Human Computer Interaction (Hindi mein)

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Design: Lecture 2 Part 2

Lec08

[Music] Namaskar aapka punah swagat hai Human Computer Interaction ke Hindi ke is course mein. Jaisa ki hum abhi tak design ke baare mein baat kar rahe the is saptah aur humne abhi tak cover kiya hai design kya hai? Humne yeh bhi discuss kiya kya design karne ki zaroorat hai. Humne design aur design se related jo bhi concept the user experience aur baaki cheezein usko humne paribhashit bhi kiya tha. Humne jo Henry Dreyfuss hain jinke dwara di gayi design ki paribhasha ko humne vistar mein charcha kiya tha. Kaise design ridden in, set upon, looked at, activated aur baaki cheezon pe humne paribhasha aur case study ke madhyam se discuss kiya tha. Humne yeh bhi discuss kiya tha kab ek designer successful hota hai aur kab woh fail hota hai. Jab woh upyogkarta ke liye banaye gaye utpaad ya sevayein jo bhi woh bana raha hai agar woh apne saare kaam ko suvidha purvak enjoyment ke saath jo bhi usko karya karna achhe tarike se kushalta purvak prabhavshali tarike se complete karta hai toh hum kehte hain ki designer ne apna kaam achhe se kiya hai. Yeh keval sundarta ke baare mein nahi hai. Yeh keval functionality ke baare mein nahi hai. Yeh uske beyond hai. Uske aage bhi hai. Kaise woh ek apne upyogkarta ko khush karta hai is utpaad ya seva ke prayog ke baad. Humne yeh bhi discuss kiya. Aapko kya design karna hai. Uske liye yeh jaanna zaroorat hai ki aapka upyogkarta ki zarooratein kya hain. Us zarooraton ko dhyan mein rakhte hue aap apne utpaad aur seva ka design karenge jo ki jis karya ke liye isko banaya gaya usko kushalta purvak bade achhe se enjoyment ke saath kar paaye. Humne interaction design ke baare mein bhi charcha ki thi. Humne uski paribhasha di thi aur humne yeh bhi bataya tha kaise interaction design SCI mein ek aham role karta hai. Aage hum in baaki cheezon pe charcha karenge. Hum discuss karenge inclusivity, samayojita, accessibility, sulabhta aur design principles ke baare mein aur aage hum in cheezon ke upar tutorial, panel discussion, hands-on experience aur assignments denge. Chaliye hum fir se start karte hain user experience in interaction design. Jaisa ki humne discuss kiya tha upyogkarta ke anubhav ko. Hum interaction design mein kaise badha sakte hain, kaise enhance karte hain? Is par hamara zyada focus hota hai. Iske liye humein is baaton ka dhyan dena padega. Kaise desirable hai yeh? Kaise accessible hai, valuable hai, useful hai, usable, findable and credible hai. Toh is website pe jaake aap iske baare mein ek gehan adhyayan kar sakte hain. Jahan pe interaction design pe ek detailed charcha ki gayi hai. Interaction design user experience focuses on creating products that are not only functional but also intuitive and delightful, ensuring that they meet the user's needs and expectations. Jaisa ki humne pehle bhi charcha kiya tha. Humein

apne upyogkartaon ki zarooraton aur unki aashaon ke anuroop aise system ka design, aise seva ka design karna hai jo ki keval functional na ho. Keval dikhne mein achhe na ho balki woh sahaj hone chahiye, saral hone chahiye aur unko upyog ke dauran khushi-khushi woh us karya ko kar paayein. This involves understanding the user behavior. Kyunki humein jo bhi upyog karta hai unke behavior ko unke motivation ko samajhne ki zaroorat hai. Kaise woh kisi karya ko karte hain jisse ki jab bhi hum technology ki duniya mein takneeki ke madhyam se usko solve karein. Un cheezon ka usmein dhyan rakha jaaye. So interaction design ke madhyam se hum in interaction ko in cheezon ko aise banate hain ki yeh kaafi saralta purvak aur iska ek meaningful experience upyogkarta ko prapt ho. There are several terms used to highlight specific aspects of what is being designed. Jab bhi hum design ki baat sunte hain toh hum aneko tarike ke design ke baare mein sunte hain. User interface design ke baare mein karte hain. Jaisa ki humne bataya upyogkarta antar falak jahan pe sampark bindu bhi aap jise bol sakte hain. Jahan pe upyogkarta aapke banaye gaye utpaad ya sevaon se interact karta hai, pratikriya karta hai, kriya karta hai, samvad karta hai. Toh uske liye kaise usko ek sugam banaya jaaye jo ki kaafi sahaj ho dekhne mein hi samajh mein aaye ki yahan pe humein karna kya hai humein kaise karna hai bina kuch apne vyaktitva ko change kiye bina apne jis natural tarike se aap batchit karte hain karya karte hain bina usko change kiye kaise bahut hi aasanipurvak bahut hi saralta ke saath aap interaction kar paayein. Software design ke baare mein humne yeh bhi suna hai ki jab bhi aap overall computer system banate hain toh ek software aapke liye computer program dher saare computer program aapko likhne hote hain jo ki aapas mein batchit karke aapas mein interact karke overall karya ko complete karte hain. User centered design, product design, web design and experience design. Yeh bhi alag-alag ghatak hain jo ki hum interaction design aur normal design mein jab baat karte hain toh iske baare mein dekhte hain. Toh jab bhi aap kisi utpaad ya seva ka utpadan karte hain, usko banate hain toh aap in saare design ko kisi na kisi na kisi level par, kisi na kisi tarike se aap unke saath karya karte hain. Toh iska matlab yeh bhi ho gaya aapko alag-alag tarike ke designers ke saath kaam karna padega. Interaction design serves as an umbrella term that encompasses all these areas. Jaisa ki maine bataya ki interaction design ke andar yeh saare tarike ke design ka aap upyog karenge alag-alag karyon ko karne ke liye jisse in saari cheezon ko mila ke aap apne upyogkarta ko user ko ek sugam aur bahut hi aasan seva de sakein ya utpaad bana sakein jo ki uske karya ko kar sakein. So it is a core concept for all discipline fields and methods focused on research and design of computer-based systems intended for people. Ab jaisa ki humara yahan par karya computer ya ek tarah se alag upkaran jo technical upkaran hain unka banana hai jo ki in saare design aspect ko consider karte hue overall upyogkarta ke liye hum karya karenge. Interaction design ko agar hum dekhein toh ismein dher saare disciplines hain jo ki contribute karte hain. Jaise academic alag-alag academic disciplines hain jo ki contribute karte hain. Jaise inmein ergonomics ho gaya, inmein psychology ho gaya, cognitive science ho gaya, informatics ho gaya, engineering ho gaya, computer science ho gaya, social science ho gaya aur aneko aur dher tarike ke academic disciplines hain jo ismein contribute karte hain. Kai tarike ke design practices bhi hain jo ki ismein contribute karte hain. Jaise ki ismein graphic designer contribute karta hai. Product design, artistic design, industrial design and film industry alag-alag

ek tarah se academic aur design practices hain jo ki is interaction design mein contribute karte hain. Aur agar hum alag-alag interdisciplinary fields ki baat karein jo interaction design karte hain. Jaise ki human factors ho gaya, cognitive engineering ho gaya, human computer interaction ho gaya, cognitive economics, computer supported cooperative work and information system. Toh is tarike se agar aap dekhenge toh alag-alag alag-alag discipline interaction design se related hai jo ki contribute karte hain aur karte hain. Toh there are multidisciplinary teams are required. Bahu aayami ek tarah se keh sakte hain ki team ki zaroorat hoti hai jinki alag-alag kshetron mein specialty hoti hai aur woh isko karte hain. Kuch web designing mein aapki help karte hain. Kuch experience design mein help karte hain. Kuch product design mein help karte hain. Kaise isko manav kendrit banaya jaaye? User centered design usmein help karte hain. Software design, overall software kaise design hoga? Kaise usko update hoga? Kaise iska mulyankan hoga? Isi baare mein baat hoti hai. User interface design jo ki hamare direct sampark bindu hote hain upkaran ya jo seva provide kar rahe hain usse aur upyogkarta ke beech mein. Toh yahan pe dher saari companies hain. Dher saare log hain jo ismein involved hain. Jaisa ki maine bataya, many people of different backgrounds are involved with different perspectives and the ways of seeing and talking about things. Toh yahan par alag-alag perspective ke baare mein, alag-alag tarikon ke baare mein, same cheez alag-alag tarikon se bhi dekhna. Jaise ki hum baat kar rahe the yahan pe keval functionality ki baat nahi ho rahi hai. Yahan pe hum usko enjoyable banane ki bhi baat ho rahi hai. Yahan pe hum usko naitik banane ki bhi baat kar rahe hain. Yahan pe hum gopniyata ki bhi baat kar rahe hain. Yahan pe hum kaise usko simple tarike se bahut hi aasani se use karne ki baat kar rahe hain. Yeh saari cheezein ki hum baat kar rahe hain. Toh benefit iska yeh hai ki yahan pe zyada se zyada idea, vichaar aate hain aur design aate hain. In sabhi multidisciplinary team ke saath kaam karne ke liye kyunki jo aapka utpaad hai, jo product hai, jo aapki services hain, seva hai, woh alag-alag tarike ke upyogkartaon ke saath use hongi. Isliye is multi-disciplinary team ki madad lena bahut hi zaroori hai. At the same time iski dikkat yeh keh sakte hain ki aap difficult to communicate and progress forward the design being created kar sakte hain. Kyunki itne logon ko involve karna, itne logon ko ek page par laana bada mushkil karya hai. Dher saari companies aisi hain jo is tarah ka kaam karti hain. Jaise one of the most popular companies hai Nelson Norman Group. Tata India ki one of the company hai jo ki is tarah ka kaam karti hai. Cooper design hai, Lollipop design hai, IDEO hai aur Frog and so on. Is tarah ki bahuteri companiyan hain jo is tarah ke service consultancy karti hain aur alag-alag companiyon ki madad karti hain. Toh jaisa ki maine bataya ki jitne bhi utpaad aur services aap use karte hain usmein alag-alag discipline ke log participate kar sakte hain. Jinki zarooratein pad sakti hain. Woh aapko madad karte hain. For example agar hum baat karein ek running app banane ki toh aapko kya lagta hai? Kis tarah ke logon ko humein involve karne ki zaroorat hai. Jaise agar aap running app ki baat karein toh dher saare running apps hamare gyan mein hai. Hamare sangyan mein hai. Jaise aap dekh sakte hain yeh Asics ka running app hai. Yeh NRC ka hai. I think yeh Puma ka hai. Is tarah se aap dekh sakte hain ki bahutere yeh Under Armour ka hai. And so on. Dher saare aise bahutere running apps hain jo ki alag-alag log alag-alag tarike se use karte hain. Toh agar humein is tarah ka koi running app banana hai toh aap kis tarah ke logon

ko apne design mein, apne development mein, apne overall product design mein involve karenge. Toh example ke taur par agar hum dekhein jaisa hum bata rahe hain, the design team in a large organization typically is extensive, comprising various types of designers. The makeup of team depends on the specific interactive product being built. Jaise is case mein agar aap dekhenge, imagine you are the brain behind a new running app jaisa ki hum baat kar rahe the ki toh list different types of designers and specialists you would like to include in your team. Aap kis tarah ke log, designer aur specialist ko karenge. Toh jaisa ki aap dekh sakte hain, koi bhi running app hai toh pehle toh aapko user interface designer chahiye. Aapko shayad software designer bhi chahiye kyunki end of the day aap software banana chahte hain. Aapko experience designer chahiye hoga. Toh kuch tarah yeh saare designer jo humne bole the woh toh aapko involve karne padenge. Yeh toh rahenge hi. Iske alawa aap kisko aur involve kar sakte hain? Kya is baare mein soch sakte hain? Toh agar hum dekhein toh ismein alag tarike ke alag dher dheron prakar ke designers aur specialists ko involve karna padega. Agar hum baat karein user experience and interaction design, toh us case mein humein user experience designer chahiye hoga. Jiska mukhya uddeshya jo hoga, overall user journey. Kaise koi bhi user, upyogkarta apne alag-alag stages se aage badhega, uski journey, kaise usko start karega, kahan par khatam karega, kaise over the long time use karega, uski usability testing, uski upyogita kaisi hai, uska mulyankan karna, creating a seamless user experience, jo UX designer in saari cheezon pe focus karega. Aapke paas interaction designer hoga jo ki mainly jitne bhi interaction ho rahi hain, jitne bhi interaction ho rahi hain aapke upyogkarta dwara, aapke mobile app se us pe focus karega. Jaise some gesture ke dwara, transition ke dwara, interface element ke dwara un sab cheezon pe uska dhyan rahega. Information architect kyunki yahan par dher saari information flow ho rahi hai, collect ho rahi hai. Toh usko aap use karke kaise aap usko behtar tarike se use karke utilize kar sakte hain. Jaise aaj maine kitna dauda, kahan se kahan dauda, kitni calories maine aaj kharch ki. Mujhe kya aur karna chahiye. Kitna elevation pe, kahan pe kis tarah ke road pe probably main slow raha. Maine start running toh kaafi tez start ki but over the time slow ho gaya. Average kya raha? Ek bahuteri information, har tarah ki information aapke user ke baare mein hai. Aapne apne koi lakshya rakha hai ki is saptah mujhe itne kilometer daudne hain. Toh kya aap kahan tak pahunche? Toh again bahuteri information aapke paas hai. Jaise aap usko kaise hum structure kar rahe hain? Kaise hierarchy mein use kar rahe hain? Navigation to enhance findability and usability of use. Agar un information ko humein dhoondna hai toh kaise hum bahut aasani se un information ko apne mobile app ke through dekh sakte hain. Service designer design the end-to-end user experience considering all user touch points and holistic user view. Ek tarah se overall seva ki hum baat kar rahe hain. Kaise overall holistic seva jo ki upyogkarta karega poore app ko use karne ke dauran usko hum kaise aur bhi achha bana sakte hain. Behavioral designer focuses on influencing user habit behavior through the app design and feature. Jaisa ki maine bola har manushya alag hota hai. Har manav alag hota hai. Har manav ki keh sakte hain capabilities alag hoti hain. Toh uske hisaab se uska behavior alag hota hai. Uske hisaab se kaise hum alag-alag behavior ke log ko hum ek tarah se soch sakte hain. Is tarah ke log honge is tarah se behave karenge aur uske dauran kaise hamara app work karega. Doosre tarah

ke designer ki agar hum baat karein toh user interface aur visual design jahan par mainly appearance aur dekhne ki baat hoti hai, toh UI designer ki aapko zaroorat padegi. Design the visual layout jo ki ek tarah se kaisa aapka app interface dikhega, page dikhega, screen dikhega, interface element jitne bhi elements honge interface ke woh kaise honge? Kaun si color scheme aapko use karni chahiye? Uh typography kya honi chahiye? Font kya hona? Size kya hona chahiye? Aesthetics component kisse hum usko aur visually achha bana sakte hain. Visual designer, graphic designer develop visual assets, illustration, icons, branding elements, is tarah ke jo elements hain visual designer, graphic designer mein aapki madad karta hai. Motion designer kyunki har cheezein static nahi hoti hain. Tabhi aapko animation aur baaki cheezein bhi use hongi. Toh creating animation and transition for UI elements, guiding user interaction and enhancing visual appeal. Toh is tarike ki cheezein hongi. Jaise running ke case mein aapne click kiya ki main kaise dauda toh ek tarah se woh animation dikha ke dega. Is tarah ke raaste pe aapne is tarah se apne running ki aur aapne isko complete kiya. Aim achieve kiya and so on. Aapko training ki zaroorat hai. Running training ke liye zaroorat hai. Toh is tarah se yeh animation ke madhyam se bhi aapko training de sakta hai. Augmented reality ya designer, agar aapka running app mein AR ki zaroorat hai jo ki ho sakta hai. Toh designing AR elements creating interactive overlays or features for the app, is tarah se kar sakte hain. Jaise aap jo running kiye ab overall map pe aap kaise dikhega? Kaise daud rahe hain? Kahan daud rahe hain? Kahan pe kya achha tha? Kahan pe aap ruke waghera-waghera. Data visualization designer visualize complex data like performance metrics using graphs, charts, infographics, toh yeh saari cheezein jo data visualization designer hai woh alag-alag tarike se alag-alag graph ke madhyam se, alag-alag chart ke madhyam se aapko bade achhe se visualize karke dikhayega. Uske baad humein accessible and inclusive designer ko bhi include karne ki zaroorat padegi. Jaise ki accessibility designer jo ki jiska main uddeshya hoga designing for the user with disabilities ensuring compatibility with the screen reader, voice command and others. Toh aap ek tarah se keh sakte hain ki kaise hum isko aur sugam bana sakte hain. Kaise sugamta ke saath basically koi bhi upyogkarta isko use kar sakta hai. Uske disabilities ya uske kisi limitation ki wajah se hum aisa toh nahi ki usko jitni bhi upyogita hai app ki hum usko bar kar rahe hain. Usko limit kar rahe hain. Jaisa ki yahan pe mention hai screen reader agar koi visually impaired, andha vyakti hai. Agar usko website pe information ko padhna hai toh screen reader ke through woh usko sun sakta hai ki is website pe yeh saari information hai. Woh voice command ke through usse baat kar sakta hai. Apne command ko de sakta hai. Toh ek tarah se aap is tarah ke jo differently log hain unki bhi madad kar sakte hain. Toh accessibility ke madhyam se is tarah ke designer aapko banane ki madad karte hain. Voice interface designer specializes in voice interaction. Toh ek tarah se jitne bhi samvad based, aawaz based interaction hote hain usko hum kaise aur achha command aur dialogue ke through hand-free navigation ke through kar sakte hain. Yeh voice interface designer aapki madad karta hai. Localization designer adapts the app's content for various languages. So regions and cultures is tarah se inclusive of diverse audiences. Toh yeh aapko ismein madad karta hai. Ethical designer ensures design decisions respect user privacy, uski gopniyata, data ethics and inclusivity. Toh kaise hum ek tarah se accessibility aur inclusivity

ki baat karte hain. Ek mukhya antar aap dekh sakte hain. Accessibility, inclusive somehow related hai. But accessibility mein hamara jo mukhya uddeshya hota hai. Hum kisi ko unke limitation, disability aur in sab ki wajah se unko apne app ko sugamta se use karne dein. Accessibility isko enable karta hai. Inclusivity ke case mein unke gender ki wajah se, unke culture ki wajah se, unki bhasha ki wajah se agar hum unko include nahi karte hain toh it's more how to make it more samayojit. Kaise hum zyada se zyada logon ko samayojit kar sakte hain. That is more about inclusivity. Accessibility is more about kaise ki hum iski upyogita sabko use karne de sakte hain. Iska laabh lene de sakte hain. Despite ki unko koi dikkat ho. Chahe woh mental ho, chahe woh physical ho, disabilities and so on. Similarly specialized designer, aap ho sakta hai aapko zaroorat pade. Jaise content designer for UX writer crafts app's text including interaction jo instruction dena hai, error message, engaging. Toh ek tarah se aapko aise logon ki zaroorat hai. Brand designer focuses on visual identity and the branding including logo, style design and maintaining consistency across different platforms. Social media designer, aaj ke time par har koi social media par bhi apne aap ko present rakhta hai. Apne aap ki apne aap wahan pe saari activities karta hai. Toh design content and visual for social media platforms integrating app content with social media sharing feature is very important. Kabhi-kabhi aap logon ko dikhana chahte hain ki dekhiye aaj main 5 km dauda. Woh apne aap ko motivate karne ke liye bhi hota hai. Jab aap aisa karte hain toh log usko like karte hain toh aap aur motivate hote hain. Aap agle din aur usko continue karna chahte hain. Logon ke logon ke feedback, logon ke encouragement se yeh saari cheezein possible hoti hain. Similarly aapko product aur physical design ki bhi zaroorat padti hai. Us case mein industrial designer ki zaroorat padti hai. Kaise? Kyunki prototype banana, ek namoona banana ek alag baat hai. Lekin agar aap usko large level pe scalable banana chahte hain. Bahut se zyada logon tak pahunchna chahte hain toh usko robust hona padega. Us case mein industrial designer usko aur optimize karke behtar tarike se aage le jaata hai. Toh design any associated physical hardware like wearable sensor focusing on ergonomics and aesthetics and so on. Toh is tarike se product aur physical design mein iski madad hoti hai. Aaj ke time par aap information de sakte hain. Lekin agar aap usko gamify karke dein jisse ki user engagement aur zyada ho tab aap apne jo upyogkarta hain unko retain kar sakte hain. Unko encourage kar sakte hain ki woh baaki logon ko bhi encourage karein aapke platform pe aane ke liye. Toh game designer for gamification feature is also one of the important features. Jaise yahan pe dekh sakte hain ki yeh gamified elements like challenge banate hain. Leaderboard banate hain. Jaise lakshya ki baat main kar raha tha ki har din aapka 5 km daudne ka lakshya hai ya har mahine aapka 50 km daudne ka lakshya hai. Jo bhi aapka lakshya hai aap kitna paa rahe hain. Agar aap us lakshya ko poora karte hain toh kaise aapko koi reward milta hai. Agar lakshya nahi poora kar paate toh aapko gaali nahi padni chahiye. Aapko basically encouragement milni chahiye app ki taraf se. Theek hai? Koi baat nahi. Aap nahi kar paaye chalo is baar kar lena aur kar lena is tarah se motivation aapko milna chahiye. Health and wellness designer kyunki jab bhi hum running aur sports aur in sab ki baat karte hain aisa toh motivate hokar nahi hona chahiye ki aaj maine dekha ki mere bagal wala padosi aaj 5 kilometer daud ke aaya toh usko dikhane ke liye dekho tum 5 kilometer daud rahe ho main aaj 10 kilometer daud ke aaunga. Usse kya hoga?

Proper consultation se without, chahe woh doctor ho sakte hain, nutritionist ho, aap behosh hokar gir jaoge. Bhagwan bhala kare aap achha rahein. Lekin iske liye bahut zaroorat hai ki aap saari cheezein proper consultation proper apne health ko dhyan mein rakhte hue karein. Toh isliye dietician, nutritionist, consultant, sports doctor, medical consultant inka bhi rai lena, inki inki consultation lena bahut zaroorat hai. Zaroori hai. Jaise aapko kya khana chahiye, kis tarah khana chahiye, kab khana chahiye? Kya kin cheezon ka dhyan dena chahiye? Aapke paas koi pehle se koi health condition toh nahi hai. Otherwise aap josh mein aake daud toh liye but fir kabhi uth nahi payenge. Toh development of and technical implementation toh front-end aapko developer ki zaroorat padegi. Additional role AR designer, ethical designer is tarah ke dher saare bahutere logon ko, bahuaayami logon ko aapko involve karna padega. Toh jaisa maine bola ki this allows the team to cover every aspect of user journey, design, health technology, is tarah se aap ek high quality, uchh stariya user-centered design, manav-kendrit ek running app bana sakte hain jo in saare aspects ko consider kare. Kyunki aap yeh bhi dekh sakte hain ki aap aisa toh hai nahi ki aap running app bana rahe hain toh keval woh seedhe marathon run karne wale ho ya aisa toh nahi woh seedhe Olympic run karne wale ho ya kisi sports competition mein bhaag lene ho. Bahut tarah aise log hain. In fact zyada tar aise log honge jo ki normal log hain apne aap ko swasth rakhne ke liye ek running aur baaki practices karna chahte hain. Usmein cycling, ab aisa toh hai nahi ki aap running app bana rahe hain toh woh cycling ke liye aapko allow na kare. Toh probably it's a same thing. Probably wahan pe kuch aap change karke usko cycling ke liye bhi allow kar dein. Bike ke liye bhi allow kar dein. Toh aap cheezein dekh sakte hain kaise aap running app ko even aur broad bana sakte hain. Toh yeh running app ke baare mein humne ek achha discussion kiya aur main aasha karta hoon ki aap agar aapke liye koi aur aisa koi app banana ho toh kis tarah ke log involve honge. Kaise unki madad ki zaroorat padegi? Kis tarah ki woh rai de sakte hain. Yeh saari cheezein main aasha karta hoon ki aap karenge. Jaise is example ke case mein dekh sakte hain. List designers and specialists for elderly care and support app. Toh purpose yahan par hai provide support for elderly individuals and their caregivers. Toh feature kya hone chahiye? Medication ke liye reminder? Kyunki un elderly people ko samay-samay par unko jo bhi dawaon ki zaroorat hai timely usko dena zaroorat hai aur uske liye unko yaad dilane ki zaroorat hai. Unke health ko monitor aur track karne ki zaroorat hai. Emergency contact hona chahiye ki kal ko kuch emergency situation ho toh kaise unke priya logon ko, doston ko turant bataya ja sake, bulaya ja sake. Social connection feature hona chahiye aur cognitive exercise honi chahiye. Is tarah ke human centered element mein aap dekh sakte hain large high contrast text kyunki usually old age elderly people ko dekhne mein samasya ho sakti hai. Toh us case mein aap large aur high contrast text use kar sakte hain. Simple interface use kar sakte hain. Rather than it's a cluttered interface. Agar hum voice command based interface banayein tab toh aur bhi achha hai. Unko bol lein ki simple aap jo natural language mein bol rahe hain woh bolein aur kaam kar lein rather than likhein. Toh is tarah se aap dekh sakte hain saari cheezein ho sakti hain. Similarly aap fitness and workout app ke liye dekh sakte hain jiska purpose, feature, human centered element ho sakte hain. Aur inke beyond main chahta hoon ki aap alag-alag designer jo ismein involve honge, jis tarah ke contribution woh denge aap inko list karein, seekhein.

Swayam karein aur apne sehpathiyon, doston ke saath bhi discuss karein jisse ki aap ek achha sa running app ya jaise is case mein accessible fitness workout app aur jaisa humne pichli slides mein dekha elderly care aur caregiver app bana sakein. Similarly aap dekh sakte hain kaise mental health wellness mindfulness app banane ki zaroorat hai. Aaj ke time par avsaad aur is tarah ki jo dikkatein hain khaastaur pe is tarah ki kaafi fast moving world mein yeh kaafi ubharta ja raha hai. Pehle shayad itna nahi tha. Lekin ab mujhe lag raha hai ki kaafi log iske dwara pareshan hain. Agar hum unko kisi bhi tarike se ek achhi aisi app jo bana paayein ya aisa solution de paayein jiske madhyam se woh apne mental wellness ko dhyan mein rakhte hue usko aur achha kar sakein. Agar woh unko kisi zaroorat unko koi zaroorat hai toh probably hum apne is app ke madhyam se usko unke mitra ban paayein. Unke help kar paayein. Unke jo priya log hain unko bata paayein again with the consent ki woh bata rakhe ho, allow kar rakhe ho. Diet and meal planning app jaisa ki hum jaante hain ki Bharat mein obesity ek bahut bada problem hai jo ki bahutere logon ko iski samasya se guzarna pad raha hai. Toh yeh iska ek bahut bada reason hai hamara lifestyle, diet, meal planning, is tarah se agar hum aisa koi app banayein jo ki again isko aap aur advance banane ke liye aur jatil banane ke liye aur achha banane ke liye isko aur bhi cheezon se connect kar paayein. Jaise ki jo bhi aapka diet hai usko aapke calendar se connect karein. Us diet ko aapke lifestyle se connect karein. Aapko reminder dein. Aapke wearable jo smart watches hain unse connect karein jo ki body ke andar kya ho raha hai un sab cheezon ko bhi thoda sense karke aapki lifestyle aur baaki cheezon ko batayein toh ek bada achha jeevan aap de sakte hain jo aapke upyog karta hai. Toh is tarah se jaise maine bola ki bahut problems ho sakte hain. Main chahunga ki aap achha seekhne ke liye aap in saare apps ko padhein. Similar to this unka purpose, feature, human centered elements likhein. Saath mein jitne alag-alag tarike ke designers aur design ki zaroorat hai aap unke baare mein likhiye. Woh kis tarike se sahyog denge. Kis tarah se apna apna contribution karenge woh aap yahan pe likhiye jisse ki jo project aap banana chahte hain aaj nahi toh kal woh aapko sochne mein madad kare. Aapko kaise apni jo user hain, upyogkarta hai unko jaanna hai, unki zarooraton ko jaanna hai aur jo log usmein madad kar sakte hain unko jaanna hai aur kaise hum ek simple, intuitive system product bana sakein jisko woh use kar sakein. Toh core characteristic ek tarah se aap interaction design mein dekh sakte hain. Users should be involved throughout the development of the project. Aisa toh hai nahi ki seedhe aapne socha aur unke liye bana diya aur aap expect karein ki woh aapka jo aapne utpaad banaya hai jo aapne sevayein banayi hai usko turant use karne lagein. Agar aap unko involve nahi karenge toh aap unke baare mein nahi jaan payenge. Unki zarooraton ke baare mein nahi jaan payenge. Unki strength ke baare mein nahi jaan payenge. Unke weakness ke baare mein nahi jaan payenge. Isliye better hai ki aap unko involve kariye throughout the development of the project. Specific usability and user experience goals need to be identified. Agar aapko kuch specific upyogita ya user experience ke upar dhyan dena hai toh woh aapko identify karne ki zaroorat hai aur usko document karne ki zaroorat hai kyunki kaafi time aisa hota hai ki hum badi achhi-achhi cheezein sochte hain lekin kyunki hum usko document nahi karte woh hamare dimaag se miss ho jaati hain toh better hai ek achhi aadat hai ki aap jo cheezein discuss kar rahe hain jo cheezein soch rahe hain usko document karein and agree to it at

the beginning. Aur jab cheezon ko aap document karenge toh aapke liye ek aasan ho jayega ki aapko pata hai ki aapko follow kya karna hai shuruwat mein. Aapka end goal kya hai? Aapka objective kya hai? Aur uske aadhaar pe aap alag-alag tarike ke jo designers hain ya log hain unko involve karenge aur unke liye aap waisi seva ya utpaad bana payenge. So it helps designers understand how to design interactive products that fit with what people want, need, and may desire. Toh again aap unki zarooraton ko, jo aapke upyogkarta hai, unke zarooraton ko bhi kai level mein baant sakte hain. Jaise unko chahiye hi, must require, toh woh feature hona hi chahiye. Should require matlab agar hai toh bhi theek hai, nahi hai toh bhi theek hai. Even may not require ya should not be required jo ki nahi hona chahiye ya future mein zaroorat pad sakti hai. Toh un sab cheezon ka bhi aap dhyan de sakte hain aur likh sakte hain. Jaise aap bol sakte hain ki probably yeh saare features hain, functionalities hain jo ki hum version one mein pehle daalenge, fir uske baad fir baaki cheezein baad wale mein daalenge, depends on jaisi zarooratein. Appreciate one size does not fit all. Yeh simple si baat hai. Ek hi joote har kisi ko thodi fit hote hain. Ek hi kapde sabhi ko fit thodi hote hain. Sabki zaroorat alag hi hai, sabki. Toh humein jab bhi hum koi utpaad ya seva banate hain toh yeh wahan bhi isi yahi sachchai laagu hoti hai. Toh humein usi hisaab se teenagers are very different to grown-ups. Alag-alag user ho sakte hain. Alag-alag buddhimata ke log ho sakte hain. Alag-alag education ke log ho sakte hain. Toh us tarike se aapko apna utpaad ya seva banani padegi. Identify any incorrect assumptions that may have about particular user groups. Kabhi-kabhi humein aisa hota hai ki hum apne se logon ke baare mein apni dharana bana lete hain ki hum yeh jo banane wale hain, aisa toh aise log karte hi honge ya unki zarooratein toh aisi hi hongi. Assumption is not always correct. Aapki dharana galat bhi ho sakti hai. Agar aapki dharana itself is wrong. Shuruwat mein hi aapki dharana galat hai toh aap jo bhi utpaad ya seva banane ja rahe hain woh sahi nahi hone wali. Woh galat honge. Woh usko adopt hi nahi karenge. Woh frustrate honge. So be aware of both people's sensitivities and their capabilities. Toh kuch log jaisa ki aap jaante hain alag-alag log alag-alag cheezon ko le kaafi sensitive hote hain. Sabki capabilities alag hoti hai, taakat alag hoti hai. Toh usi hisaab se aapko utpaad aur seva ko bhi usi hisaab se unko madad karna padega. Toh is wajah se aap dekh sakte hain ki inclusivity, accessibility and design principles kaise ek humein manav kendrit utpaad ya seva banane mein madad karte hain? Chaliye unke baare mein jaante hain. Jaisa ki maine pehle bataya hua hai, inclusivity is more about samaveshan. Kaise hum zyada se zyada logon ko samayojit kar sakte hain? Kaise hum zyada se zyada logon ko apni seva ya utpaad ko de sakte hain. So designing products that consider the diverse needs of all potential users. Humein usmein bhedbhav nahi karna hai ki yeh male hai toh isko denge, female ko nahi denge. Yeh age ke hisaab se nahi karna hai ki young ko denge, budhe ko nahi denge. Padhe likhe hain toh denge, anpadh ko nahi denge. Accessibility is more about sulabhta. Jaise ki making products usable by people of all abilities. Aisa nahi hona chahiye ki koi disabled hai toh hum usko bol dein nahi aap isko ya yeh app aap use nahi kar sakte. Toh design principles are guidelines that ensure the products are intuitive, usable, effective for the widest range of users. Toh design principle ke madhyam se hum inclusivity aur accessibility ko ensure karte hue apne zyada se zyada logon tak pahunchte hain aur even unki koi kamiyon ko bhi ignore karte hue unko madad

karte hain ki aap is utpaad ka ya seva ka bharpoor laabh uthayein aur apna karya kar paayein. So good design is accessible design. So samaveshan ki zaroorat kyun hai? Ki iska matlab kya hai? Yes. Toh yeh basically aap keh sakte hain ki humein zyada se zyada logon ko samaveshit karna hai. Toh it embraces diversity, embraces gender, age, culture and abilities. So it creates technology that reflects the needs of a global audience. Keval aap ek tarah ke logon par kendrit na rakh ke aap badh sakte hain, aage badh sakte hain. It increases the market and reach and customer satisfaction by catering to different demographics. Is tarah se dekh sakte hain. Har tarah ke log hain. Har culture ke log hain. Har age ke log hain. Alag-alag tarike se aap inclusive bana rahe hain. So it enhances creativity and innovation through the diverse perspective. So design for the real world and not just for the ideal user. Aisa nahi hona chahiye. Keval ek ideal user ke liye bana rahe hain. Real world mein har tarah ke log hain. Aapko sabhi ko dhyan mein rakhte hue apne utpaad aur seva ka nirman karna chahiye. Aur accessibility ki zaroorat kyun hai? Kyunki jaise humne pehle bataya toh yeh designing technology to be usable by the people with disabilities. Jaise unko alag-alag tarike ki disabilities ho sakti hain. Woh dekhne wali ho sakti hain, sunne wali ho sakti hain ya kuch aur physical disability jaise haath pair kaam nahi kar raha hai. Cognitive ho sakti hain. Neurological ho sakti hain. Alag-alag tarike ki disabilities ho sakti hain. Toh kaise hum unko equal access to information de sakein. Service ka access de sakein aur mauke ka avsar de sakein. So it addresses common accessibility features. Jaise ki humne bataya ki screen reader ke through despite ki ek blind vyakti nahi dekh sakta. Woh website ko pe screen reader ke madhyam se sun sakta hai ki is pe kya-kya information available hai. Similarly captioning ke madhyam se uska laabh utha sakta hai. Kuch logon ko color blindness ho sakti hai. Toh color contrast adjustment ke madhyam se uska laabh utha sakta hai. Keyboard navigation waghera waghera ke saath unki laabh utha sakta hai. Aur in sab cheezon ko karne ke liye kaafi matlab government ne different-different organization ne alag-alag guideline bana rakhi hai kyunki har tarah ke log hain, har tarah ki disabilities hain. Toh, yeh humein pata hai. Toh, kya hum ek standard guideline bana sakte hain jo in tarah ke logon ko madad kar paaye? Toh WCAG (Web Content Accessibility Guidelines) hai. Ek global standard hai for digital accessibility jisko mandatory hai logon ko jitne bhi ek tarah se kai deshon mein ya kai applications ke liye ki aap inka follow karein. ARIA (Accessible Rich Internet Applications) jo ki accessibility on web content aur application ko badhata hai. Section 508 US jaise aap yahan pe dekh sakte hain standard for electronic information technology accessibility jo ki aapko follow karna hota hai. Universal design principle is a design that is usable by all without need for any adaptation. So ek tarah se dekh sakte hain inclusion is not bringing people into what already exists. It is making a new space, a better space for everyone. Toh similarly aap yahan par dekh sakte hain core design principles for inclusivity and accessibility kya hona chahiye? Simple hona chahiye. So design should be very clear, intuitive and with minimal complexity. Agar usko kaafi complex bana denge. Bahut log toh waise nahi samajh payenge. Toh jitna simple rahenge, sabko samajh mein aayega. Consistent hona chahiye. So consistent layout control rahega toh cognitive overload kam rahega. Bahut aasani se log usko samajh payenge. Woh expect kar payenge kya aane wala hai, kya ho raha hai. Flexibility accommodates diverse abilities with adaptable interfaces. Toh jaisa

logon ki need ho uske hisaab se aap usko kar sakte hain. Feedback: provide clear feedback for users. Jaise ab main koi bhi action le raha hoon, uska mujhe clear feedback hona chahiye. Maine jo action liya woh ab kya ho raha hai? Mujhe kya expect karna chahiye? Kya ho raha hai? So visual, auditory or haptic feedback unko milna chahiye. Error prevention and recovery, toh humein koshish karne ki karni chahiye ki user galti na kare. Sab cheezein simple, clear ho. Lekin agar kabhi bhi galti se woh koi mistake kar dete hain, A ki bajaye B button daba dete hain. Kuch ho jaata hai toh usko recovery ka mauka dena chahiye jisse ki wapas woh peeche aake fir se us cheez ko kar sake. Toh minimize potential for errors and offer easy solutions. Similarly aap alag-alag practical tips dekh sakte hain. Kaise aap accessible design ko bana sakte hain. Jo bhi aap utpaad ya seva banana chahte hain. Jaise yahan pe dekh sakte hain BBC ki website pe WCAG hai. Yeh sab cheezein follow hoti hain. Toh yeh sab cheezein website pe hoti hain. Jaise WCAG pe hai yeh BBC ki website pe. Jaise is case mein aap dekh sakte hain. So use alt text for images to assist screen readers. Provide keyboard shortcuts and navigation options. Toh in shortcuts ke madhyam se aap jo bhi information sunna chahte hain, dekhna chahte hain, woh kar sakte hain. Ensure sufficient color contrast for readability. Jaise ki humne bataya ki visually color blinded aur probably alag-alag tarike ke log ke liye is tarah ki cheezein kaafi useful hongi. Include closed captions and transcription for multimedia content. Agar woh doosri bhasha mein hai toh transcription ya caption ke madhyam se aap usko samajh sakte hain. Jaise aap ek angrezi picture dekh rahe hain aur neeche Hindi mein agar aapko angrezi nahi aati hai, neeche Hindi mein subtitle hai. Toh ek tarah se aap samajh pa rahe hain ho kya raha hai. Toh design for scalability allowing users to adjust any font size or zoom in, yeh sab cheez kar sakte hain. Chota bada kar dein. Font bada kar lein, translate kar lein. Woh sab cheezein ek tarah se kar sakti hain. Toh accessible design is a good design. It benefits everyone. I agree. I hope aap bhi is baat se sehmat hain. So why design for everyone? Of course, sabke liye karenge. Tabhi toh hum duniya mein, agar hum keval apne tak hi kendrit karein toh kaise chalega kaam? So it increases usability for everyone. Not just people with disabilities. Improve SEO (Search Engine Optimization) and digital visibility ki madad hoti hai aapko. Aap apni brand ki value badha sakte hain. Reputation kar sakte hain. So uske liye responsible ki dekho hum aisa nahi ki keval ek tarah ke logon ko karte hain. Bhale hi koi disabled hai. Hum usko same aur equal opportunity provide kar rahe hain. So it minimizes risk of legal issues related to accessibility non-compliance. Jaise ki maine bola ki dher saare standard aur guidelines hain aur kaafi websites aur kaafi services ya utpaad pe government taraf se mandatory hota hai ki in cheezon ko aapko karna hai. Toh agar aap follow nahi kar rahe hain toh government aapko penalize bhi kar sakta hai. Khaastaur pe aap keh sakte hain ki jaise agar koi government service hai toh government service toh har tarah ke logon ke liye hai. Agar aap kisi disabled ko kisi bhi tarike se us information access se rokte hain toh yeh crime hai. Toh again, toh is wajah se aap dekh sakte hain ki yeh zaroori hai. So inclusivity and accessibility jaisa ki hum baat kar rahe the in summary. So inclusivity is making products and services that accommodate the widest possible number of people. Zyada se zyada logon ko aapko accommodate karna hai. Inclusive design is a methodology that enables and draws on the full range of human diversity. Sabko include karna hai. Kaise kar sakte hain? For example, a

smart phone designed for all, made available to everyone regardless of their disability, education, age, income, waghera waghera. Sabko do, sabko kisi tarike se uska access do. Information ka access do. Zaroori nahi ki har kisi ke paas iPhone ho. But theek hai doosra phone ho jahan pe woh saari cheezein aap de rahe ho. Accessibility is the extent to which an interactive product is accessed by as many as people as possible. Toh accessibility is a quality that makes an experience open to all. Har kisi ko unke disability ki wajah se aap unko fir bhi woh saare access de rahe ho, saari information easily de rahe ho, toh woh humein focus karna hai. So focus is on people with disabilities, for instance, those using Android OS or Apple VoiceOver, is tarah se madad karti hai. Toh ek tarah se aap dekhoge dono kaafi related hai. But agar hum inko relate karna chahein toh aap keh sakte hain inclusive design is a process and accessibility is an outcome. Toh jaisa ki hum baat karte hain, alag-alag disabilities ho sakti hain. Toh let's briefly talk about different disabilities. It could be, jaise hum unko sensory impairment bol sakte hain. Jaise loss of vision or hearing. Aap physical impairment ho. Jaise having loss of function of one or more parts of the body. Haath kaam nahi kar raha, pair kaam nahi kar raha hai. Cognitive ho sakta hai. Including learning impairment, loss of memory due to old age or probably kisi aur wajah se. Toh is tarah se alag-alag tarike ki disabilities ho sakti hain. Each type can be further defined in terms of capabilities. For example, someone might have one peripheral. Kuch ko color blind ho sakta hai, kuch ko no light ho sakta hai. Alag-alag tarike se aap usko further categorize karke unke hisaab se us pe kaam kar sakte hain. So impairment can be categorized as situational, permanent, and temporary. Toh jaise is case mein aap dekh sakte hain, situational jaise aap thand mein bahut thand hoti hai. Aap likh nahi paate hain. Aap apne jacket se apna haath nahi nikal paate hain. Toh ek tarah se woh kya hai? Woh ek tarah se keh sakte ho situational, situational, situational basically disability hai. Aap shor-sharabe mein chaurahe par khade ho. Har taraf se gaadiyon ki chill-po ho rahi hai. Toh aap apne mitra se phone pe baat karna chahte toh woh nahi sun paata aapki baatein. Toh yeh bhi ek tarah se situational impairment keh sakte hain. Permanent, jaise for instance long-term wheelchair user, woh chal nahi sakta. Toh that is more permanent. Temporary that is after an accident. Aapke haath pe ya ungli pe plaster laga hua hai toh us samay aap haath nahi use kar sakte. Toh woh temporary hai. Toh ek har tarah ki ek tarah se impairment hai aur aapko kaise unko benefit karna hai. So disabilities ho sakti hai but humein usko kaise us usko uski wajah se unko limit nahi karna hai aur aap jaise jitna achha kar sakte hain, kariye. Jaise disability basically can be in this case, aap dekh sakte hain yeh bahut hi popular sprinter hai Oscar Pistorius aur ek tarah se dekh sakte hain inke paas pair nahi hai but yeh running kar rahe hain. Yeh blade runner kahe jaate hain. So now people can prefer wearing their wheels rather than using a wheel. Toh is tarike se aap apne jo users hain unko motivate kar sakte hain. Unko sahyog kar sakte hain. Yeh dekhna hai. Toh is tarah se aap dekh sakte hain alag-alag disabilities jo hai aap unke hisaab se jo karya karna chahiye aur jo nahi karna chahiye yahan pe mention hai. Aap inko detail mein aur dekh sakte hain. Jaise yahan pe case in case of low vision humein kya karna chahiye? Humein kya nahi karna chahiye? Screen reader ke case mein kya karna chahiye? Kya nahi karna chahiye? Deaf or hard of hearing ke case mein kya karna chahiye, kya nahi karna chahiye? Dyslexia hua chahe physical or motor disabilities hua ya

autistic spectrum hua. Toh yeh dher saare disabilities hain. Aap inko dekh sakte hain kya karna chahiye, kya nahi karna chahiye. Uske hisaab se corresponding jo changes hain, corresponding jo design hai aapke utpaad aur seva mein reflect hona chahiye. Cultural differences in design ho sakta hai kyunki jab bhi aap koi vishay ya seva ya utpaad banate hain toh usko alag-alag demographic, alag-alag jagah ke log, alag-alag culture ke log use karte hain. Toh agar woh ek jagah se doosri jagah alag hai toh aapko usi ke hisaab se usko update ya change karna padega. Jaise understand the culture of your target audience. So color holds different meanings across cultures. So kuch colors ko kuch jagah positive maana jaata hai. Same color ko doosri jagah negative maana jaata hai. Kuch jagah kuch nishaan ko aap keh sakte hain ki bola jaata hai haan select kiya, kuch ko nahi. Jaise example ke taur pe kuch countries mein agar aapko given yeh option hai. Select karna hai toh aap isko cross karte hain. Kuch countries mein cross ki jagah usko tick karte hain. Toh essentially dono same kaam kar rahe hain. Lekin culture ke hisaab se agar hum usko update karein toh usko samajhna aasan hoga. So jaise Japan ke case mein agar aapko koi cheez mark karni hai toh aise cross karte hain. India mein zyada tar jahan tak maine dekha hai, aap tick mark karte hain. So similarly color ke case mein jaise hum baat kar rahe the Western mein. So white is a purity. Red is a passion. But Eastern mein white can symbolize mourning and red can be a sign of luck. Again alag-alag culture mein alag-alag tarike se dekha jaata hai. Jaise thumbs up is positive in the West but offensive probably in the Middle East. Toh woh sab cheezein aap dekh sakte hain. Toh agar aapka utpaad ya seva ek se zyada jagah par use kiya jayega toh culture ke hisaab se usko aapko optimize karna padega ya change karna padega. Woh cheezon ka aapko dhyan rakhna padega. So based on the based on your users. So dher saare aise examples hain jahan par inclusivity and accessibility ko bade achhe tarike se use kiya gaya hai. Combine kiya gaya hai. Jaise Microsoft ka inclusive design hai. Apple ka accessibility feature hai. Government UK jaise yahan pe dekh sakte hain accessibility feature hai. WCAG guidelines ko follow kiya gaya hai. So if you design for everyone, everyone can benefit. Toh sabhi ki help karte hain. Sabhi ke liye aage badhte hain. Sabhi ke liye karya karte hain. So common challenges and how to overcome them. So balancing aesthetics and accessibility aasan toh nahi hai. Toh woh cheezein humein seekhni hai. Addressing the needs of diverse user base without making compromise. Toh yeh bhi possible nahi hai. Toh again kahin na kahin pe aapko koi na koi samjhauta karna padta hai ki aap kaise aap ek madhya bindu tak pahunche jisse ki aap sabki madad kar paayein aur saari guidelines ko follow kar paayein. Keeping up the evolving standards and technology. Samay ke saath jo takneeki aur standard guideline badh rahe hain, kaise aap unko follow kar sakte hain. Budget concerns for implementing access kyunki ek tarah se yeh karne ke liye aapko extra budget aur extra time aur extra designer ki zaroorat padegi. Toh woh bhi aap ek aspect hai. So nothing about us without us. So that is about disability rights. So what next in inclusivity and accessibility? Aage aur kya ho sakta hai? Ab yahan par kritrim buddhimata ke case mein, kritrim buddhimata ke zamane mein. So now AI-powered accessibility ki baat ho rahi hai. Jahan pe machine learning ka use karke hum accessibility outcome ke checks ko aur create kar rahe hain. Alag-alag tarike ke adaptive interfaces ko AR aur VR ke dwara hum accessible experience provide kar rahe hain. Voice interface aur natural user interface ke

madhyam se hum inclusive technology ka utpadan kar rahe hain. Cross-cultural design hum bana rahe hain. Cross-language design bana rahe hain. Toh woh saari cheezein hum koshish kar rahe hain achieve karne ki. So designing a better world for everyone. So inclusivity and accessibility are essential to reaching a broader audience. Good design improves usability, satisfaction and overall user experience. Toh isliye humein design principle ko follow karte hue ensure clarity, consistency and accessibility and keep evolving with new trends to meet the needs of all users. Toh yeh baaton ka humein dhyan dete hue. So hum last part pe aate hain design principle ki taraf jo ki humein batata hai ki humein kaise visibility, feedback, constraint, consistency and affordance ko dhyan mein rakhte hue apne utpaad aur seva ka nirman karna hai. So design principle basically humein generalize karta hai, abstraction of thinking about making different aspects of design. Kya humein karna chahiye, kya nahi karna chahiye interaction design mein? What to provide and what not to provide at the interface. Interface hamara kaisa hona chahiye, kya hona chahiye, kya nahi hona chahiye? And derived from a mix of theory-based knowledge, experience and common sense. Toh agar hum alag-alag tarike ke designers, experience in logon ko involve kar rahe hain toh uska fayda humein milega. Toh woh hum dekhna padega. Toh is tarike se chaliye hum design principle ke key principles par baat karte hain. Ek ke baad ek. Pehla hai visibility, drishyata, jisko bahut aasani se khoja ja sake. So yeh basically ensure karta hai ki the most important options, features and actions are bahut aasani se dikh jaaye. Jaise agar hum ek railway ticket book kar rahe hain. IRCTC ki app pe ja rahe hain toh bahut aasani se humein mil jaaye. Source kahan se jaana hai? Kahan ko jaana hai? Destination. Kis date par jaana hai aur kis tarah ki seat. Toh yeh bahut aasani se cheezein turant select honi chahiye, saamne honi chahiye aur kar sakein. Is tarah ke aap aur bhi applications apne vyavaharik jeevan mein dekh sakte hain, kitni aasani se jo bhi information aapko dhoondni turant ho paaye. Jaise hum digital payment ke baare mein hum baat kar rahe the. Agar aapko kisi pe karna hai, kitni aasani se aapko QR code ka option milta hai ya number select karne ka option milta hai jisse ki aap paise bhej sakein. Why it matters? Because user, user, user should not have to search for... Ab jaise jo zaroori cheezein hain, turant dekh lijiye, usko khojne ki zaroorat nahi honi chahiye. Thoda aasani se, bahut aasani se mil jaaye. Toh yeh isliye matter karta hai kyunki agar usko dhoondne mein itni mehnat karni padegi toh frustrate ho jayega. User experience, user upyogkarta ka jo anubhav ko hum badhane ki baat kar rahe hain woh kam ho jayega. Toh humein ultimately yeh dekhna chahiye ki hum apne jo upyogkarta hai usko kitni zyada se zyada sahuliyat de sakein. Woh karna hai. Key tips yahan par yeh hai. Place crucial functions where users expect them. Jahan par woh expect kar raha hai, wahan par ho. Use clear labels and icons for easy recognition. Aur make navigation paths straight forward and intuitive. Toh badi achhi baat Steve Krug ne boli hai. The best way to find something is to make it visible. Right? Saamne ho, visible ho jo most important cheezein hain toh bahut aasani se woh apne saare kaam ko kar sakta hai. Jaise hum yahan par baat kar rahe hain visibility, Y Combinator. Mujhe nahi pata aap logon mein se kitne logon ne iska naam suna hoga. Y Combinator ek keh sakte hain VC based firm hai. Venture capital based firm hai. Aur aap keh sakte hain ki yahan par aapke paas agar navachar ka koi vichaar hai, aapke paas koi idea hai, aap koi company banana chahte hain, startup banana chahte hain toh aapko

paise ki zaroorat padegi, fund ki zaroorat padegi. Toh aap Y Combinator mein apne idea ke saath approach kar sakte hain aur paise unse maang sakte hain. Toh kaise? Toh pehla vichaar aapke paas Y Combinator ko leke aata hai apply for, apply, get the fund, whatever. Toh sabse pehla cheez yahan par aapko kya matlab apply dikh raha hai. Toh kya aap turant apply dekh pa rahe hain? Toh jaise mujhe turant apply dikh gaya. Turant apply to YC dikh gaya. Yeh YC fund kitna successful hai yeh main dekhna... turant isne dekho dikha diya. Dekho 5000 startup ko maine fund kiya hua hai, 600 billion humne abhi tak total kiya hai aur dher saare ismein YC company supported company hai jo ki aap dekh sakte hain jaise ki aap dekh rahe hain yahan pe Airbnb. Mujhe dher saare companies ka naam suna hoga lekin Airbnb one of the most successful investment Y Combinator ka hai aur ki aap yahan pe dekh sakte hain some one of the initial person hai jo Y Combinator mein involved the. Toh Airbnb mein agar hum inke investment ki baat karein toh inhone shuruwat mein Airbnb ko $20,000 agar main galat nahi hoon toh diya tha. $20,000 USD diya tha. Agar hum inki valuation ki baat karein toh aaj ke time pe yeh kareeb 15 saal mein kareeb 1.5 lakh guna inko fayda hua hai. Agar iski valuation agar main galat nahi hoon toh I think several billions hai. Aur is 20 thousand ko inke jo equity thi, I think 5% thi, uske hisaab se nikalein toh is $20,000 ki value aaj ke time pe, if I'm not wrong, nearly $5 billion hai. Toh $20,000 deke $5 billion aaj ke time pe 15 saal mein ek tarah se inka bana. Feedback jaisa feedback ki hum baat kar rahe hain. Jab bhi aap koi action lein, turant aapko koi pratikriya milni chahiye ki humne jo kiya system usko process kar raha hai. Toh spasht, yeh pehli baat toh yeh spasht aur twarit hona chahiye, turant pata chalna chahiye. Jaise is case mein aap dekh rahe hain. Jaise hi isne is button ko click kiya toh aap dekh rahe hain ki ek feedback ka color change hua. Size chota bada hua aur ho sakta hai ki kuch aawaz bhi aaye. Agar mobile par kar rahe hain toh ho sakta hai ki aapko ek vibration, haptic bhi mile. Toh is tarah se aap keh sakte hain ki turant aapke upyogkarta ko pata chala kuch toh hua. Aapne jo action diya, kuch toh ab us pe ho raha hai. Then you can wait. Otherwise ab kya hoga? Agar koi aapko pratikriya nahi milegi toh aap button ko baar-baar dabaate jaoge. Dabaate jaoge aur system hang ho jayega. Right? Toh is case mein aap dekh sakte hain ki feedback provides users with immediate response or updates on their actions. And informing them of the result. Toh timely feedback ki bahut zaroorat hai. Aur key tips ismein dekhiye jaise hai ki visual, auditory aur haptic feedback. Alag-alag tarike ke jo feedback ho sakte hain aap dijiye. Auditory, suna ke, dikha ke, vibration se. Provide loading indicator for longer processes. Kabhi-kabhi hota hai ki uh kuch cheezein samay leti hain process mein. Jaise aaj ke time pe agar ChatGPT ko aapne koi kaam diya, agar bada kaam hai toh woh samay lagega usko. Text to image jaise aaj ke time pe bada popular ho raha hai. Aapne koi prompt diya, ab usko image generate karna hai, toh again woh aisa nahi fraction of a second mein de dega jaise Google search mein hota hai. Usko kuch seconds lagenge. Toh dikhayega ki hum process kar rahe hain. Display confirmation message for complicated actions. Kuch aap usko agar samay lag raha hai toh aap confirmation message dijiye. Theek hai? We received your request. Once probably we are done, we will let you know. And so on. Is tarah se cheezein ho sakti hain. So design is not just what it looks like and feels like. Design is how it works. Steve Jobs se bola tha. Agla hai constraint navigation. Ab yahan pe dher saari badhayein navigation ki

hoti hain. Jaise aisa toh hai nahi ki aap saari cheez ek saath kar paayein. Jaise ismein dekhiye cut, copy ek tarah se disable kar rakha hai. Nahi, aur baaki cheez enable kar rakha hai. Toh us tarah se aap keh sakte hain ki ek tarah se yeh aapko limit kar raha hai ki theek hai abhi aap cut copy nahi kar sakte, cut copy nahi kar... kyunki ho sakta hai aap already copy kar rakhe ho. Toh uske liye yahan pe keval paste ka option dikha raha hai ki aap paste kar sakte hain. Toh isi tarike se aap Microsoft Word aur dher saare software use kiye kiye honge. Jab aap menu mein alag-alag option mein jaate hain toh saari cheezein ek saath enable nahi hoti. Depend on aap kis situation mein hain. Aap kis context mein hain. Toh definition iska yahi hai. Constraint limits the user's options to guide correct use and prevent errors. Iska main fayda yeh hota hai ki aap user ko galti karne se bachate hain. And adding smooth navigation. Toh iske dekhiye tips yeh hai ki grey out or hide unavailable options. Jaisa ki yahan pe kiya gaya hai. Use clear labels and disable buttons when actions are not possible. Jaise aap is cheezon ko bhi aapne experience kiya hoga. Keep navigation paths clear or straightforward. Simple hona chahiye. Clear hona chahiye jisse ki galti ke chance na ho. Consistency ek bahut hi important aspect hai. Sudden changes, immediate, bade changes nahi hone chahiye. Otherwise aapka khud ka user confuse ho jayega aur aapke jo utpaad hai ya seva ko use karna bhi band kar sakta hai. Jaise ek example yahan pe consistency ka dekh sakte hain. Pehle Gmail ka logo aisa tha toh aisa nahi ki inhone achanak se huge change kar diya. Abhi bhi dekhiye similar dikh raha hai. Calendar ke case mein bhi aisa hi dikh raha hai. Google Drive ke case mein bhi aisa hi dikh raha hai. Ab jaise yahan pe case mein dekh rahe hain ki Paytm ka do option hai. Ek bike insurance ka, ek car insurance ka. Toh ek tarah se dekh rahe hain kaafi similar hai. Toh consistency bahut zaroori hai jisse ki aap apne jo upyogkarta hain unko confuse nahi karenge. Unko aur sugamta denge apne app aur service ko use karne ke liye. Toh yahan main main tips aap dekh sakte hain. Maintain consistency in terms of use of color, fonts, icon, layout. Stick to the established conventions for elements like buttons and menus. Aisa nahi aap unko achanak se completely change kar dein. Provide a unified look and feel through a product. Affordance jaise bade aasani se aapko ek tarah se sanketik, sanketik upyogita uski dikhe. Jaise yahan pe aapne dekha hoga web page pe agar dher saare content hai jo ki ek screen pe nahi aa pa rahe hain toh aap is elevator button ke madhyam se upar neeche ja sakte hain. Toh yeh ek tarah se khud se sanketik aapko bata raha hai ki is pe click karoge upar jayega. Is pe click karoge neeche jayega. Isi tarike se yeh dekhiye sanketik hai ki is pe click karoge toh play hoga. Is pe click karoge toh forward hoga. Is pe karoge toh backward hoga. Is pe karoge toh pause hoga. Is pe stop hoga, is pe record hoga. Jo bhi hai. Toh ek tarah se yeh turant khud sanketik aapko bata rahe hain ki kya ho raha hai, kaise ho raha hai. Zyada kuch detail diye bina. Toh, definition ek tarah se aap dekho, are the cues. Ek tarah se aapke paas yeh cues, indicators hain jo ki batate hain ki how an object or element should be used and making interaction intuitive. Toh key tips dekhiye yahan par hai ki buttons should look clickable, sliders draggable. Use visual cues to guide user interaction. Shadow. Keep functions clear and intuitive without instruction. Toh woh cheezein aap dekh sakte hain. Toh in summary, interaction design is concerned with designing interactive products to support how people communicate and interact in their real life with the products. Toh yeh is pe bhi dhyan deta hai. Kaise hum ek quality user

experience, anubhav ko jo bhi hum service, seva ya utpaad bana rahe hain, hum kaise usko provide kar sakte hain. Humein jo interaction ho raha hai, jo aapke upyog karta hai on interactive product ke beech mein, usko kaise hum optimize kar sakte hain. Uh and number of interdependent factors including context of use, types of user, user experience goals, cultural differences, user groups. In sabko dhyan mein rakhte hue humne design principles ke baare mein baat ki such as feedback, simplicity and useful heuristics for informing, analyzing and evaluating. Humne inclusivity, accessibility ke baare mein baat ki aur humne bataya ki when inclusivity and accessibility and solid design principles are applied together, they create products that are not only usable, aisa keval upyog kar, upyogita ke layak nahi hota hai balki woh usse bhi zyada jo uske users hain sabhi ke liye empowering, empowering hota hai. Welcoming hota hai. Toh uh iske baad aap dekh sakte hain ki ab additional material mein hamare paas ek tutorial hoga, demo hoga aur ek panel discussion hoga aur for further readings aap yeh alag-alag madhyamon pe, alag-alag pages pe ja sakte hain aur inke baare mein aur bhi zyada jaankari prpt kar sakte hain. Aur isi ke saath main is week ka yeh lecture yahan khatam karta hoon aur agle lecture mein aapse jald hi mulakat hogi. Dhanyavaad. [Music]