



HCI INTRODUCTION

IT 101

HUMAN-COMPUTER INTERACTION

HCI INTRODUCTION

Lesson 1. What is HCI and Why it is Important

Lesson 2. Seven Principles of HCI



WHAT IS HCI & WHY IT IS IMPORTANT

Human-computer interaction (HCI) is a cross-disciplinary area that deals with the theory, design, implementation, and evaluation of the ways that humans use and interact with computing devices.



WHAT IS HCI & WHY IT IS IMPORTANT

HCI refers to *Interaction* and *Interface*

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refers to an abstract model by which humans interact with the computing device for a given task

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is a choice of technical realization (hardware or software) of such a given interaction model



WHAT IS HCI & WHY IT IS IMPORTANT

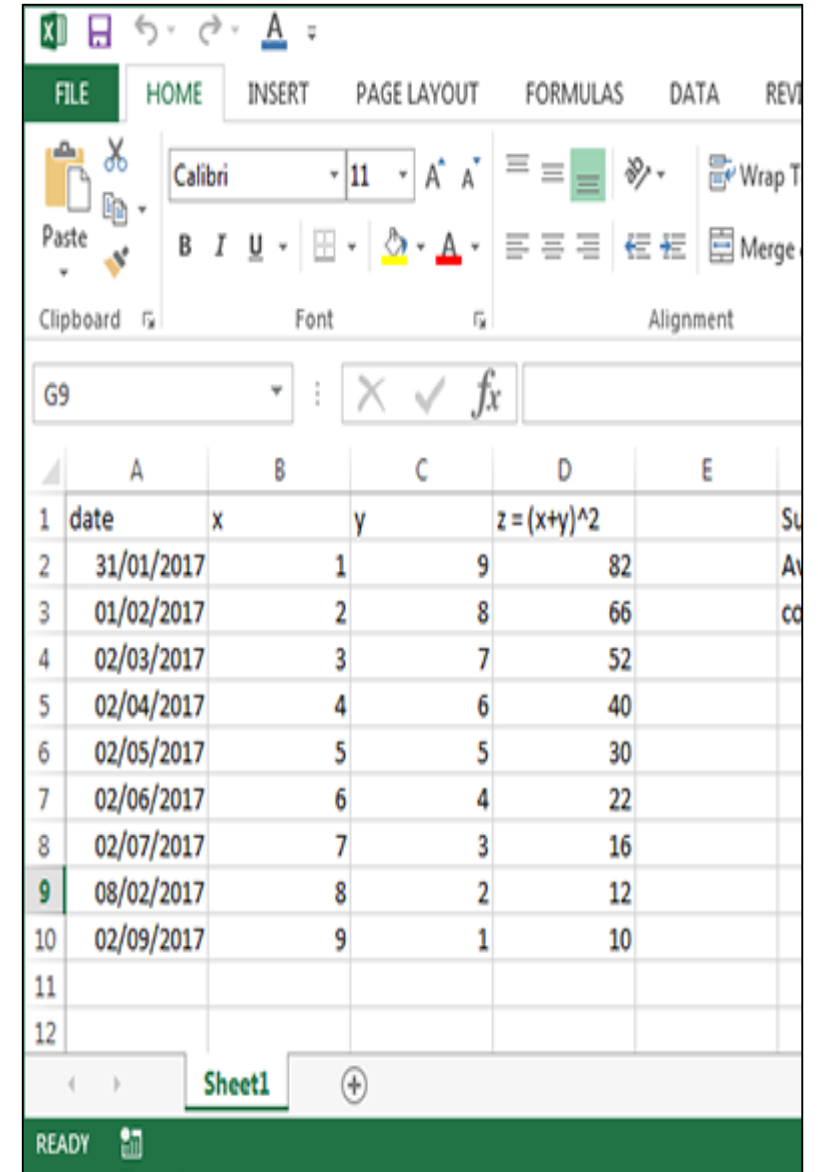
The early focus of HCI has been in how to design interaction and implement interfaces for high usability.

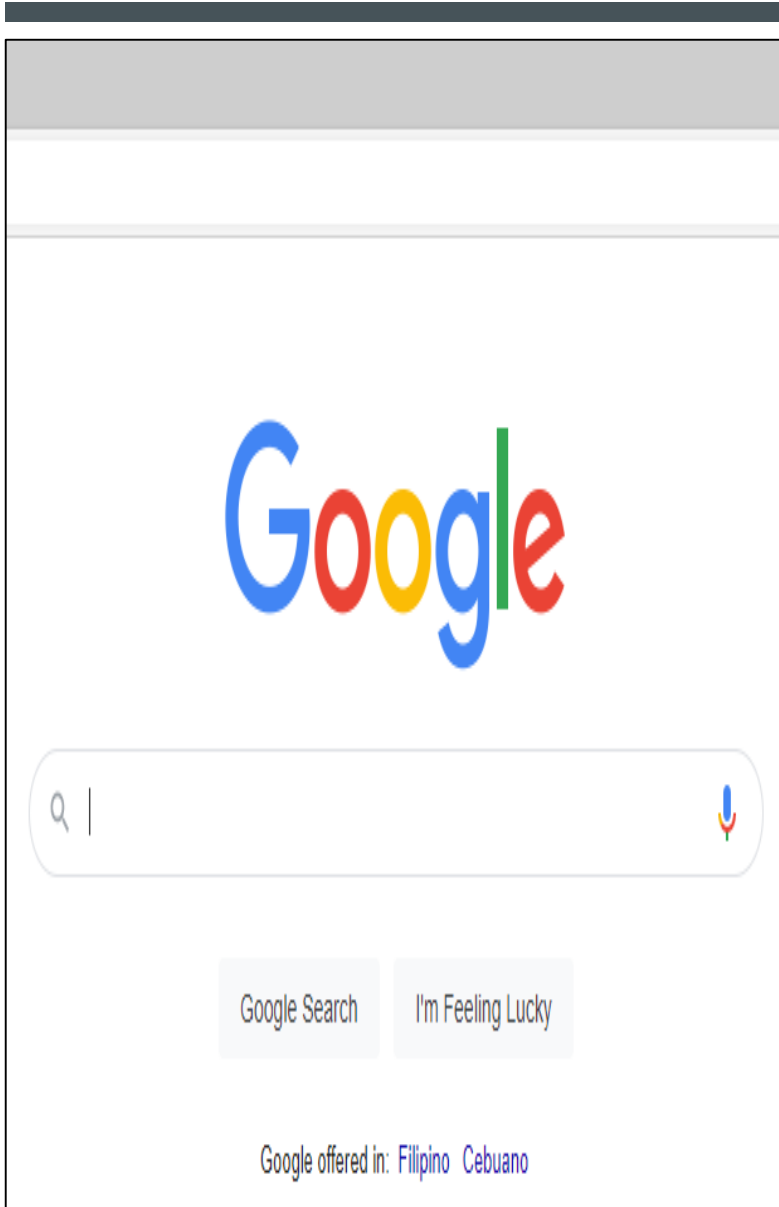
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interfaces are easy to use, efficient for the task, ensure safety, & lead to correct completion of the task



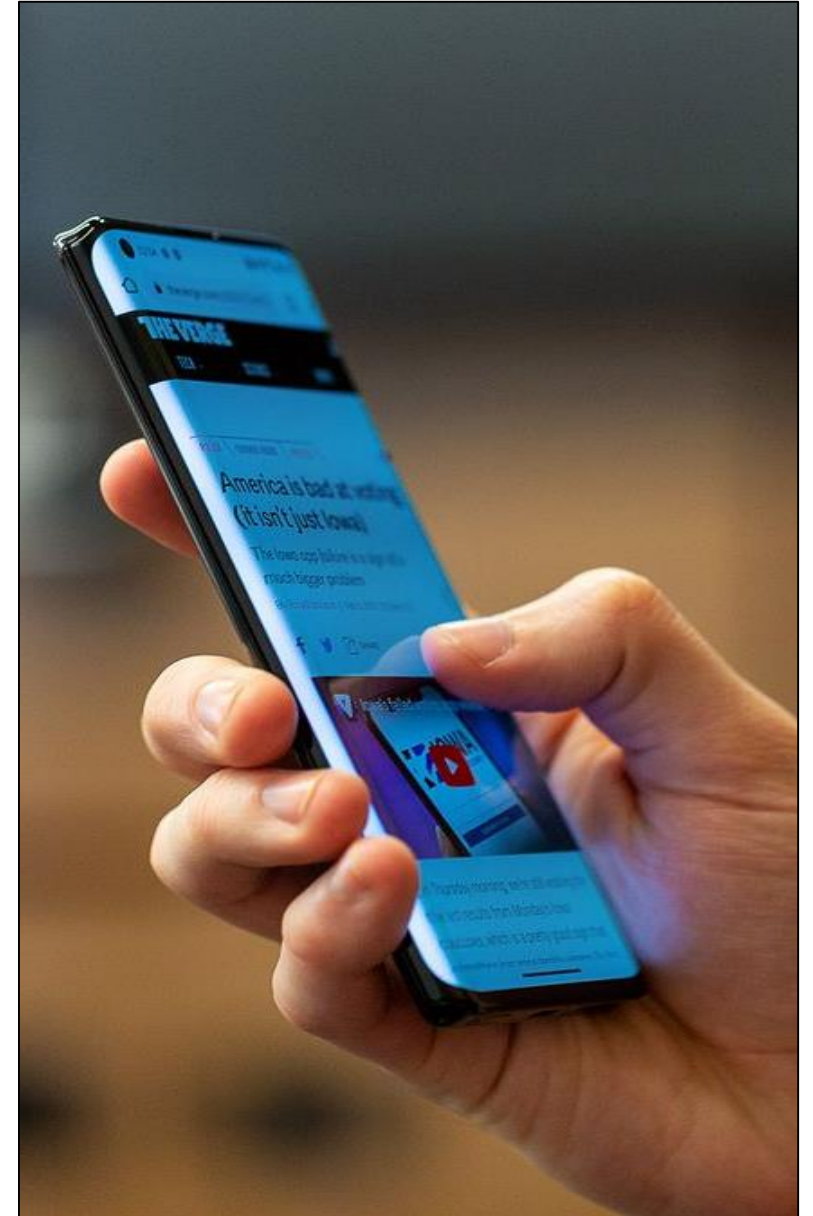


- The **mouse** that was the linchpin in the personal computer revolution, making the operation of a computer intuitive and much easier
- The **spreadsheet** interface made business computing a huge success





- The Internet phenomenon could not have happened without the **web-browser** interface.
- **Smartphones'** touch-oriented interfaces have nearly replaced the previous generation of feature phones.

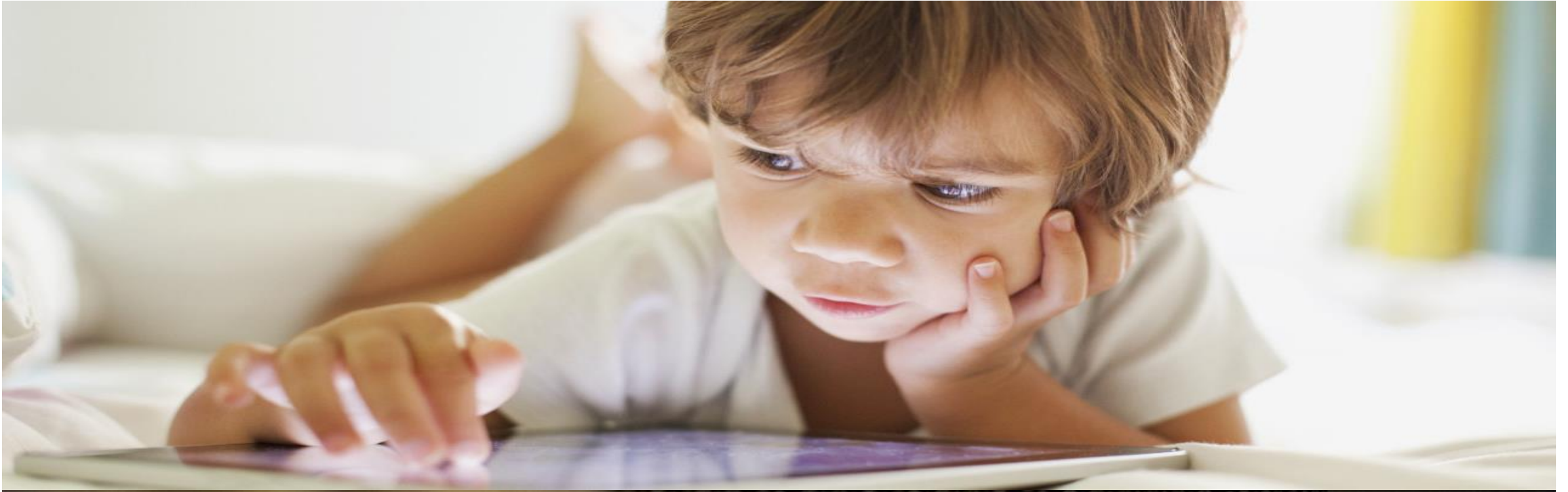




WHAT IS HCI & WHY IT IS IMPORTANT

- Body-based and action-oriented interfaces are now introducing new ways to play and enjoy computer games.

HCI still continues to redefine how we view, absorb, exchange, create, and manipulate information to our advantage.



PRINCIPLES OF HCI

Good HCI design is generally difficult because it is a multi-objective task that involves simultaneous consideration of many things (types of users, characteristics of the tasks, capabilities and cost of the devices, etc.)

PRINCIPLES OF HCI

I. “KNOW THY USER”

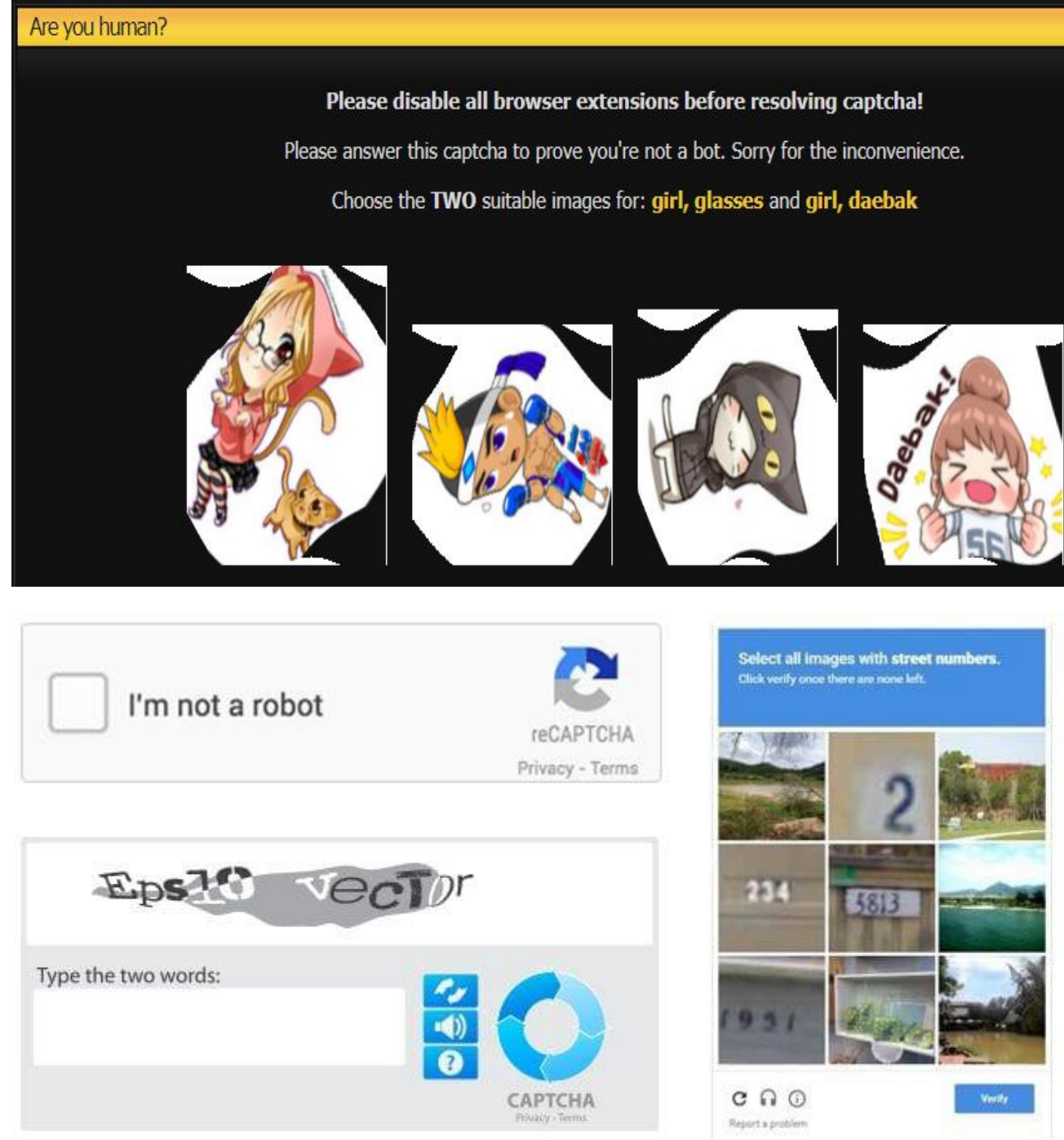
- The interaction and interface should cater to the needs and capabilities of the target user of the system in design.
- Comprehensive information (e.g., *age, gender, education level, social status, computing experience, cultural background*) about the representative target user should be collected and analyzed.



PRINCIPLES OF HCI

2. UNDERSTAND THE TASK

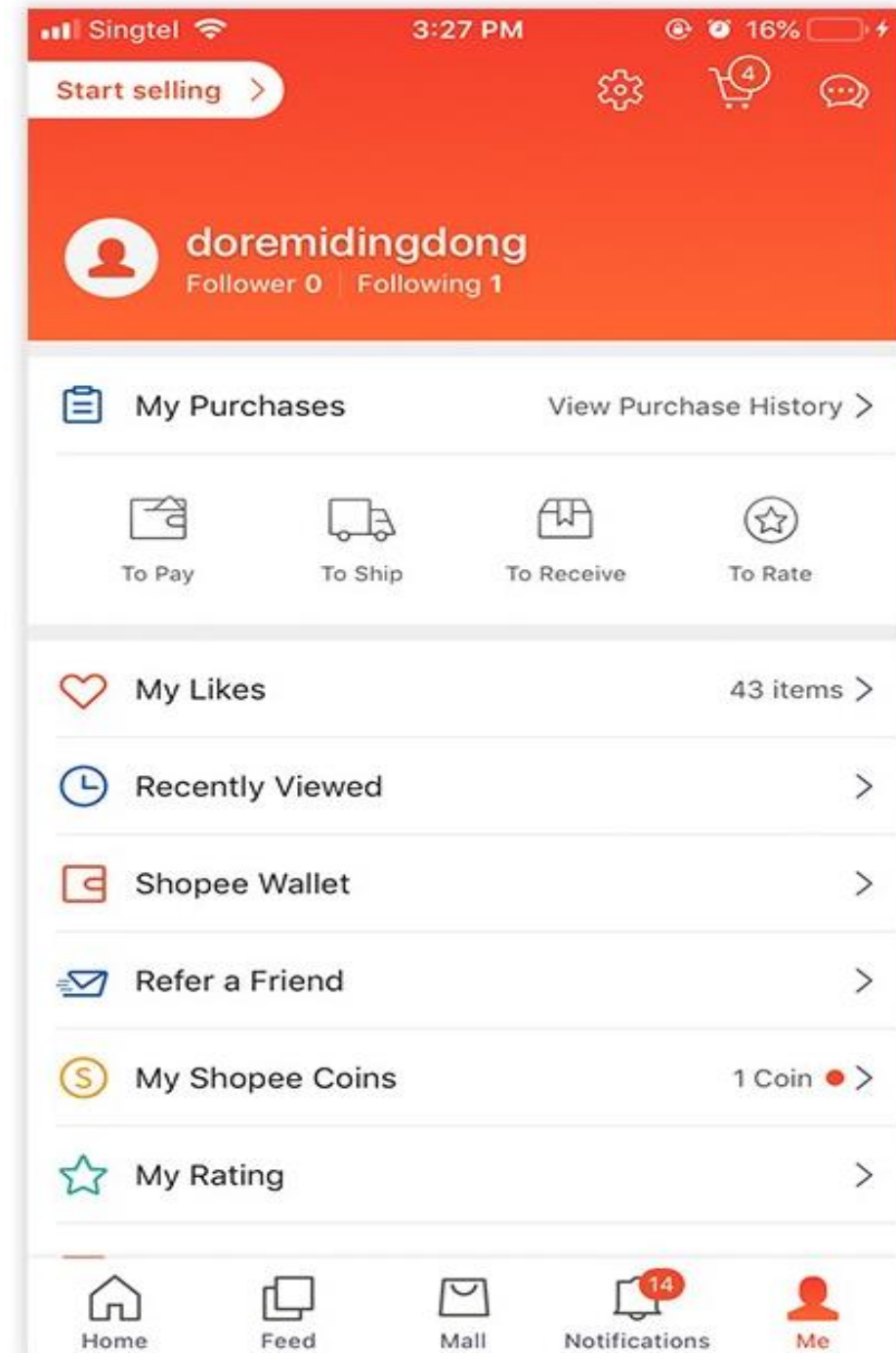
- **TASK** refers to the job to be accomplished by the user through the use of the interactive system.



PRINCIPLES OF HCI

3. REDUCE MEMORY LOAD

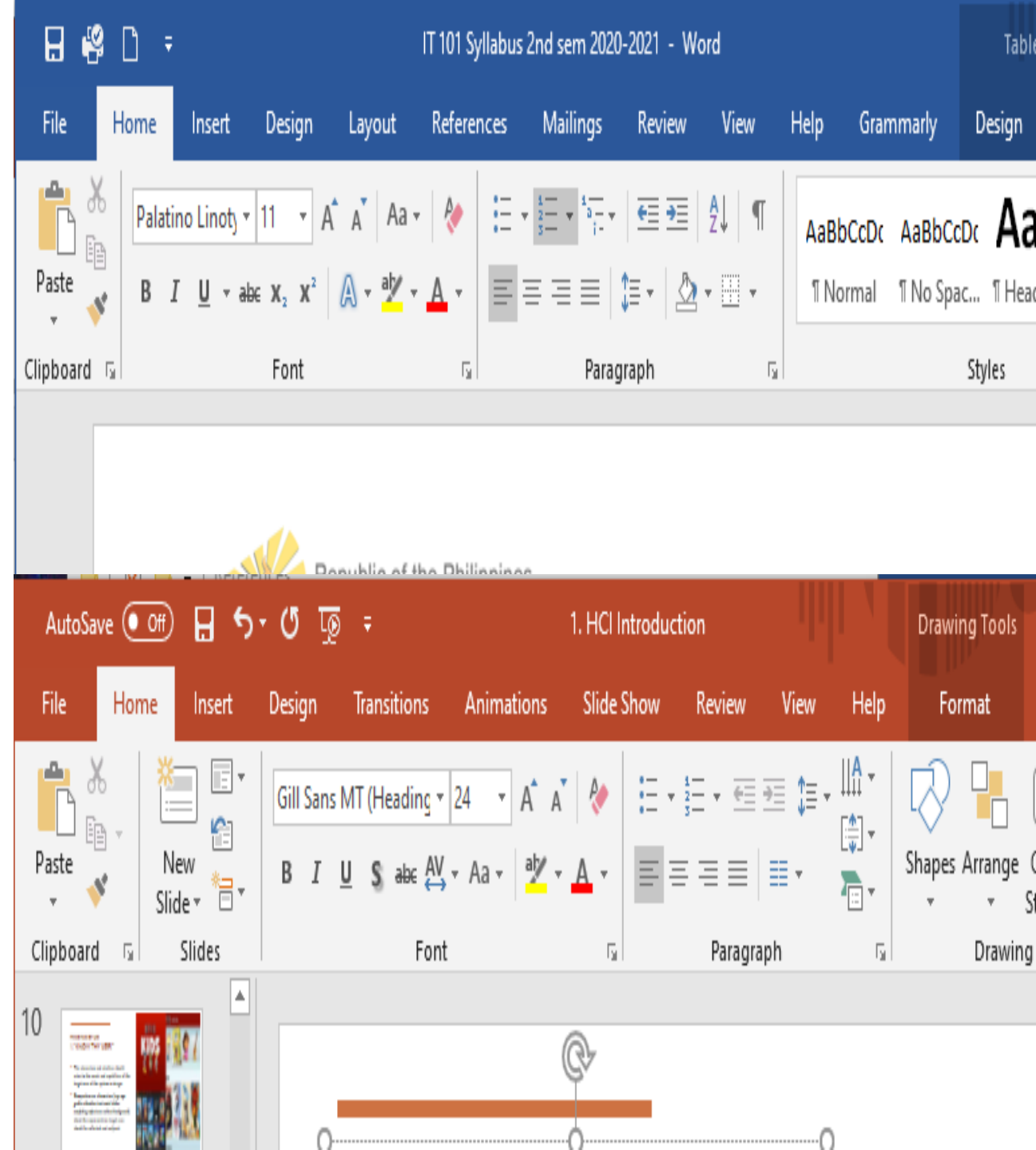
- Humans are certainly more efficient in carrying out tasks that require less memory burden, long or short term.
- The capacity of the human's short-term memory (STM) is about 5–9 chunks of information (or items meaningful with respect to the task), famously known as the “magic number”.
- Light memory burden also leads to less erroneous behavior.



PRINCIPLES OF HCI

4. STRIVE FOR CONSISTENCY

- One way to unburden the memory load is to keep consistency to (a) both within an application and across different applications and (b) both the interaction model and interface implementation.
- Aside from being able to remember what to do, consistency and familiarity also lead to higher acceptability and preference.



PRINCIPLES OF HCI

5. REMIND USERS AND REFRESH THEIR MEMORY

- Employ interfaces that give continuous reminders of important information and thereby refresh the user's memory.

11:43

OK

Your Bank Transfer is Being Processed!

Details

Bank Name	BPI / BPI Family Savings Bank
Amount	php 1000.00
Account Name	Juan dela Cruz
Account Number	1234566780000
Convenience Fee	php 0.00
Ticket No.	651837
GCash Ref Number	1000095571462

You will receive an SMS and/or an email to confirm your transaction.

LANDBANK

Transfer via InstaPay
Confirm the Transaction

Transaction Type	Fund Transfer
Transaction Date	04/13/2020 08:45:58 PM
From Account	SA : 3
To Account	GCASH 09
Receiver Name	
Receiver Mobile No.	
Receiver Email	
Amount	PHP 500.00
Purpose	Payment

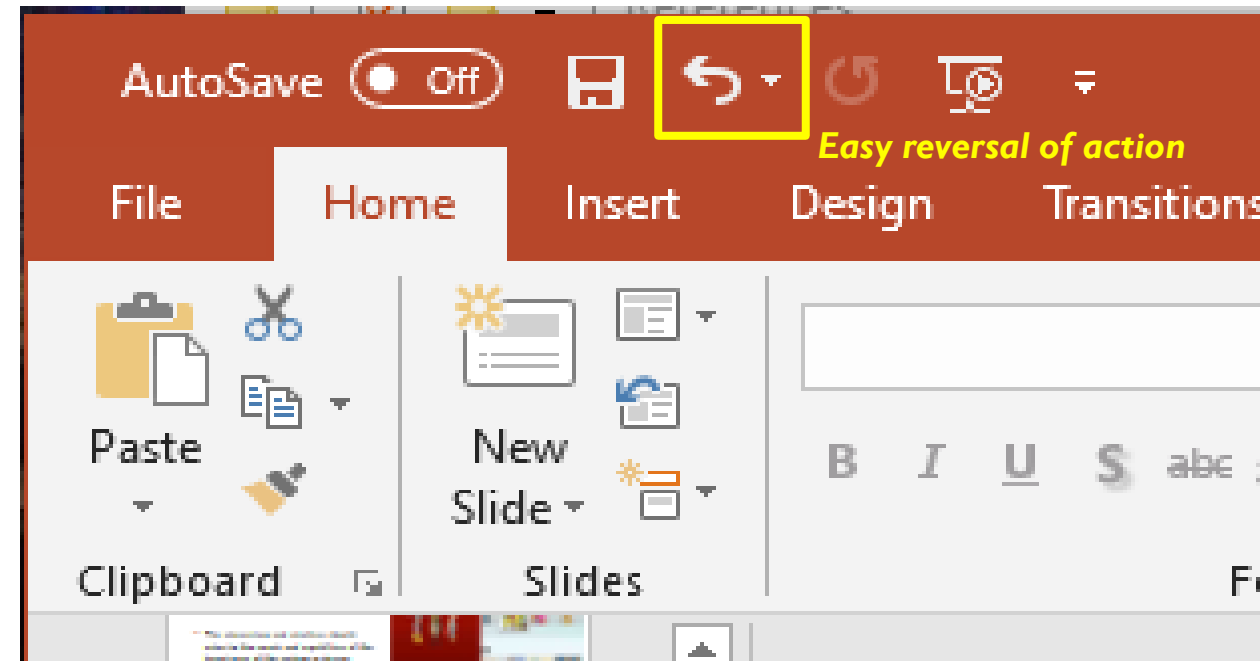
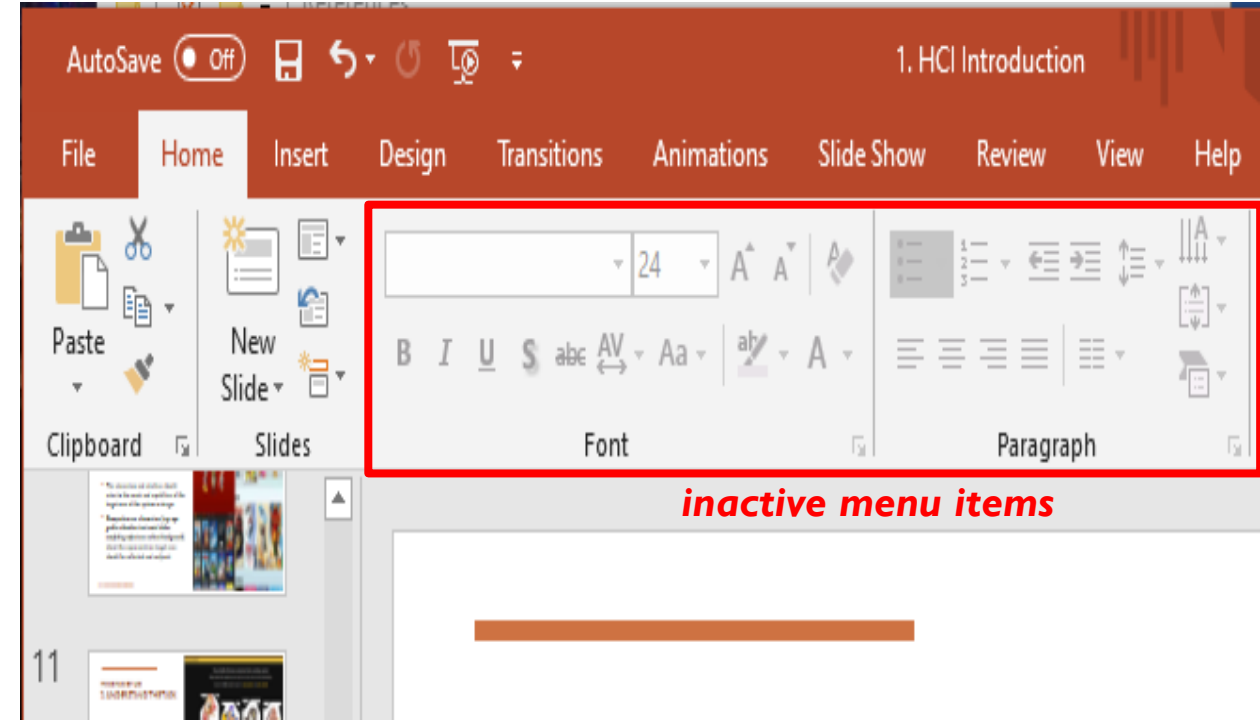
BACK

CONFIRM

PRINCIPLES OF HCI

6. PREVENT ERRORS/REVERSAL OF ACTION

- Error-free operation is equally important to quick completion of the task.
- The interaction and interface should be designed to avoid confusion and mental overload.
- One effective technique is to present or solicit only the relevant information/action as required at a given time.



PRINCIPLES OF HCI

7. NATURALNESS

- Favor “natural” interaction and interfaces.
- *Naturalness* refers to a trait that is reflective of various operations in our everyday life.
- A natural or metaphoric interface will also have affordance, a property that appeals to our innate perception and cognition, thus making it so intuitive that the interface would require almost no learning.



Hugh Hou

February 23 at 3:55 PM · 🌐

MARS Virtual Tour - What's Mars surface looks like to you?



REFERENCES:

KIM, G. (2015). HUMAN-COMPUTER INTERACTION: FUNDAMENTALS AND PRACTICE

IMAGES RETRIEVED FROM GOOGLE AND FACEBOOK