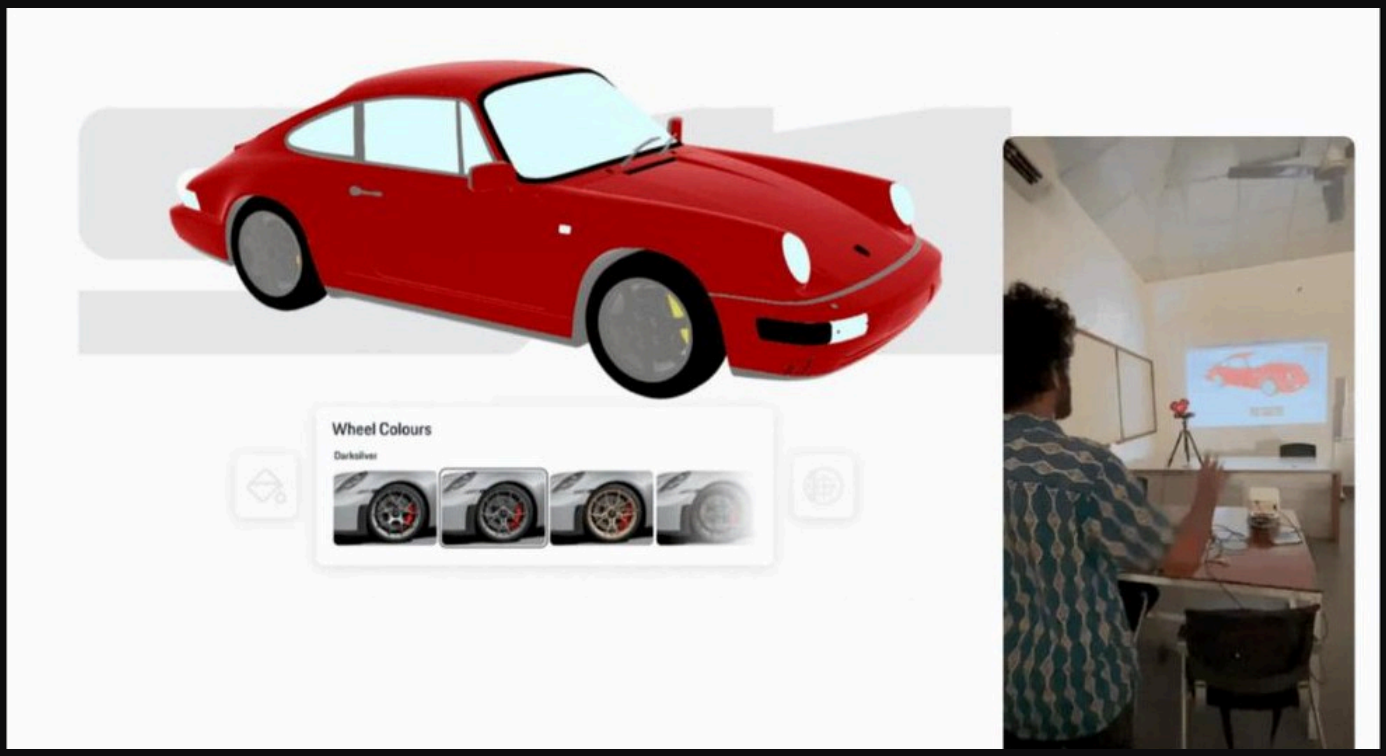
02 · GESTURE TESTING



03 · CONFIGURATOR UI



04 · CAR ANSWERS A RAISED HAND



FINAL BUILD: THE PROJECTED CONFIGURATOR, DRIVEN LIVE BY HAND GESTURES.

CONSTRAINTS → DECISIONS

01 **Kinect misread fingers,** so pinches became broad swipes.

02 **The projector missed the tabletop,** so the UI moved to the wall.

03 **Testers mixed up hands;** a 5-second intro fixed it.

OUTCOME · BUILT AND TESTED

4 gestures, rebuilt from finger to hand level

2 gesture systems tested

4 tools in one live pipeline

1 working Kinect → Python → TouchDesigner loop

"Physical objects can be living interfaces. Luxury runs on presence more than polish."

WATCH IT MOVE ↗

ADAPTATION 02 · TERRAIN: SITE

KAVACH

A smart layer that clips onto a construction helmet and warns workers in real time.

“Helmets are certified for the impact, not for the eight hours before it.”



38
construction deaths a day in India

24.2%
of work deaths are in construction

88.8%
of victims are men aged 21–40, mostly migrant

1984
helmet standard, barely changed since

FIGURES COMPILED FOR THE PROJECT FROM NCRB DATA AND INDUSTRY REPORTS · HELMET SHOWN IS A CONCEPT RENDER.

WHEN · CONTEXT
Jan 2026 · academic sprint

DURATION · TEAM
2 weeks · 5 people

MY ROLE
Team lead: research, hardware, concept, pitch

STACK
ESP32, IMU, temperature & proximity sensors, haptics, BLE mesh



FIELDWORK: WATCHING HOW HELMETS ARE ACTUALLY WORN ACROSS A SHIFT.

THE INSIGHT

WORKERS DON'T FORGET HELMETS. THEY TAKE THEM OFF.

Heat, fit and neck strain make removal rational, not careless. An uncomfortable helmet ends up on the ground.

Found by watching whole shifts, talking to workers and reading accident data.

SIX OF ELEVEN INSIGHTS → DESIGN IMPLICATIONS

01
Comfort comes first
Not comfortable, not worn.

02
Thermal load
Heat is why helmets come off.

03
False safety
Unbuckled looks safe. It isn't.

04
Cognitive overload
Sites are loud: feel it, don't read it.

05
Trust, not surveillance
Tell the supervisor only when critical.

06
Fragmented systems
No signal on site. Works offline.

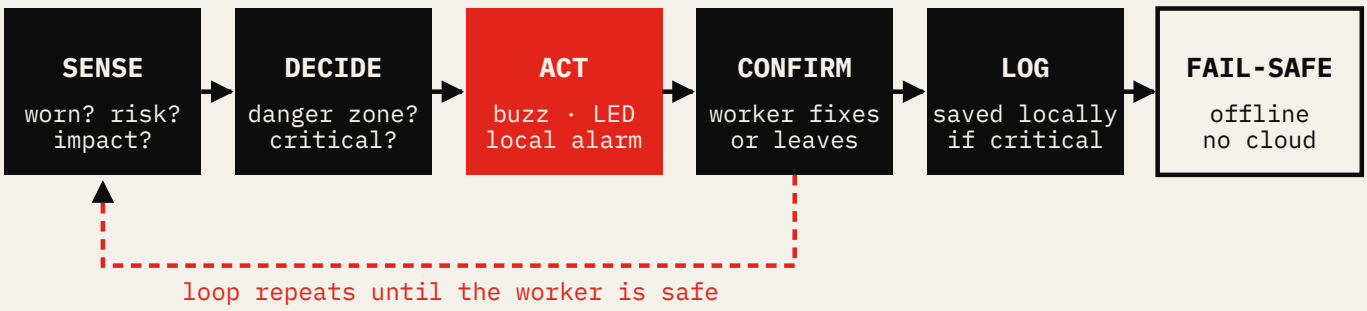


FORM EXPLORATIONS, CONCEPT RENDERS: SIDE AND BACK.

THE SMART LOOP

SENSE. DECIDE. ACT. CONFIRM.

The certified helmet stays untouched. The smart layer clips on and works without a signal.



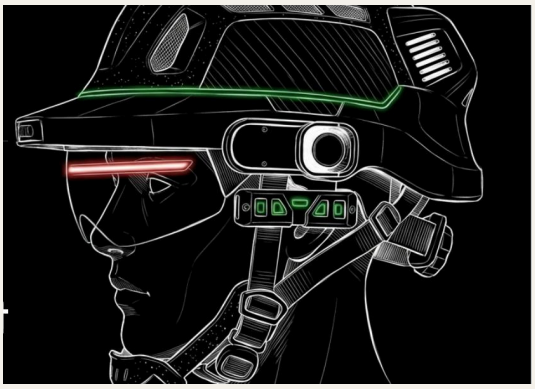
WHAT I OWNED

Research
Site visits, interviews, accident data.

Hardware
Sensors, prototype, the code loop.

Form
Comfort, feasibility, BIS rules.

Lead
Ran a team of 5 and the pitch.



THE SENSOR LAYOUT

Motion, heat and proximity sensors, buzzers and LEDs.

LAYOUT DRAWING.

ONE SHIFT WITH KAVACH · ILLUSTRATIVE SCENARIO

SHIFT START
Strap check
Unbuckled? It buzzes until clipped.

MIDDAY
Heat rises
Vents open before the helmet comes off.

CRANE ZONE
Felt, not read
Near danger: a pulse, then a strong buzz.

ON SCAFFOLD
Removed at height
Off at height: alarm, then the supervisor.

OUTCOME

2 wks
from field research to working prototype

11
insights mapped to design implications



1ST PLACE · CTRL+CREATE · 48-HOUR HACKATHON

ADAPTATION 03 · TERRAIN: CROWD

TINY TRACES

A child-safety system that detects separation in crowded public places, before it turns into a missing-child case.

THE REAL FLAW

Today's response is slow and manual. **What's missing is an automatic trigger.**

CHILDREN DON'T ALL GET LOST THE SAME WAY

2–4 freeze · **5–7** wander · **8–10** won't ask adults.

> **THE INSIGHT**
> In a dense crowd, GPS fails. The earliest reliable signal is a child's tag losing the parent's phone, so that became the trigger.

177,335
crimes against children recorded in 2023 (NCRB), up 9.2%

TEAM
"2 Triads": 4 designers, 3 developers

MY ROLE
Team lead & lead researcher

WHAT I OWNED

Research. Set the direction and mapped how children get lost.

Alignment. Bridged 4 designers and 3 developers.

Pitch. Delivered the winning pitch.

FOUR-STAGE ESCALATION

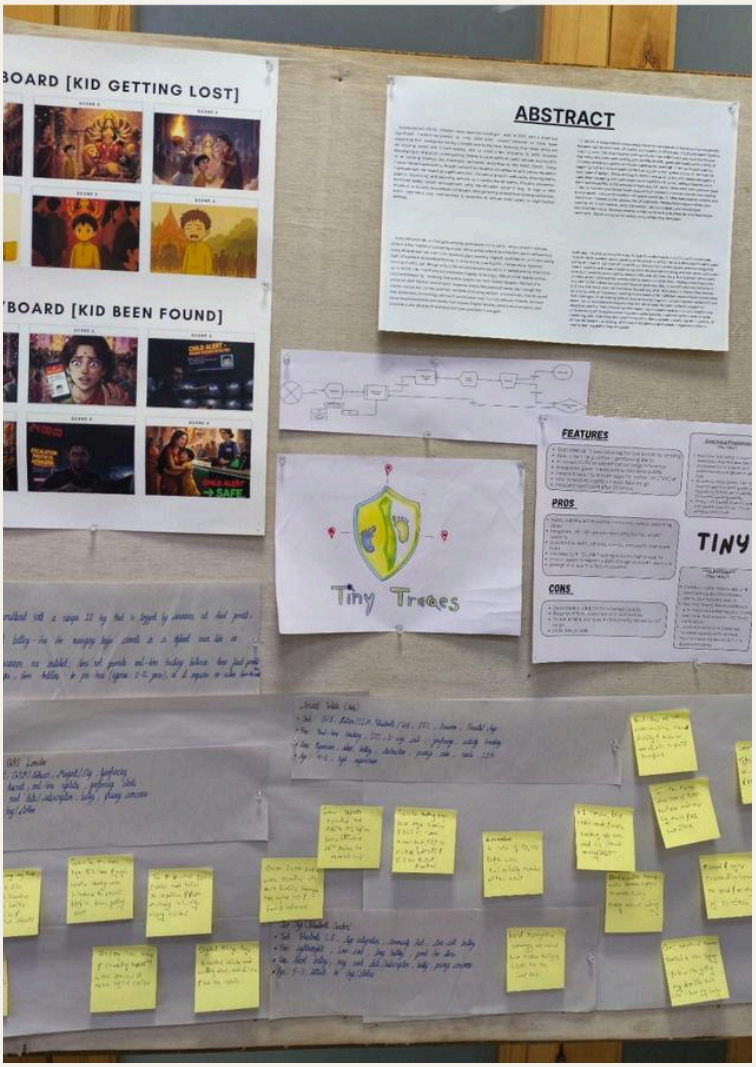
FROM A VIBRATION TO A POLICE DOSSIER IN UNDER 10 MINUTES.

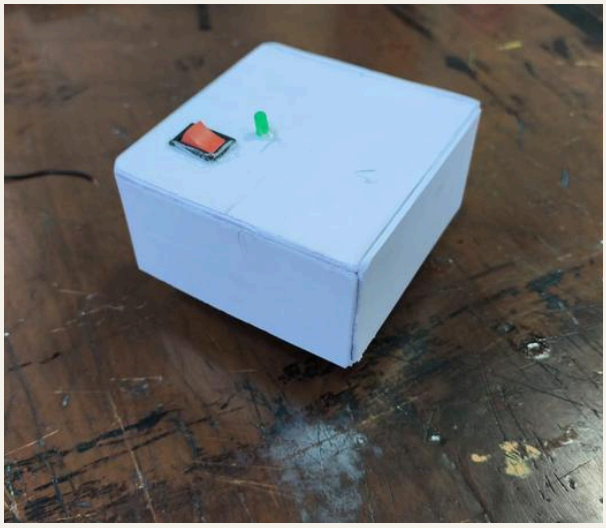
< 10 SEC
Proximity alert
Tag loses signal; both devices buzz.

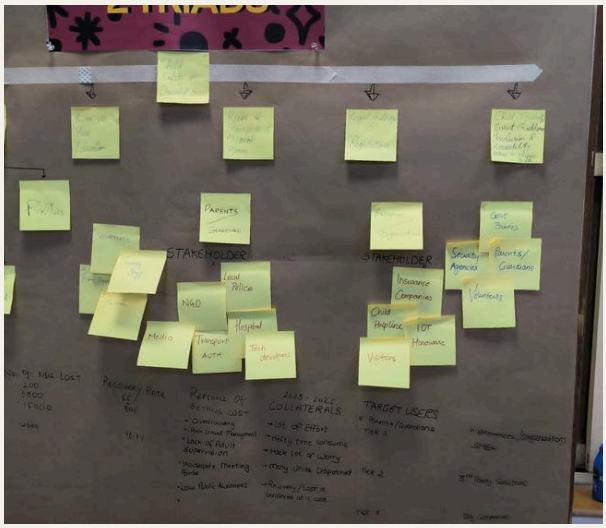
IMMEDIATE
Active tracking
The parent sees the child's location.

< 2 MIN
Venue alert
One tap alerts security; AI scans CCTV.

< 10 MIN
Police automation
A report reaches the police; data is deleted after.







RESEARCH ON PAPER FIRST: BOARDS, STICKY NOTES, STORYBOARDS.

TRADE-OFFS

Privacy over speed: nothing stored in the cloud.

HACKATHON REALITY

ESP32 kits stood in for real tags.

OUTCOME

1st place. A ₹620 tag and three interfaces in 48 hours.

ESP32 · BLE mesh · YOLOv8 · Flutter · React



ADAPTATION 04 · TERRAIN: SCREEN

ARBEITEN

Virtual offices, desk booking and compliance for India's flexible workers, in one login.

Trust gap
Is it GST-legit?

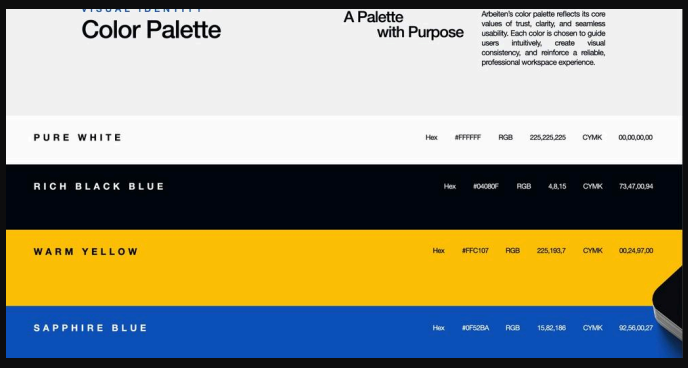
Fragmentation
Many logins and bills.

Hidden costs
Unclear invoices.

Slow operations
Manual onboarding.



FIELD OBSERVATION AT ACTIVE COWORKING SPACES.



SAPPHIRE BLUE FOR TRUST, WARM YELLOW FOR ACTION.

CONTEXT · TIME
Academic semester · 8–10 weeks

TEAM
3 · with Spandan Sarkar & Sanglap Chakraborty

MY ROLE
Lead: UX strategy, service design, information architecture

OUTCOME
Selected for further development

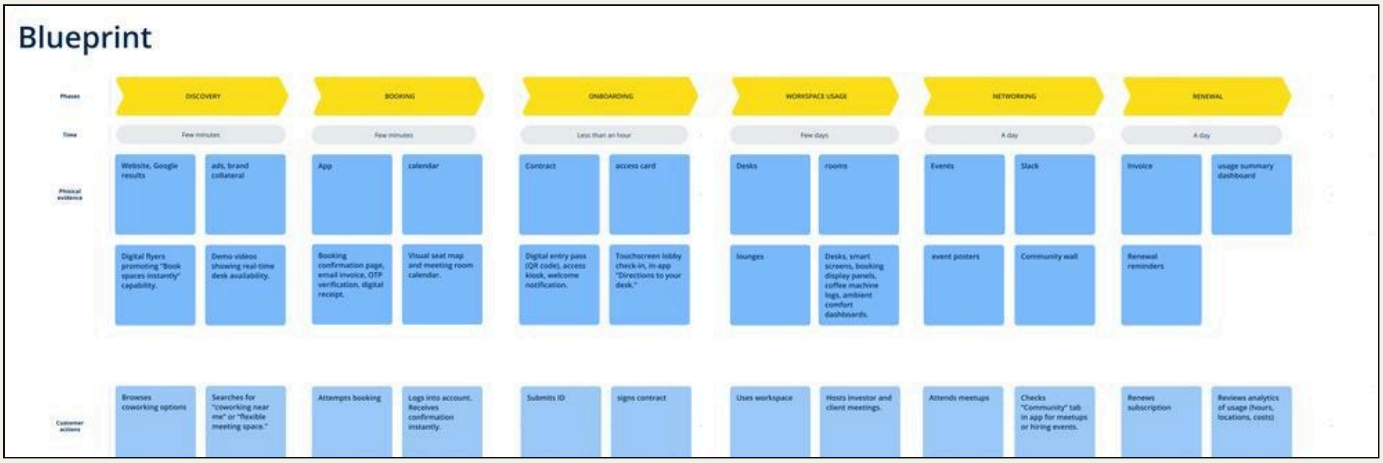
FROM FIELDWORK TO SCREENS

THREE TIERS OF USER. ONE ARCHITECTURE.

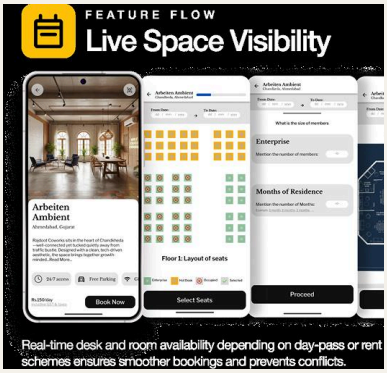
TIER 1
Freelancer
Day desks, an address.

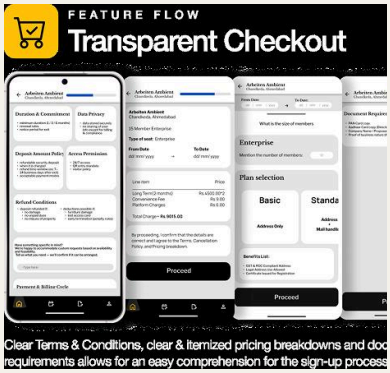
TIER 2
Net-entrepreneur
Cabins, GST-ready office.

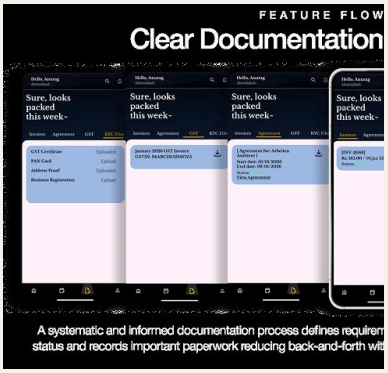
TIER 3
SME team
Team spaces, payroll.

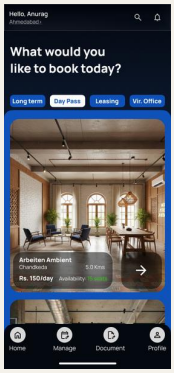


SERVICE BLUEPRINT, BUILT FROM 5 WORK MODELS AND A COMPETITOR TEARDOWN.









BOOKING · CHECKOUT · DOCUMENTS · MOBILE HOME.

PHASED ROADMAP

01 Virtual address, booking, mail, receptionist

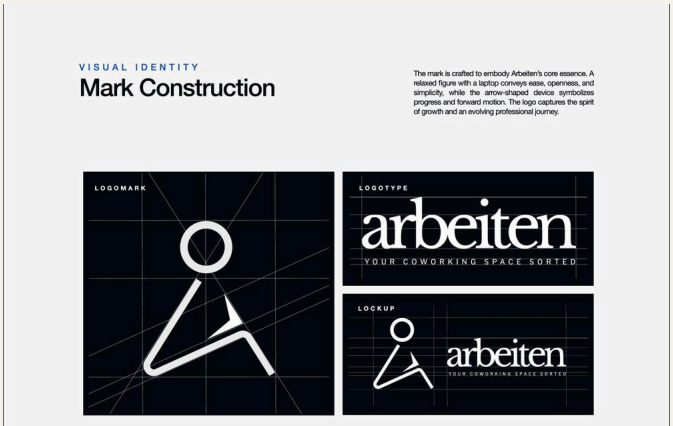
02 Video calls, scheduler, virtual rooms

03 CRM, payments, compliance, community

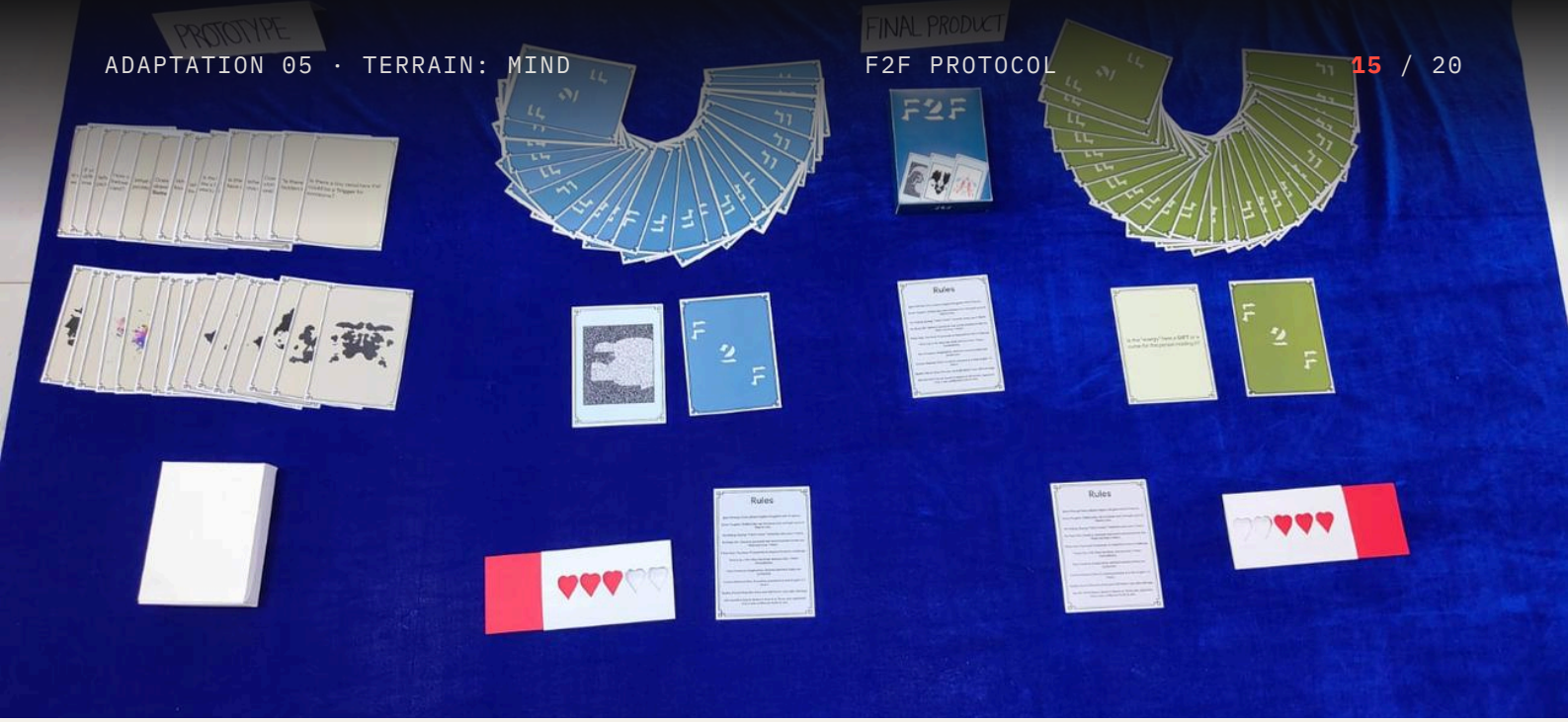
OUTCOME

Selected for further development beyond the semester.

Picked for its service blueprint, competitor teardown and a platform that scales across all three tiers.



"ARBEITEN" IS GERMAN FOR "TO WORK".



ADAPTATION 05 · TERRAIN: MIND · GLOBAL GAME JAM

F2F PROTOCOL

Give people 15 seconds and the honest answer slips out before the polished one.

♥ ♥ ♥
Mask integrity
Lose hearts for safe answers.

16
Rorschach engine
Colour cards slip past defences.

?!
Doctor's bluff
The observer can bluff a question.

8/10
Safety protocol
Too intense? Play stops.





FORMAT
Analog serious game · 48 hours

TEAM
5 people, led and mentored

MY ROLE
Lead: game design, research, pitch

TESTED WITH
About 50 players and volunteers





LIVE PLAYTEST WITH ABOUT 50 PARTICIPANTS · THE CARD SYSTEM LAID OUT.

WHAT HAPPENED

MASKS DROPPED IN ABOUT 4 MINUTES.

One player forgot they were being filmed. The jury saw a fundable product. No prize, but a clear signal.

Honest limit: one playtest proves nothing clinical.

WHAT I DID

01 Designed the whole game system.

02 Turned a psychology insight into rules.

03 Mentored juniors and pitched it.



RUNNING THE SESSION.

REACTIONS ON VIDEO ↗

ADAPTATION 06 · TERRAIN: LAB

CHARACTERS, RIGS & A MIRROR.



PUCK THE HOTHEAD IN DEVELOPMENT

A satirical indie game in Unity: an angry orangutan in a PS1-style world. Rigged and in the engine.

HOW HE WAS BUILT

01 Character reference sheets, then a scripted Blender build

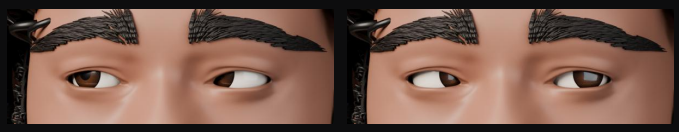
02 Low-poly, flat-shaded, A-pose

03 17-bone rig, exported as FBX into Unity



SELF-PORTRAIT BUST

A 3D me, curls and all. The eyes follow a target.



SAME RIG, TARGET MOVED LEFT AND RIGHT.

Built with a scripted, AI-assisted Blender pipeline I art-directed.

Blender Python Unity Rigging

FIELD NOTES · CURRENTLY IN THE WILD

SIDE QUESTS

Between assignments, honestly labelled.

RESEARCH · DONE

FRICTION IN MY CITY

Why crossing one road in Gandhinagar is so hard.

RESEARCH · IN PROGRESS

LOW-VISION ACCESS TO AI

Two interviews at the Blind People's Association. The redesign follows the tools they actually use.

BUILDING

ESP32 HIVE PAD

A Bluetooth macropad that runs my desk.

IN PROGRESS

AI OWNERSHIP

A personal AI on my own hardware.

CONCEPT

LAPTOP BAG

A carry-system study.

RITUAL

SONGWRITING

An album, "Self-Aware", where most ideas start.







HABITAT SHOTS: THE STICKY-NOTE WALL, THE WORKSHOP, THE PITCH.

EVOLUTIONARY RECORD

EVOLUTION

2023 → **B.Des Interaction Design**, UID Gujarat

2023–25 **Executive PG Certification**, IIT Roorkee

MAY–JUL 2025 **Full-stack developer**, Syllabusbook

OCT 2025 **Tiny Traces**: 1st place, hackathon

JAN 2026 **Kavach · F2F Protocol**

APR 2026 **911 Spatial**

MAY–AUG 2026 **T.I.M.E. Education**: Lead Intern, Content & AI Workflows; led a team of 4

NOW **Puck the Hothead** (rigged; mechanics next), AI ownership, and low-vision access research

TOOLKIT

DESIGN & RESEARCH

Figma · UX research · Service design

3D & SPATIAL

Blender · TouchDesigner · Unity · MediaPipe

BUILD

React · Python · Arduino / ESP32

AI & AUTOMATION

n8n · ElevenLabs · Local LLMs

LOOKING FOR

A **Design Internship 2027** in interaction, mobility or physical computing.
Contact on the next page →



THE PACK. EVERY ADAPTATION HERE WAS A TEAM SPORT.

END OF FIELD GUIDE

HOW TO SUMMON A MILKOSAPIAN

Bring a dilemma nobody wants to touch. A warm pack of milk helps, but isn't required.



LOOKING FOR

A Design Internship in 2027: interaction, mobility or physical computing.

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GITHUB
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BASED IN
Hyderabad · studying in Gujarat

THE CHALLENGER AMONG MANY CONTENDERS