

DES102: Introduction to Human Computer Interaction

Rajiv Ratn Shah

Assistant Professor

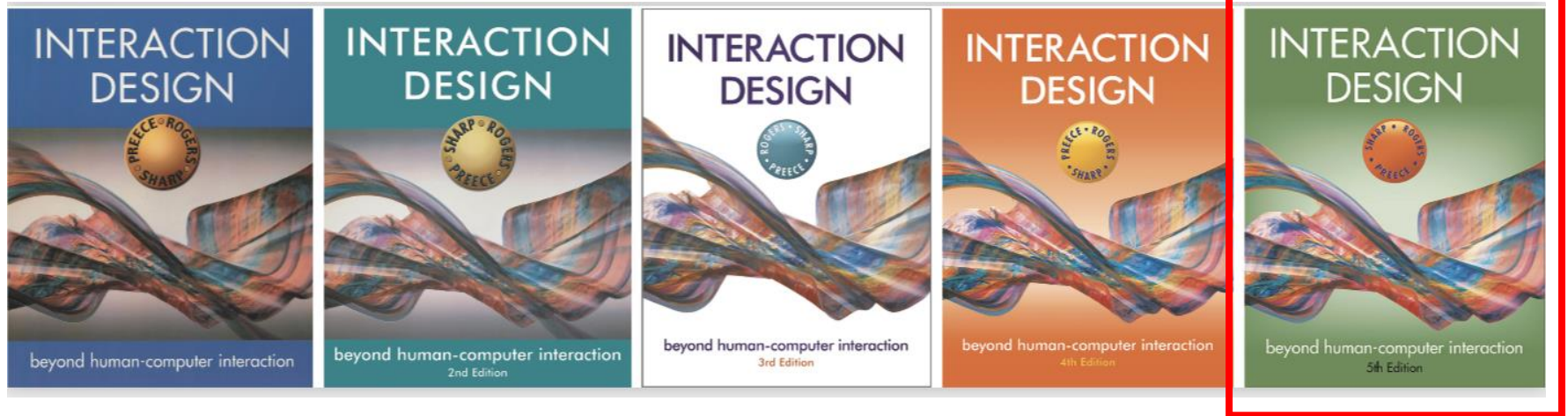
Departments of CSE and HCD

IIIT Delhi

rajivratn@iiitd.ac.in

Class Code: qzrt54j

<https://classroom.google.com/c/NjE3NDY3NzEwNDEx?cjc=qzrt54j>



Helen Sharp, Yvonne Rogers, and Jenny Preece
(2019)

What we do in the class???



For more such videos, kindly visit...

https://www.youtube.com/playlist?list=PL9rvax0EIUA7KMhdCpjuAFrocxbd_s7Z-

Why do we need to study design?



Will it be fried eggs or a trip to hospital tonight?

Exercise

- Have you encountered any **bad design**?
- What **problems** did you face?
- Share your **experience**?
- Have you ever thought about the **solutions**?
- Is your solution **optimal**?
- How to find the **best** solution?
- How to **ensure** that your solves the problem indeed?
- Is your solution **perfect**?
- Is it the **end**?

“Everything **will** be okay in the **end**. **If it's not** okay, **it's not** the **end**.” - John Lennon

Good vs Bad Design (HCI)



Which **digital product** do
you use in daily life?

Which digital **interactive** product do you use in daily life?

- How **usable** they are?
- How many are actually **easy, effortless, and enjoyable** to use?
- Take one example and discuss what one change you will do to make it better **usable, enjoyable, easy to use, and effortless**.
- To achieve this, we need to be able to understand how to **reduce the negative aspects** (such as frustration and annoyance) of the **user experience** while **enhancing the positive ones** (for example, enjoyment and efficacy).

What is HCl?



<https://www.youtube.com/watch?v=KtwustmEDl>

Aims and Objectives

- Students will be able to discuss and distinguish human computer interaction, user experience design, and design thinking.
- Students will be able to apply user centered design, and techniques for gathering data, rapid prototyping, as well as conveying design concepts.
- Students will be able to assess usefulness and usability of interaction designs.
- Students will be able to ideate, prototype, and evaluate new design concepts as part of group projects.

Tentative Schedule

Week#	Lecture Topic
1	Introduction to HCI / Chapter 1
2	What is Design (Pt. 1) / Chapter 1 & 2
3	What is Design (Pt. 2) / Chapter 1 & 2
4	What is Interaction (Pt. 1) / Chapter 3
5	What is Interaction (Pt. 2) / Chapter 3
6	What is the User Perspective (Pt. 1) / Chapters 4, 5, and 6
7	What is the User Perspective (Pt. 2) / Chapters 4, 5, and 6
	Mid-Term Exam
	Mid Recess Break
8	What is an Interface (Pt. 1) / Chapter 7
9	What is Data Requirement, Gathering and Analysis / Chapters 8, 9, 10, and 11
10	Iterative Design (Pt. 1) / Chapters 12 and 13
11	Iterative Design (Pt. 2) / Chapters 12 and 13
12	Iterative Design (Pt. 3) / Chapters 12 and 13
13	Evaluation / Chapters 14, 15, and 16

Evaluation

Evaluation	% Contribution
Class Participation	10 + (5 Bonus)
Tutorial x 10	20
Quiz x 2	10
Project	25
Mid-term	15
End-term	20



MIDAS@IIITD

Multimodal Digital Media Analysis Lab

<https://midas.iiitd.edu.in/>

<https://twitter.com/midasiiitd/>

<https://facebook.com/midasiiitd/>

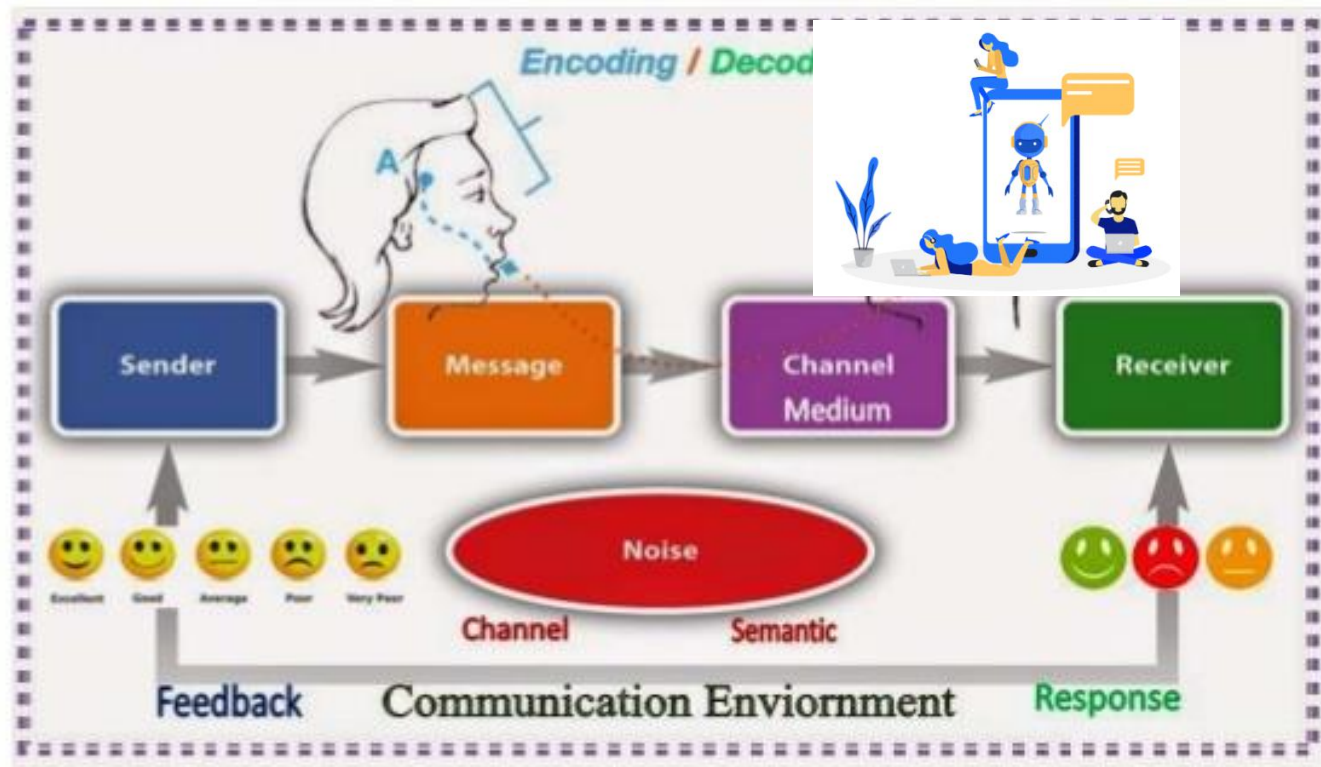
<https://linkedin.com/company/midasiiitd/>



<https://midas.iiitd.ac.in/students>

HCAI/HCML Assisted Communication

Elements of Human Communication



“Human Communication”, Joseph A. Deito, PEARSON, 13th Edition

HCAI/HCML Assisted Communication

“It is concerned with how to design engaging interactions between people and technologies to support the activities that people want to do and the contexts in which they act.”

What you can currently do
using **digital technology**?

Systems



HapTech: Exploring Haptics in Gaming for the Blind

Angel Walia | Mayank Jain | Prakhar Gupta | Varnika Kairon



INDRAPRASTHA INSTITUTE of
INFORMATION TECHNOLOGY DELHI

When to meet:

- Wednesday, 5:00 – 6:00 pm

Where to meet in person:

- Office: A409, R&D Block, IIIT-Delhi
- Lab: MIDAS Lab, A415, R&D Block

Where to meet virtually:

- <https://twitter.com/ratnrajiv>
- <https://instagram.com/rajivratn>
- <https://www.linkedin.com/in/rajivratn/>



Dr. Rajiv Ratn Shah
rajivratn@iiitd.ac.in



Recap

- Introduction to course
- Need of good design?
- What is HCI?
- What to design interactive systems?

Human Computer Interaction (HCI)

“The strength and tradition of HCI has been in its **human-centredness** and **usability concerns**. HCI has evolved methods, guidelines, principles and standards to ensure that systems are easy to use and easy to learn.”

Visual Speech Recognition

What is
lipreading?

Lipreading is recognizing what is being spoken from video input only, without any audio. *i.e.*,

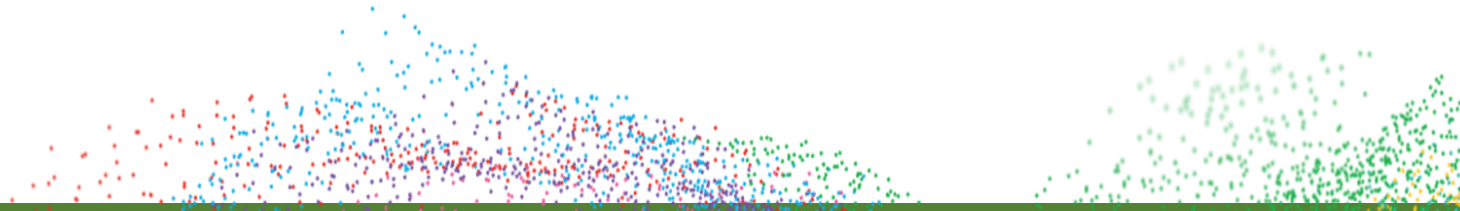
silent video -> text / audio/video with audio



- Lipreading a text
- Lipreading as speech
- Lipreading for pathology
- Adding new classes in Lipreading



**Let's put your lip reading
abilities to test**
(SHOW OF HANDS)



MOBIVSR Predictions:



SPEECH	85%
--------	-----

BRITISH	10%
---------	-----

PRESSURE	2%
----------	----

INFLATION	1%
-----------	----



Let's jump to MobiVSR difficulty level.
Your options:



ABOUT	BECAUSE	CLAIMS	EARLY	FOUND	IMPACT
ABSOLUTELY	BECOME	CLEAR	EASTERN	FRANCE	IMPORTANT
ABUSE	BEFORE	CLOSE	ECONOMIC	FRENCH	INCREASE
ACCESS	BEHIND	CLOUD	ECONOMY	FRIDAY	INDEPENDENT
ACCORDING	BEING	COMES	EDITOR	FRONT	INDUSTRY
ACCUSED	BELIEVE	COMING	EDUCATION	FURTHER	INFLATION
ACTION	BENEFIT	COMMUNITY	ELECTION	FUTURE	INFORMATION
ACROSS	BENEFITS	COMPANIES	EMERGENCY	GAMES	INQUIRY
AFFECTED	BETTER	COMPANY	ENERGY	GENERAL	INSIDE
AFFAIRS	BETWEEN	CONCERNS	ENGLAND	GEORGE	INTEREST
AFFECTED	BIGGEST	CONFERENCE	ENOUGH	GERMANY	INVESTMENT
AFRICA	BILLION	CONFLICT	EUROPE	GETTING	INVOLVED
AFTER	BLACK	CONSERVATIV	EUROPEAN	GIVEN	IRELAND
AFTERNOON	BORDER	E	EVENING	GIVING	ISLAMIC
AGAIN	BRING	CONTINUE	EVENTS	GLOBAL	ISSUE
AGAINST	BRITAIN	CONTROL	EVERY	GOING	ISSUES
AGREE	BRITISH	COULD	EVERYBODY	GOVERNMENT	ITSELF
AGREEMENT	BROUGHT	COUNCIL	EVERYONE	GREAT	JAMES
AHEAD	BUDGET	COUNTRIES	EVERYTHING	GREECE	JUDGE
ALLEGATION	BUILD	COUNTRY	EVIDENCE	GROUND	JUSTICE
S	BUILDING	COUPLE	EXACTLY	GROUP	KILLED
ALLOW	BUSINESS	COURSE	EXAMPLE	GROWING	KNOWN
ALLOWED	BUSINESSES	COURT	EXPECT	GROWTH	LABOUR
ALMOST	CALLED	CRIME	EXPECTED	GUILTY	LARGE
ALREADY	CAMERON	CRISIS	EXTRA	HAPPEN	LATER
ALWAYS	CAMPAIGN	CURRENT	FACING	HAPPENED	LATEST
AMERICA	CANCER	CUSTOMERS	FAMILIES	HAPPENING	LEADER
AMERICAN	CANNOT	DAVID	FAMILY	HAVING	LEADERS
AMONG	CAPITAL	DEATH	FIGHT	HEALTH	LEADERSHIP
AMOUNT	CASES	DEBATE	FIGHTING	HEARD	LEAST
ANNOUNCED	CENTRAL	DECIDED	FIGURES	HEART	LEAVE
ANOTHER	CERTAINLY	DECISION	FINAL	HEAVY	LEGAL
ANSWER	CHALLENGE	DEFICIT	FINANCIAL	HIGH	LEVEL
ANYTHING	CHANCE	DEGREES	FIRST	HISTORY	LEVELS
AREAS	CHANGE	DESCRIBED	FOCUS	HOMES	LIKELY
AROUND	CHANGES	DESPITE	FOLLOWING	HOSPITAL	LITTLE
ARRESTED	CHARGE	DETAILS	FOOTBALL	HOURS	LIVES
ASKED	CHARGES	DIFFERENCE	FORCE	HOUSE	LIVING
ASKING	CHIEF	DIFFERENT	FORCES	HOUSING	LOCAL
ATTACK	CHILD	DIFFICULT	FOREIGN	HUMAN	LONDON
ATTACKS	CHILDREN	DOING	FORMER	HUNDREDS	LONGER
AUTHORITIE	CHINA	DURING	FORWARD	IMMIGRATION	LOOKING
S		EARLY			
BANKS					

MOBIVSR Predictions:

DIFFICULT 40%

GIVING 20%

GIVEN 10%

EVERYTHING 5%

