

C-D 001

Introduction to Human-Computer Interaction

Class 1

About this course

Introductory graduate-level course on Human-Computer Interaction (HCI)

No pre-requisites

Course logistics

2 meetings per week: M, W 10.30am-12.30pm (with a brief break)

Instructor:

Sudheendra Hangal

TA:

Akbar Surani

Office hours:

SH: Mondays 6-7 pm (on-campus)

AS: Wednesdays 8-9 pm

(+ by appointment)

Logistics

Weeks 1, 3, 5 on-campus, Weeks 2, 4 online

Please be on time

5-7 minute stretch break in each class

Do attend office hours

Keep your phone off/on silent

Do participate

Logistics

On-campus

Please participate (raise hand, share experiences, etc.)

Leave the classroom in better shape than you found it

Stay away if unwell

Masking policy?

Online

Please keep your video on

Please participate either way (vote, raise hand, chat, post comments/resources, etc.)

Be patient in case of technical issues

IT systems

Brightspace is mandatory

Used for all assignment submissions and grading

Please upload a picture in your Brightspace profile if possible

Staff mailing list: hci.tlp@plaksha.edu.in - for all course matters

(hangal@plaksha.edu.in if it is personal)

Online tools

Mandatory to fill out a running Google Sheet for reactions/feedback after each class

[https://docs.google.com/spreadsheets/d/
10M6mFA4HAczJ1-6kC5jjBT1mm4HRx33mZ0J_liWaLtI/edit](https://docs.google.com/spreadsheets/d/10M6mFA4HAczJ1-6kC5jjBT1mm4HRx33mZ0J_liWaLtI/edit)

Also use Brightspace feed for discussion, sharing experiences, examples and resources

Recommend other systems if you like

About me

Spent 15 years building computer systems (microprocessors, hardware, compilers)

Subsequently worked in HCI (ish) fields with people from other disciplines: library/IS, neuroscience, journalism, political science, etc.

Based out of Bangalore where I lead a startup (Amuse Labs) and work on puzzle products used by global publishers

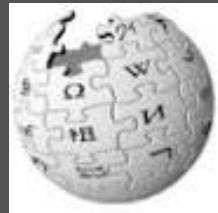
Associated with Ashoka University and Trivedi Center for Political Data

Why study HCI?

Computing has gone mainstream

Understand how people work (generally, and with technology)

Many impactful ideas in the CS domain are not purely technology enabled



...

What does HCI cover?

Not just user interfaces and systems...

Almost anything that depends on people

In the HCI field, it's common to see work on computers + psychology, sociology, medicine, journalism, politics...

... and even sex and death

Learning Objectives

Get an overview on the HCI sub-field of CS

(History, evolution, where it's going, research areas...)

Practice the general principles of user-centered design

Contextual inquiry, prototyping, user interfaces, testing,
learning how to learn from users

Will be useful in building any consumer facing product

Develop a keen eye for design details and improvements

Become sensitive to the human in the loop

Course Outline

Aug 29, Aug 31: Intro and history, Cognition and HCI

Sep 5, 7: Human-centered design process, Understanding users (Ethnography, interviews, etc.)

Sep 12, 14: Prototyping, Heuristic evaluation

Sep 19, 21: User testing, micro interactions

Sep 26: Optimising interfaces: UI copy, visual design

Sep 28: studio class on finishing projects

Plus

Sep 2/3: Lab session (Prototyping with Balsamiq)

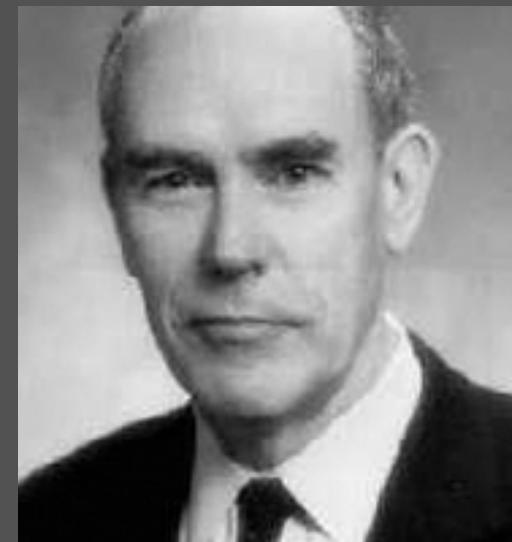
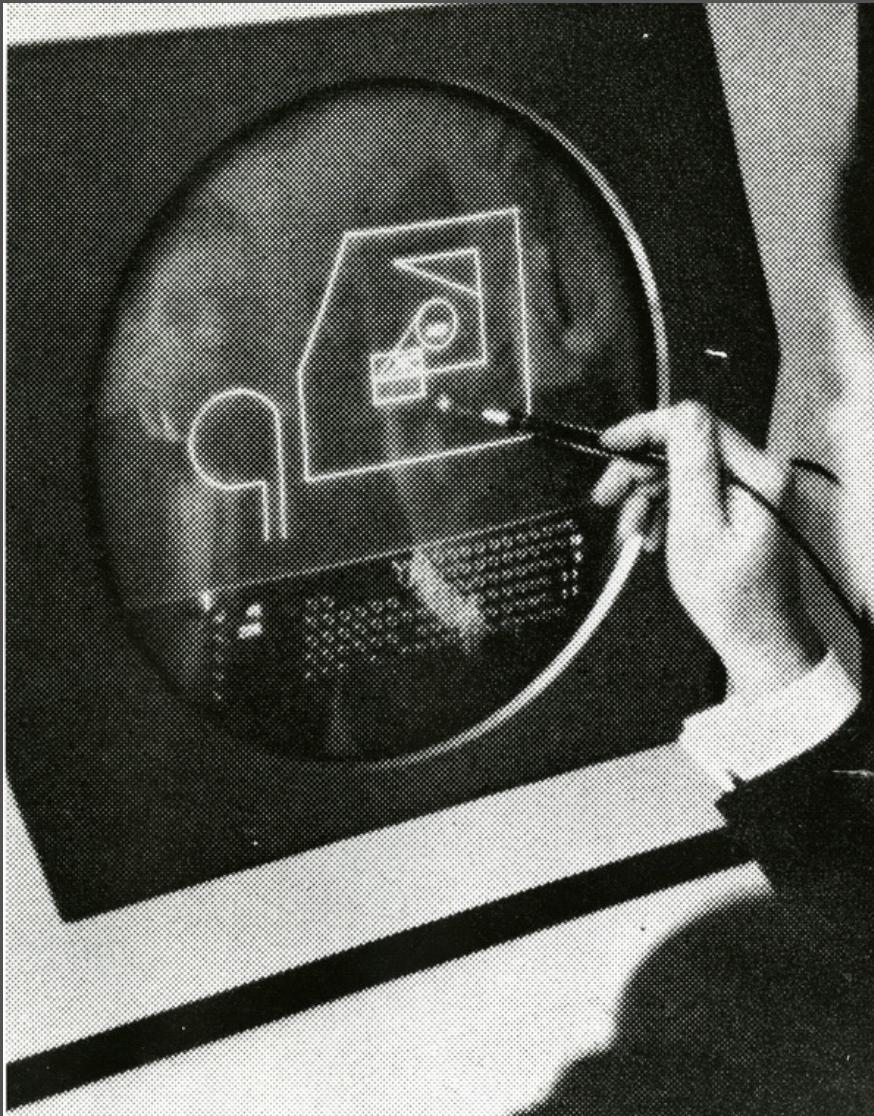
Sep 11/12 (tentative): Mini-hackathon

Sep 28 (tentative): Final presentations

(+ 2 guest lectures)

The evolution of HCI

Sketchpad (1962)



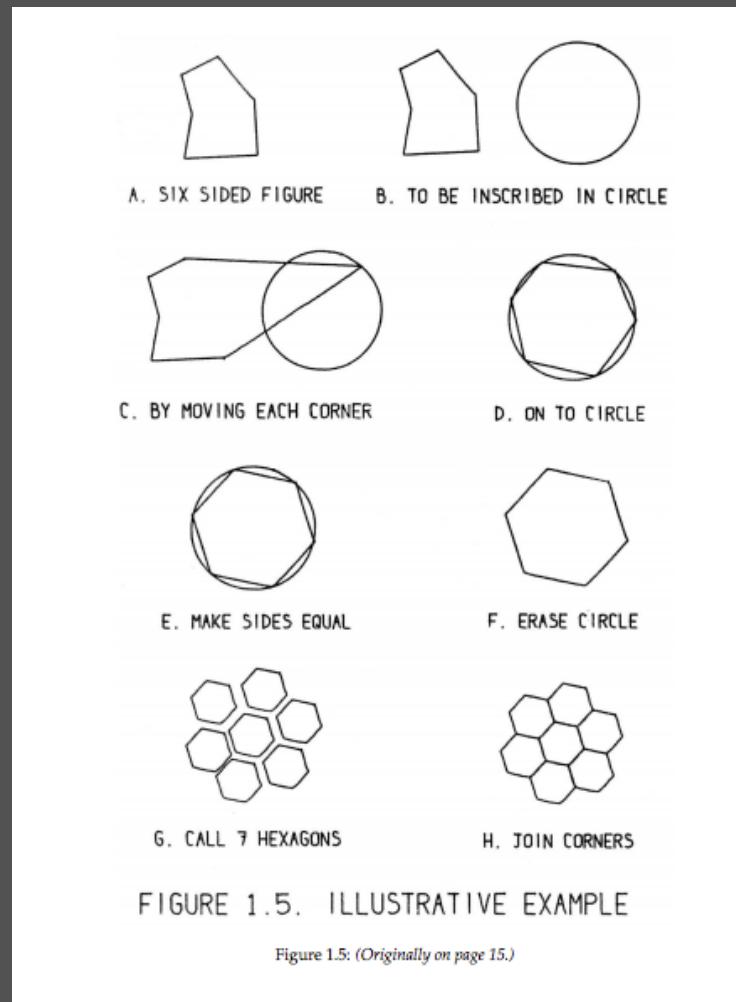
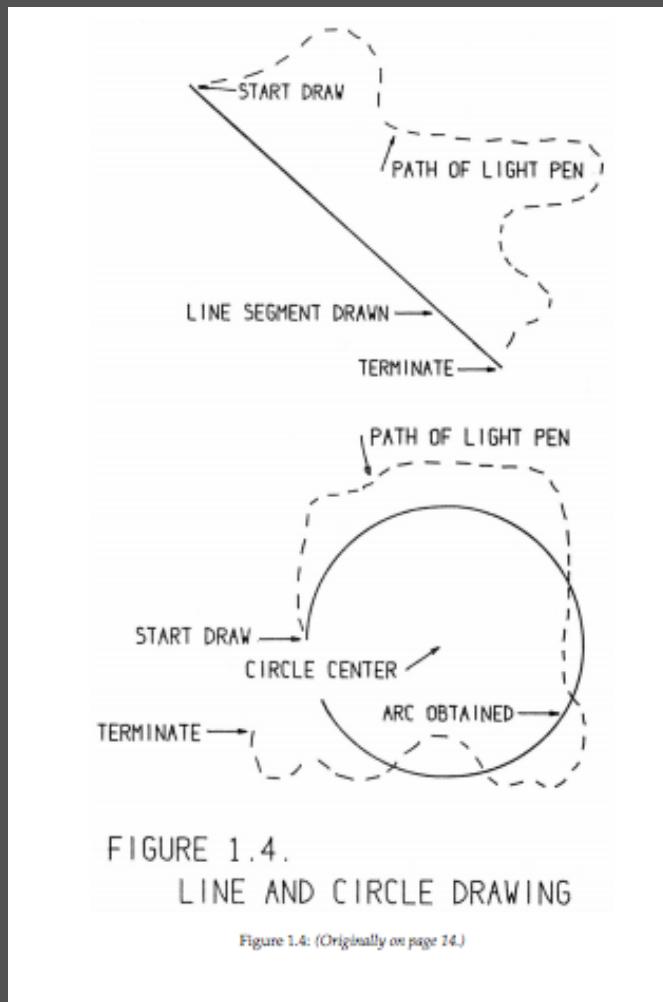
Ivan Sutherland



Sketchpad - 1962



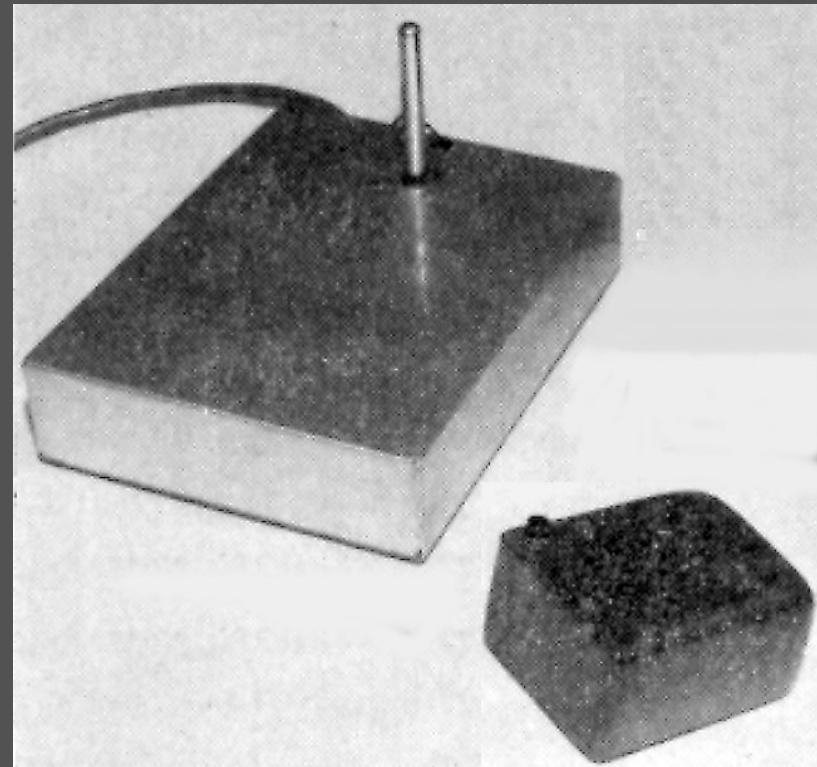
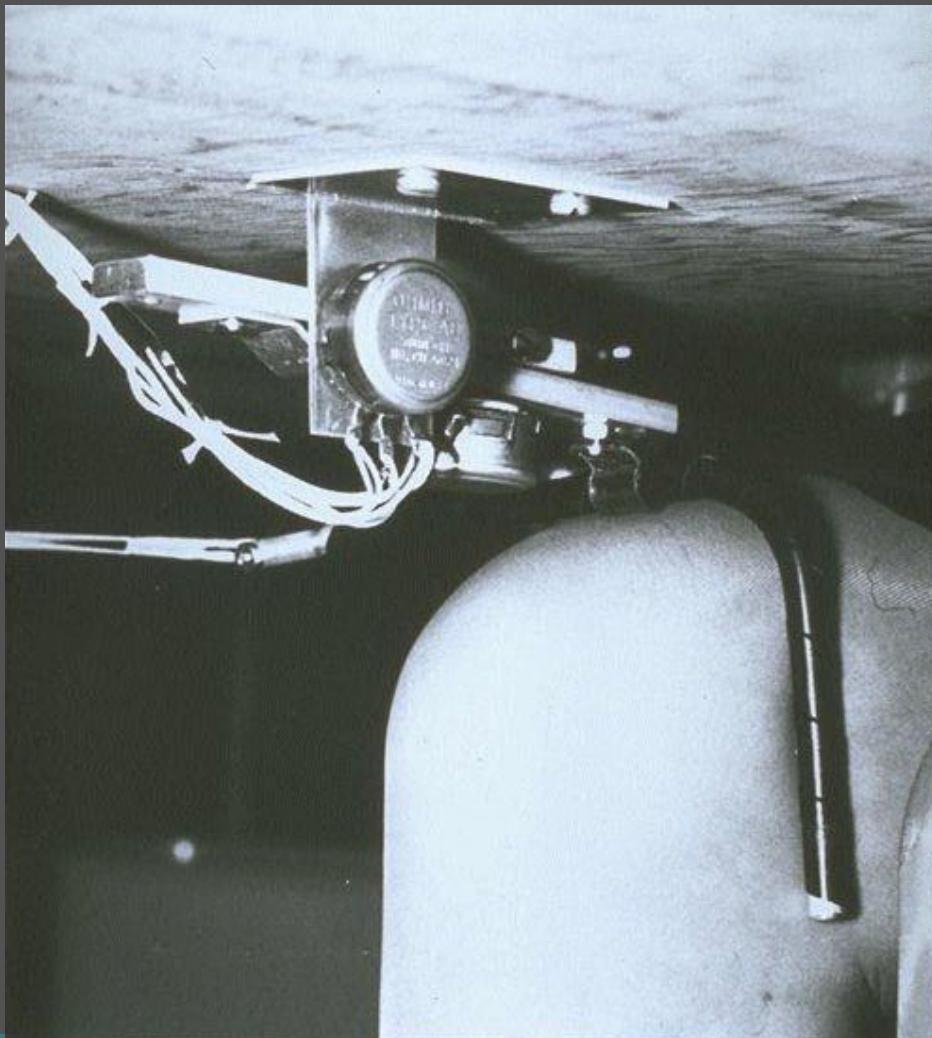
Sketchpad





The “servo-control unit” (1968)

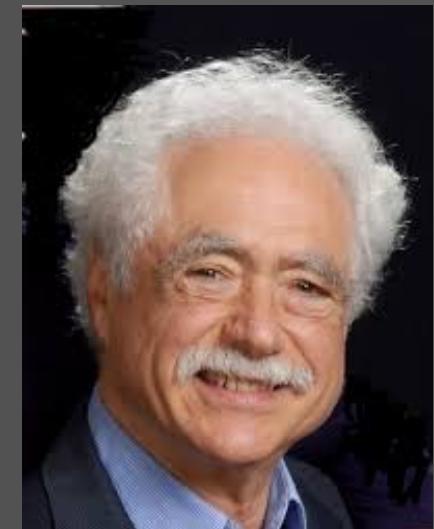
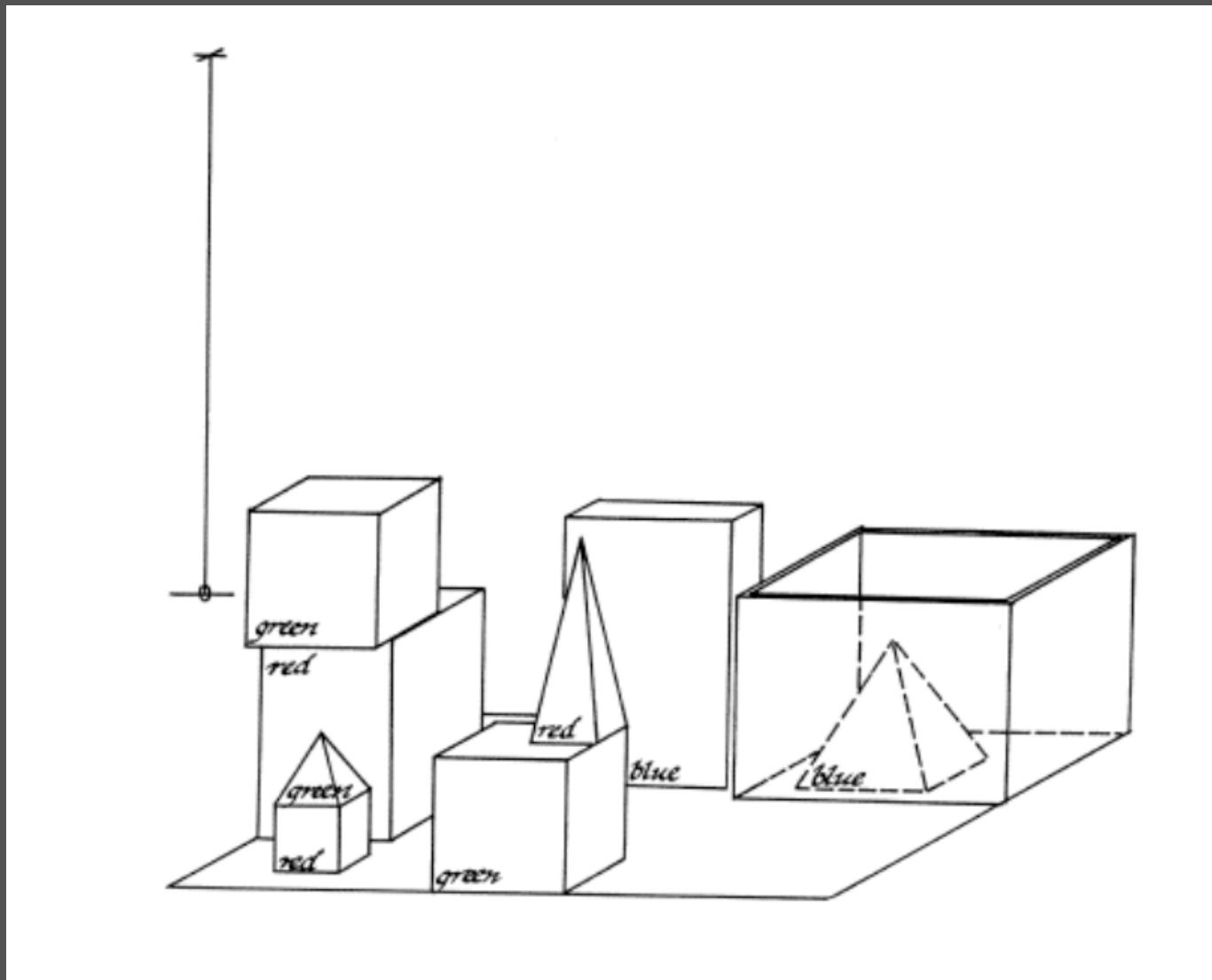
Alternatives Evaluated



Douglas Engelbart

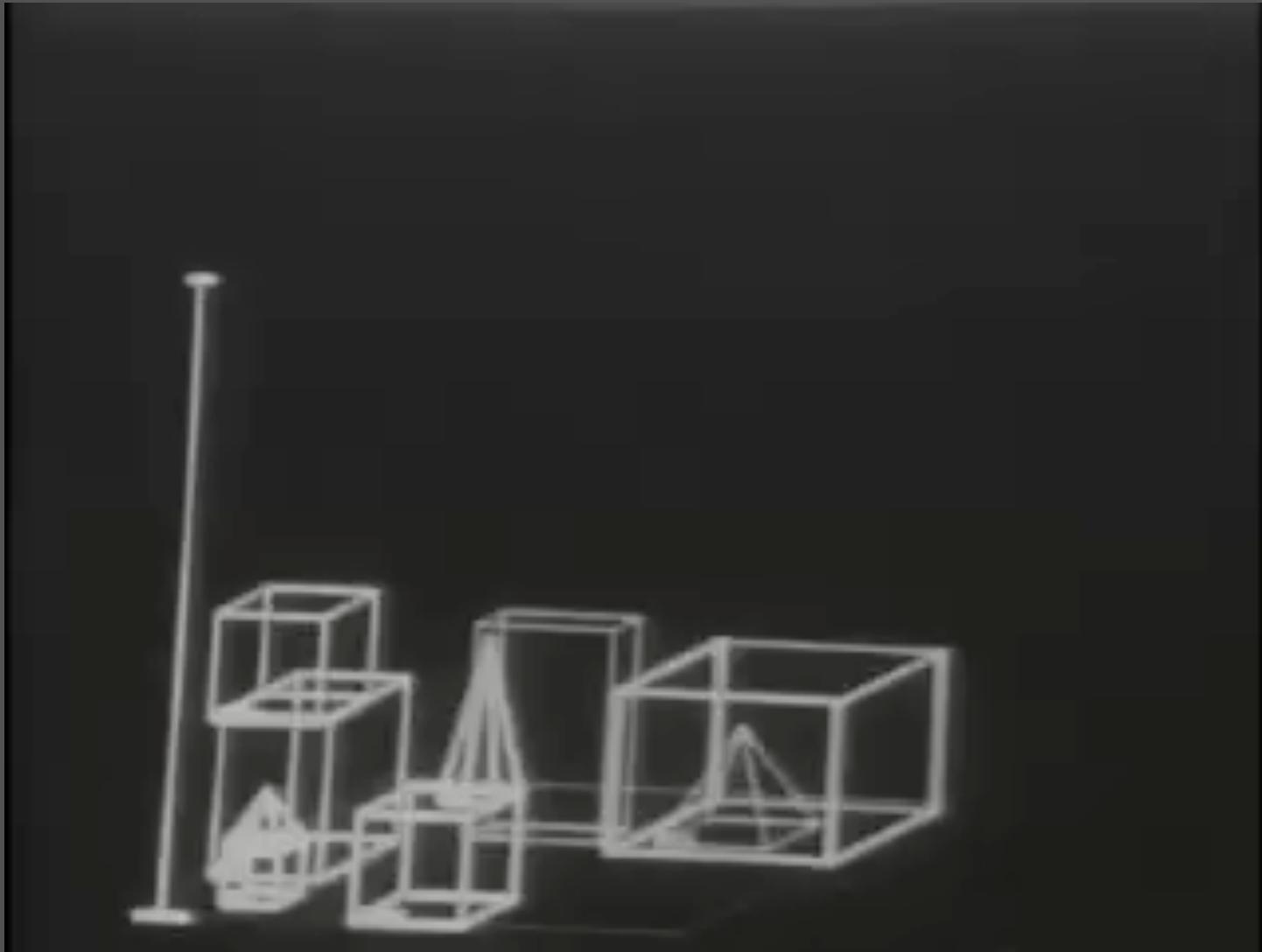


SHRDLU (1970)



Terry Winograd

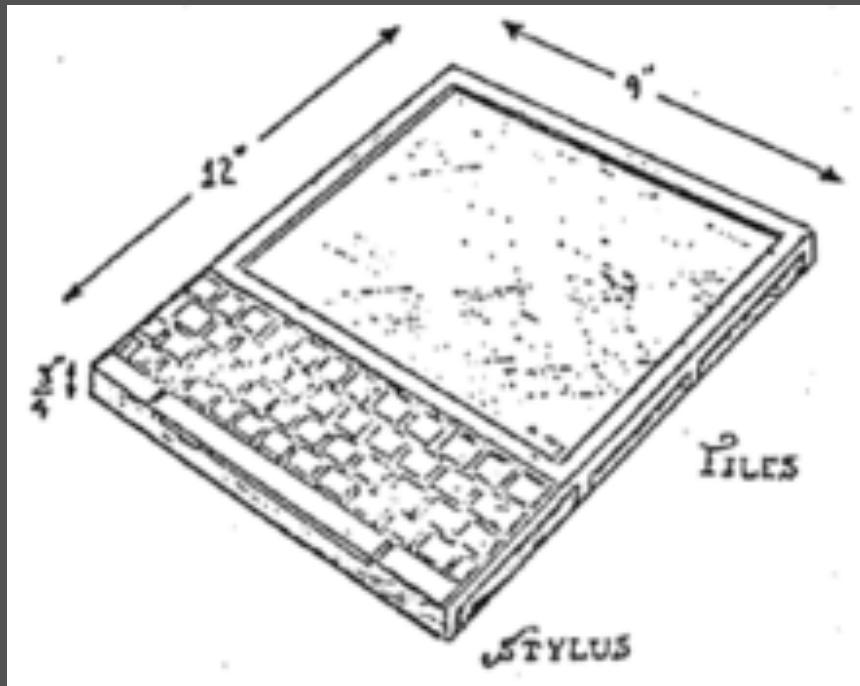
SHRDLU



A tour de force!

*“pick up anything green, at least three of the blocks,
and either a box or a sphere which is bigger than
any brick on the table”*

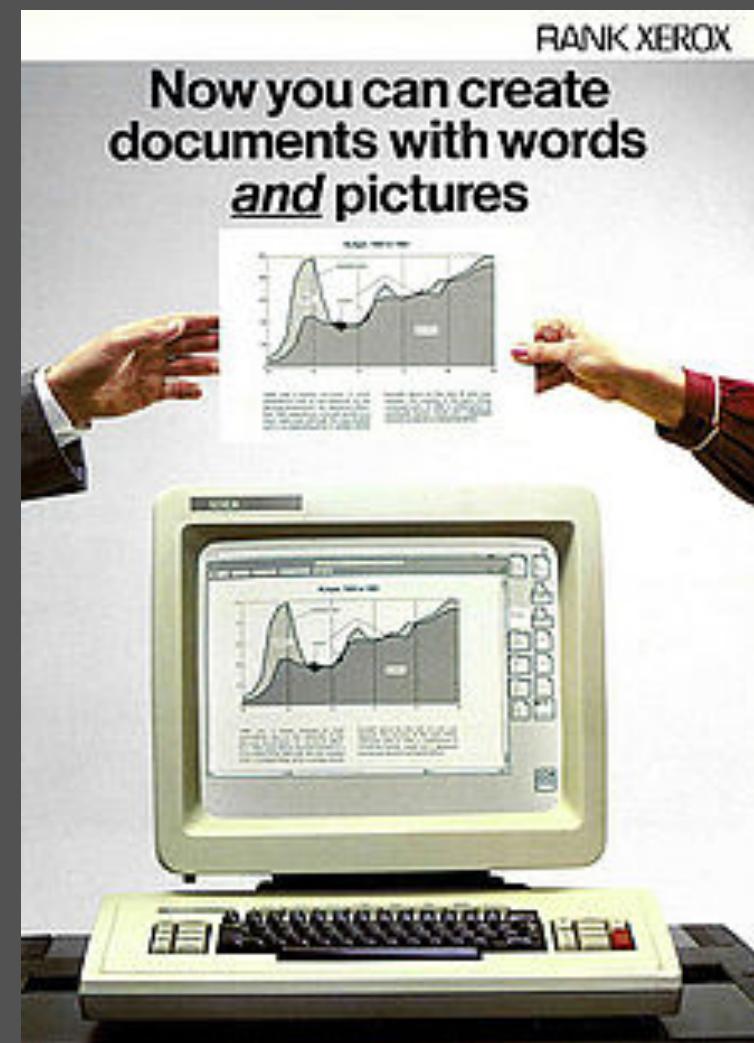
Dynabook (1972)



A Personal Computer for Children of All Ages

Alan C. Kay
Xerox Palo Alto Research Center

Xerox Alto and Star



Alan Kay



HCI today

HCI today

Thriving discipline in practice and in research

Many outlets due to reach of computers via mobile devices and Internet

Continues to evolve rapidly

The most inter-disciplinary of the domains in CS

Some caution needed

HCI research: resources

Key conferences (ACM):

CHI Conference on Human Factors in Computing Systems

UIST: User Interface Software and Technology

CSCW: Computer Supported Cooperative Work

IUI: Intelligent User Interfaces

UBICOMP: Ubiquitous Computing

MobileHCI, IndiaHCI, etc.

CHI '21: Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems



2021 Proceeding

General Chairs: [Yoshifumi Kitamura](#), [Aaron Quigley](#), + 4

Publisher: Association for Computing Machinery, New York, NY, United States

Conference: CHI '21: CHI Conference on Human Factors in Computing Systems • Yokohama Japan • May 8 – 13, 2021

ISBN: 978-1-4503-8096-6

Sponsors: [SIGCHI](#)

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Next Conference

CHI '22

Sponsor:
[SIGCHI](#)

CHI '22: CHI Conference on Human Factors in Computing Systems

April 29 – May 5, 2022

New Orleans, LA, USA

[CHI '22 website](#)

Grading

Total of 100 points

15 points for attendance

15 points for paper reviews

20 points for idea log

50 points for project in teams of 3 (heuristic evaluation + prototype)

Course rules

No academic dishonesty (plagiarism, lack of attribution, mis-representation, etc.)

leads to an F grade (no warnings)

Further action possible

If/when in doubt, always ask course staff

Attendance

Attendance is mandatory forms a part of your grade

Attend the entire session for credit (and post reaction on the Google sheet)

Guest lectures, lab sessions, sprints also count towards attendance

As a courtesy, inform instructor/TAs if you are going to be absent (but no credit unless unforeseen emergency)

Idea Logs

Always carry a notebook and pencil with you. Keenly observe people around you and watch the things they struggle with. Don't just observe bugs! Design fixes for them and sketch them functionally

It's ok if you're not good at drawing. The point is to use drawing to force yourself to think and observe deeply. Print and paste things in if needed.

Problem and idea should be clearly understandable by others

Be as specific as you can. Keep it imaginative, but grounded.
Don't be afraid of small ideas!

Idea Logs

Notebook should be hard-bound, unruled, minimum 3"x4"

Number the ideas

Grading Rubric: 40% - volume of (real) ideas; 20% - depiction and detail; 40% - insight

Scan and upload before the end of week 5

⑭

Drying rack with heat to
dry them indoors

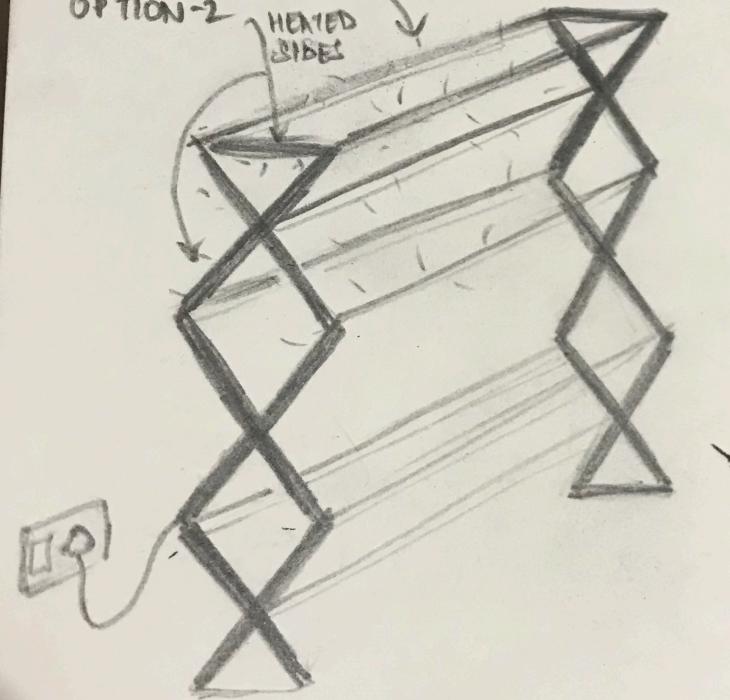
(if needed
to be
indoor)

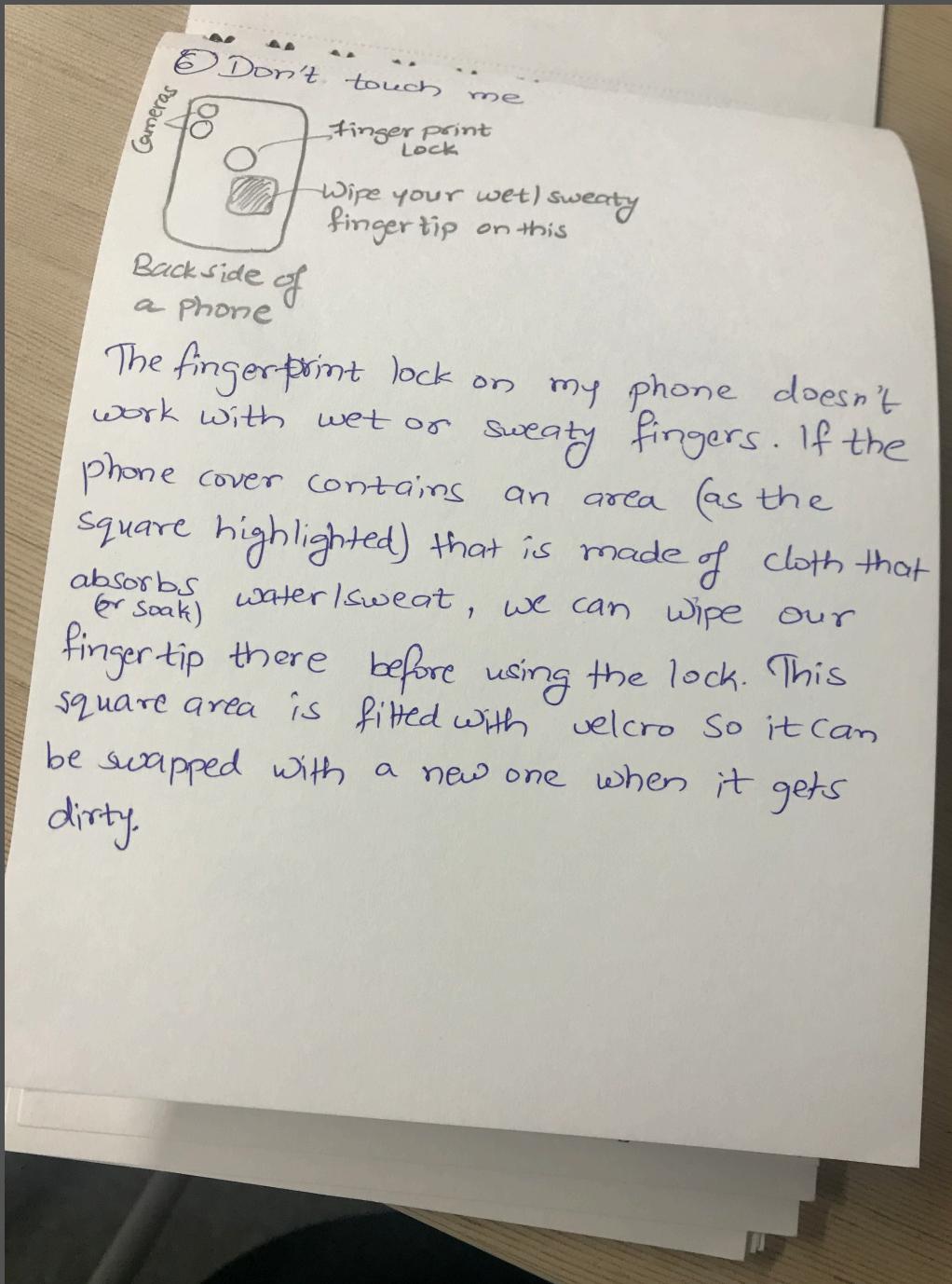
OPTION-1

HEATED RODS

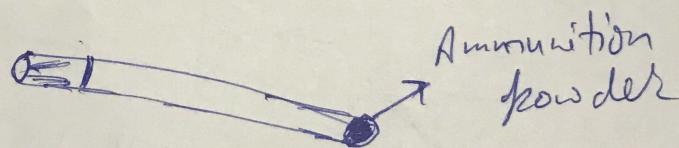
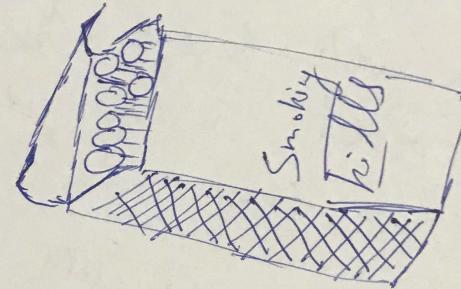
OPTION-2

HEATED
SIDES





#5) Cigarette should come with kind of setting. It's really problematic to find something lit up at times.



Idea Logs

You can discuss with others, but only enter your own ideas in your idea log. (Credit any discussion)

Spent (at least) 5-10 minutes per entry. We expect at least 20 entries by end-term. Graded on volume and novelty.

We will put up all the logs at the final presentations, so you can share with and learn from others.

Reading assignment 1

Submit a review of about 400 words on this essay from 1946.

Due Friday, Sep. 5
before midnight

Link: formatted, text
(Engelbart's copy)



Balsamiq

For this week:

Learn one prototyping tool well

I recommend Balsamiq (but could be any others)

Akbar will conduct a session on Friday/Saturday

10K Challenge

Can you build something that 10,000 people use?

Award of ₹10,000 for first person/group enrolled in this class who can get to 10,000 users in one year, starting now