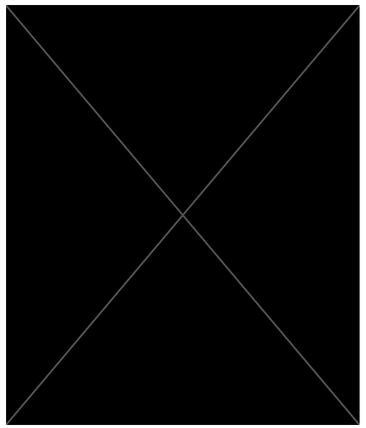
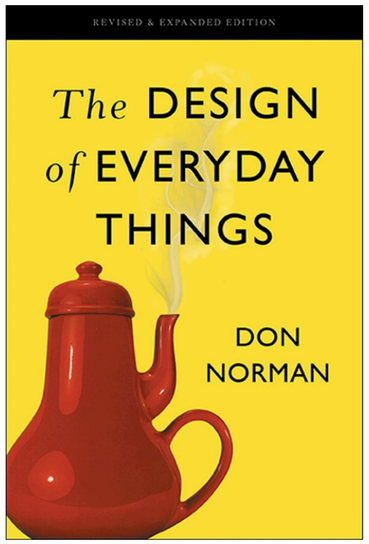
WEEK 4 Assignment:
The Human-Centered Design (HCD)

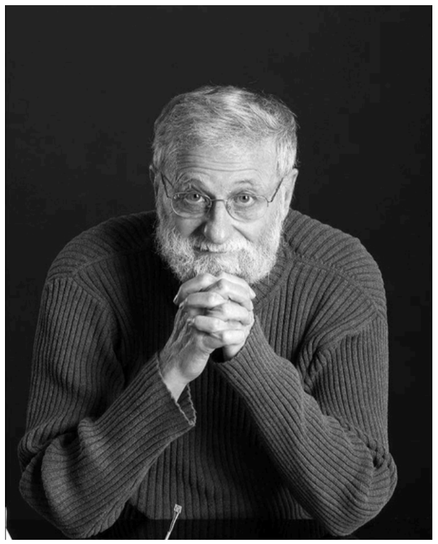
Group members:

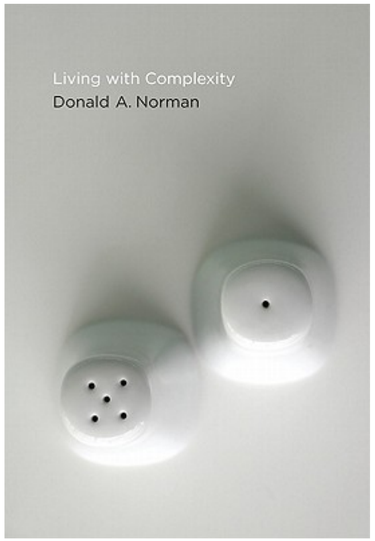
- 
- Napat Korsincharoen
- Pawat Kurovat
- Punnawat Lerdkijrachapong
- Chalongraj Bangwatana
- Anchalika Akkarawiboonkij

FROM LIVING WITH COMPLEXITY BY DONALD A. NORMAN, CAN THE HUMAN-CENTERED DESIGN (HCD) AS PROPOSED BY DON NORMAN BE APPLIED TO SERVICE DESIGNS?

Yes, Human-Centered Design (HCD) and service designs can be integrated together to produce a product that meets customers' satisfaction since both share the same idea which is to focus on users' experiences, behaviors, and needs. To elaborate, designers have to value and understand what humans desire rather than just only make a product, then distribute into the market; producers have to put themselves in buyer's perspective.



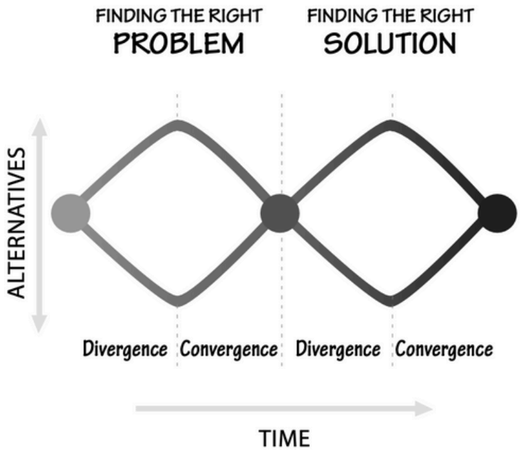


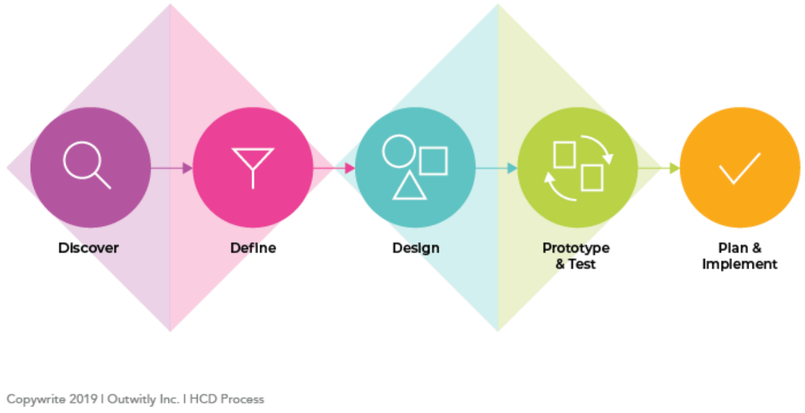


FROM LIVING WITH COMPLEXITY BY DONALD A. NORMAN, CAN THE HUMAN-CENTERED DESIGN (HCD) AS PROPOSED BY DON NORMAN BE APPLIED TO SERVICE DESIGNS?

Norman highlights that HDC follows a Double-Diamond model of design, which consists of four stages:

- Observation—spoting the true needs and behavior of customers.
- Ideation—generating solutions using the imagination of the designers regardless of limitations and being curious on everything to detect issues emerging during this process.
- Prototyping—developing solutions to see if there are any problems.
- Testing—final stage is to release the system and let a group of people as a sample to use it, then evaluating the outcome and collecting feedback from the users.

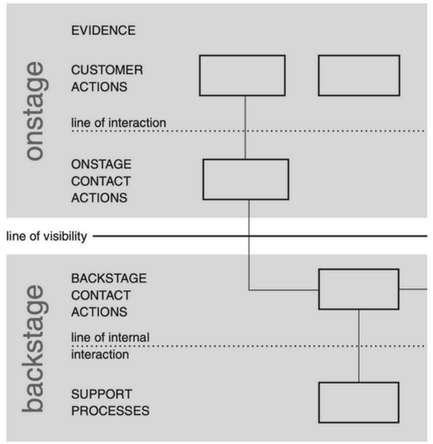


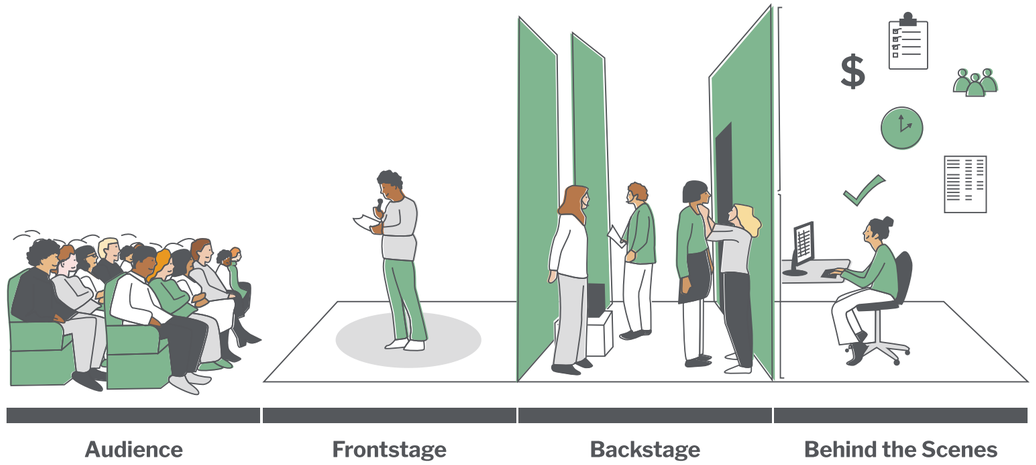


FROM LIVING WITH COMPLEXITY BY DONALD A. NORMAN, CAN THE HUMAN-CENTERED DESIGN (HCD) AS PROPOSED BY DON NORMAN BE APPLIED TO SERVICE DESIGNS?

Norman also emphasizes that service design is mostly tied with the emotional experiences of users. He suggests that customer satisfaction can occur at 2 different levels, which is the concept of frontstage and backstage in service design.

- Frontstage—the visible aspect that customers can obviously see and directly interact with, such as employees, products, app interfaces, machines, physical stores. This stage highly influences customers' satisfaction and emotions.
- Backstage—the hidden processes that users cannot see or interact with, but still important to ensure that customers are pleased with the services.





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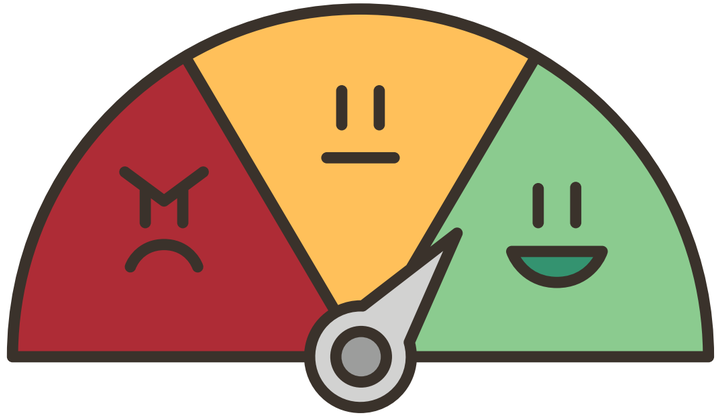
Therefore, by combining Human-Centered Design (HCD)'s process and service design principles, designers can create products or services that not only function effectively but also improve users' experiences and satisfaction.



TAKING ADVANTAGE OF THE LATEST TECHNOLOGY, UPDATE THE DESIGN OF A CAR'S DASHBOARD AS PART OF AN EFFORT TO MAKE THE CAR MORE ATTRACTIVE TO YOUNGER CONSUMERS, WHILE PROMOTING ENVIRONMENTAL CONSCIOUSNESS AND SAFETY.

IDEAL CAR'S DASHBOARD

AFFORDANCES

- SUPPORT QUICK ACTIVATION OF ELECTRIC DRIVING MODES AND ENERGY-SAVING SETTINGS.
- FACILITATE HANDS-FREE VOICE COMMANDS AND GESTURE CONTROLS TO MINIMIZE DISTRACTION.
- PROMOTE USE OF ADAPTIVE CRUISE CONTROL AND COLLISION AVOIDANCE SYSTEMS.

SIGNIFIERS

- HIGHLIGHT ECO-FRIENDLY MODES WITH DISTINCT GREEN COLOR CODING ON BUTTONS AND DISPLAYS.
- USE INTUITIVE ICONS THAT COMMUNICATE FUNCTIONS LIKE REGENERATIVE BRAKING OR CHARGING STATUS.
- VISUAL CUES ON TOUCHSCREENS AND PHYSICAL BUTTONS SHOULD INDICATE INTERACTIVITY AND STATUS CLEARLY.

TAKING ADVANTAGE OF THE LATEST TECHNOLOGY, UPDATE THE DESIGN OF A CAR'S DASHBOARD AS PART OF AN EFFORT TO MAKE THE CAR MORE ATTRACTIVE TO YOUNGER CONSUMERS, WHILE PROMOTING ENVIRONMENTAL CONSCIOUSNESS AND SAFETY.

CONSTRAINTS

- DISABLE MANUAL OVERRIDES THAT COULD COMPROMISE ENERGY EFFICIENCY, LIKE AGGRESSIVE ACCELERATION MODES.
- LIMIT ACCESS TO DISTRACTING FEATURES WHILE DRIVING, SUCH AS SOCIAL MEDIA OR COMPLEX MENUS.
- USE LOCKOUTS ON COMPLEX CONTROLS UNLESS THE VEHICLE IS STATIONARY.

MAPPINGS

ENSURE CLEAR RELATIONSHIPS BETWEEN CONTROLS AND ACTIONS:

- PHYSICAL ROTARY KNOBS AND TOUCH SLIDERS FOR TEMPERATURE, VOLUME, AND LIGHTING CONTROLS SHOULD CORRESPOND DIRECTLY TO REAL-TIME CHANGES VISIBLE ON THE DASHBOARD.
- GROUP ALL ECO-RELATED CONTROLS IN ONE SECTION FOR INTUITIVE ACCESS.
- MAP REGENERATIVE BRAKING LEVELS PROMINENTLY ON A DEDICATED CONTROL DIAL OR TOUCHSCREEN AREA.

FEEDBACK

- HAPTIC OR AUDIBLE CONFIRMATION FOR MODE SWITCHES (E.G., ELECTRIC MODE ENGAGED).
- REAL-TIME GRAPHICAL DISPLAYS SHOWING ENERGY CONSUMPTION, BATTERY STATUS, AND REGENERATIVE BRAKING FEEDBACK.
- VISUAL ALERTS FOR SAFETY FEATURES TRIGGERING, LIKE LANE DEPARTURE OR COLLISION WARNINGS.

TAKING ADVANTAGE OF THE LATEST TECHNOLOGY, UPDATE THE DESIGN OF A CAR'S DASHBOARD AS PART OF AN EFFORT TO MAKE THE CAR MORE ATTRACTIVE TO YOUNGER CONSUMERS, WHILE PROMOTING ENVIRONMENTAL CONSCIOUSNESS AND SAFETY.

IDEAL CAR'S DASHBOARD

THIS APPROACH LEVERAGES BMW I5'S SLEEK, TECH-FORWARD PLATFORM WHILE MAKING ECO-DRIVING INTUITIVE AND SAFE FOR YOUNGER DRIVERS. IT BALANCES PHYSICAL CONTROLS AND DIGITAL INTERFACES WITH THOUGHTFUL INTERACTION DESIGN TO PROMOTE ENVIRONMENTALLY CONSCIOUS, CONFIDENT DRIVING.

CREATE YOUR OWN DESIGN PROJECT FOR A MOBILE APP (MOBILE PHONE'S APPLICATION) AND DISCUSS IT USING NORMAN'S KEY DESIGN PARAMETERS, OR CHOOSE A MOBILE APP (MOBILE PHONE'S APPLICATION) THAT ALREADY EXISTS, THAT WHICH YOUR TEAM THINKS IT FAILS OR IS FUNCTIONALLY POOR; THEN, CRITIQUE IT USING NORMAN'S KEY DESIGN PARAMETERS. USE YOUR IMAGINATION!

ทางรัฐ application

AFFORDANCES:

ISSUE

- **THE APP'S BUTTONS AND INTERACTIVE ELEMENTS ARE NOT CLEARLY DISTINGUISHABLE FROM STATIC TEXT,CAUSING CONFUSION ABOUT WHAT IS CLICKABLE OR TAPPABLE.**

IMPROVEMENT

- **DESIGN BUTTONS AND INTERACTIVE ICONS WITH DISTINCTIVE SHAPES, COLORS, AND SHADOWS TO SIGNIFY INTERACTIVITY.**

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SIGNIFIERS:

ISSUE

- THE APP LACKS CLEAR VISUAL CUES OR INSTRUCTIONS GUIDING USERS WHERE TO TAP, HOW TO PROCEED, OR WHICH ACTIONS ARE AVAILABLE ON EACH SCREEN.
- ERROR MESSAGES AND CONFIRMATION ARE OFTEN VAGUE OR MISSING, LEAVING USERS UNCERTAIN OF NEXT STEPS OR IF AN ACTION SUCCEEDED.
- USERS CANNOT FIND THE SWITCHING LANGUAGE BUTTON IN THE APPLICATION, SO SOME PEOPLE MIGHT FIND IT DIFFICULT TO USE THE APP IN THAI LANGUAGE.

IMPROVEMENT

- USE CLEAR LABELS,ARROWS, AND PROMPTS TO GUIDE USERS ON AVAILABLE ACTIONS AND NAVIGATION PATHS.
- ADDING A LANGUAGE SELECTION BUTTON.

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CONSTRAINTS:

ISSUE

- THE APP ALLOWS USERS TO PROCEED WITH INCOMPLETE OR INCORRECTLY FILLED FORMS, RESULTING IN ERRORS ONLY AFTER SUBMISSION, CAUSING FRUSTRATION.
- THE APP IS OFTEN DOWN WHEN A HUGE AMOUNT OF USERS ARE ONLINE.
- THE APP VERIFICATION SYSTEM OFTEN FAILS TO VERIFY INDIVIDUALS' APPEARANCE AND ID CARDS, RESULTING IN THE SUSPENSION OF CONTINUING THE PROCESS.

IMPROVEMENT

- DEVELOP A MORE STABLE SYSTEM WITH REAL-TIME INPUTS.
- PROVIDE HINTS FOR ITEMS THAT ARE COMMONLY MISUNDERSTOOD.
- PROVIDE INSTANT ERROR MESSAGES FOR MISSING OR INCORRECT DATA.
- OPTIMIZES DATABASE IN ORDER TO ACCOMMODATE MORE USERS.

CREATE YOUR OWN DESIGN PROJECT FOR A MOBILE APP (MOBILE PHONE'S APPLICATION) AND DISCUSS IT USING NORMAN'S KEY DESIGN PARAMETERS, OR CHOOSE A MOBILE APP (MOBILE PHONE'S APPLICATION) THAT ALREADY EXISTS, THAT WHICH YOUR TEAM THINKS IT FAILS OR IS FUNCTIONALLY POOR; THEN, CRITIQUE IT USING NORMAN'S KEY DESIGN PARAMETERS. USE YOUR IMAGINATION!

MAPPINGS:

ISSUE

- NAVIGATION FLOWS ARE INCONSISTENT. WITH SOME BUTTONS TAKING UNEXPECTED ACTIONS OR LOOPING USERS BACK UNNECESSARILY.

IMPROVEMENT

- ENSURE NAVIGATION PATHWAYS ARE LOGICAL AND PREDICTABLE, WITH CLEAR BACK AND HOME OPTIONS, THAT BEHAVE AS EXPECTED.

FEEDBACK:

ISSUE

- THE APP OFTEN LACKS IMMEDIATE OR MEANINGFUL FEEDBACK AFTER USER INTERACTIONS, SUCH AS TAPPING A BUTTON OR SUBMITTING A DATA, LEAVING USERS UNSURE IF THEIR ACTIONS ARE REGISTERED.
- LOADING TIMES AND PROCESSING TIME HAVE NO PROGRESS INDICATORS, CAUSING IMPATIENCE OR REPEATED ATTEMPTS.

IMPROVEMENT:

- PROVIDE INSTANT VISUAL OR AUDITORY FEEDBACK FOR USER ACTIONS (BUTTONS HIGHLIGHTS , SOUND, VIBRATIONS)
- USE PROGRESS BARS, SPINNING ICONS, OR PERCENTAGE INDICATORS DURING LOADING OR DATA PROCESSING
- SEND NOTIFICATIONS OR EMAILS FOR IMPORTANT ACTIONS COMPLETED SUCCESSFULLY