**@created by -Mohit Singh Negi 😊**

**USER EXPERIENCE: THE BIG PICTURE**

I learnt what User Experience is and how it fits in software development. Why it is important for a company.

I learnt about the UI and UX concepts’ broader as compared to UI. UX consist of Ui, business and the technologies as well.

I learnt different terminologies such as Visual Design, Information Architecture, Interactive design,

Usability, Research and content strategy.

**Value**: Is it useful?

**Usability**: Is it easy to use?

**Adoptability**: Is it easy to start using?

**Desirability**: Is it fun and engaging

After UI/UX integration the website KPI (Key performance integration) increases by 83%

I learnt about the importance of User Engagement in order to grow the business.

I learnt some terms related to UX

* Useful
* Usable: How easy or hard the task is to complete the task
* User Interface (UI)
* Visual design/graphic design -In this I learnt how a color can be used to change a mood of a user-Importance of texture-elements of art
* User research
* Interaction Design : creates wireframes and Prototypes
* Content strategy: The planning development and management of content
* Information architect-

I get to know about the usability testing. Different Roles in UX such as User Researcher, information Architect , Interaction Designer , Visual graphic designer , Front End Developer and project Manager .

**Information of Information Architect-**role is to make the user easy to find things they are looking for.

->Create a navigation and hierarchy including labels

-> Create wireframes

Front end developer: the responsibility of this person is to turn the visual design into code .

Project Manager: Manage the team and the project from beginning to end.

I get to know about the UX process for developing a Project.

**General process of UI/UX designing( very important )**

* Company and industry research
* User research
* Information architect
* Wireframing
* Visual Designing
* Usability testing

**I did the case study on a Tea company -How we can improve User experience of a customer of a Tea company.**

Basic key parameters to judge a good user experience as given below

* Brand
* Culture
* Reputation
* Industry News
* Competitors
* How business is Run

Same Can be applied on Leadsquared .

I get to know how to do User research

* Taking Interview of a user
* Contextual Interview
* Persona-what is the goal – Any frustration etc.
* Surveying the users

I get to know about the process of wireframing.

**Steps to defining an information architecture**

* Inventory all content
* Conduct a content audit
* Design a new architecture
* Test with users
* Iterate

I get to know about wireframes :

* Low-Fidelity Wireframes
* Hight -Fidelity Wireframes-More realistic

**I learnt Elements of Visual Design**

* Line
* Shape
* Color
* Texture
* Typography

**Principles of Design:**

* Alignment
* Contrast
* Visual Hierarchy
* Proximity
* Layout
* Whitespaces
* Consistency and unity

**Usability Testing**: determine if a user can successfully completed the task and how long he takes to complete the task.

**Suggestions for leadsquared after going through this Course**

* Leadsquared can use user understandable words in tabs, buttons so as to make the customer easy to use/understand the software. In general, Don’t use technical words that user can’t understand.
* Use modular approach so that there should be no dependencies and we can reuse those module.

**Course 2: UX Fundamentals**

**In** this course I have learned how to design great experiences

Remember “Design is not just what it looks like Design is how it works.” -Steve Jobs

Development cycle: Planning->Analysis->Design ->Implementation->Maintenance

Before implementing any software designing the wireframe is very important in order to prevent

Occurrence of big mistakes.

**Important questions before starting a project**

* What are the goals of the project
* What does success look like ? How will we know when we have been successful?
* Who are the user ?
* Why would they use this product or services? what problems are they having that we can solve?

**User Research**

* Empathy Map -Pain areas
* Personas
* Archetype

I learnt the process of developing a App or website like Pizza ordering app with good UX design. We did Case study on pizza ordering app.

Before Implementing app we need to make a Strategy Document it will reduce some risks after some stages

1. Business Goals-what they want to achieve using this app
2. User ‘s Goals-Why user will use this app ,what are their expectations
3. The user is a -------------who want to --------------

E.g. The user is a hungry person who wants to order pizza with very little effort

**User Journey:** A map of the actions and emotions that your user experiences while using your design from start to finish.

Also known as Customer journey, Journey map .

**Wireframes:** A visual representation of an interface with a visual design stripped away so that the

Focus is on function and user interactivity.

I got to know the DIFFERNCE between wireframe and prototype.

**Atomic Design:** Atomic design is a methology for creating design system.There are five distinct level

In atomic design

* Atoms’ : label , tag ,form,button
* Molecules: combination of Atoms
* Organism : Header of a site or a combination of molecules
* Templates : group of organism to form a pages
* Pages : pages

**Prototypes:**

**Prototype flow:** test navigation or test how user may complete a task

**Prototype interactions**: test interactions within interface

**Types of prototypes:**

* **Low Fidelity(Lo FI) :** Prototype that are quick and easy to make . Examples paper prototype ,clickable sketches or clickable wireframes.
* **Medium Fidelity:** Online prototyping software allow for drag and drop interactivity .Often black and white so is on interactivity, not visuals.
* **High Fidelity :** Pixel perfect includes design elements. Helps users and stockholders better visualize final product .

Different prototyping tools :

* Adobe Xd
* Sketch 3
* After Effect

**Set 1 part II completed**-----------------------------

**Set 1 part III**

**Getting Started in UX Design**

In this course I get to know what are the problems UX designed solves and what are the challenges they face.

I also Learnt the tools that we use during UX designing Process .

**What do user experience designer do.**

* Build good UI interface
* Design the workflow and navigation
* Design webpages that is easy to understand

**Note :To attract more customers or Leads you should know who the user is . The customer care executive should not ask the identity of the customer more then once because it irritates the customer a lot. It ‘s better to keep track of customer activity and store their information for further conversation.**

* Single point of identification
* All details available
* Maintain ID throughout the call
* Moves the burden away from the customer

**UX design Skills**

* Strategic Thinking
* Leadership
* Research
* Design
* Development

**UX design process that everyone must follow before implementing a project**

* Define The problem
* Do Some Research
* Design Your Solution
* Test your Design

**Signs of a Good Process**

* **Simple over Comprehensive**
* **Flexible over Prescriptive**
* **Variety of Tools**

**Steps for UX process**

**Define the problem**

* User-make their life better
* Company Strategy-Work with this plan

Never compromise with the user benefit

-Clearly explain why you ‘re solving the problem and what you hope to achieve

**Research**:

Types of Research that UX designer can Conduct

* Deductive-learn without interact with customer-Competitive Analysis, Existing Research, Best Practices, Refine Models
* Interrogatory: Ask question from the customer-Surveys-1-on -1 interview
* Experimental: The A/B test, Snooping (seeing the activity of user to improve User Experience) ,

**Design:**

* Tools are important part of designing process as it reduces the problems while implementing the project.
* List down the requirements in the beginning
* UI Design, Writing, Empathy
* Need to take care of topography, usability
* **Write less show more to understand the product better**
* Evaluate the project or product that is already available and choose the best one.

**Testing:**

* Prototype: Lower fidelity then finished product, Print-outs of designs , Online ,clickable experience
* Minimum Viable Product : No nice-to-have features , gets feedback more quickly ,Must be viable
* Full Build: Riskiest option, Potential wasted effort ,Use prototyping

**Does UI/UX designer need to learn code?**

No , but it certainly doesn’t hurt .

-but I am good at web development so it will be beneficial to think what type of design is feasible😊

A basic understanding of database, html ,CSS , JavaScript will be a beneficial to build a feasible product .

**Leadership:**

* Be a good listener
* Ask clarifying questions
* Provide insight

**Summary of UX process**

* Define the problem
* Create hypothesis
* Conduct research
* Create your solution
* Test your work
* Rinse and repeat as necessary

**Journey map**

* Go through entire process
* Document why the user is there ,what they are feeling and what they ‘re doing
* Look for problem areas and opportunity
* Show the desired outcome with a successful solution.

**Requirements and prioritization**

* Prioritize your task and complete the task which is more important and include other task in newer version of product.

**------Completed set 1 part III -------------------------------------------**

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**SET II PART 1**

[UX Role and Impact on Organizations](https://app.pluralsight.com/library/courses/ux-role-impact-organizations/table-of-contents)

In this course I learnt the philosophy of an organizational design.

History and evaluation of UX:

**Industry types:**

* Finance
* Education
* Retail
* Healthcare
* Business & IT Services
* Research & Development
* Government & Defense

**Company Philosophy matters**

* **Chief Product Officer-**Lead product strategy, Provides guide -rails for product direction
* **Chief Experience Officer-**Works with executive leadership on company direction and desired outcomes
* Leadership by Chief Executive is very important to build feasible product.

**Experience Design Business Impact:**

* Deep, accurate and current understanding of customers
* Keeps scope tight
* Create ,articulate, and evaluate long-term strategy

**Impact to the Experience Team**

* **Powers Teams-**Team’s discovery fuels autonomous decisions
* **Happier :** Teams can work to their fullest capabilities
* **Collaborative:** Work benefits from the collective lens

**It is always not possible to code what was designed so if you are good in web development as well as in UI/UX then it will be beneficial to you to design and develop your product fast.**

**It is very important to know their core customer because they are the one who will help the company grow so to increase the company growth we need to design the product keeping the demands of potential customer in mind .**

**BASELINE ACTIVITY FOR ANY BUSINESS**

**To identify & Define**

* **Who is the User**
* **Surveys-**Quantitative in nature-Can be qualitative with open-ended questions

**Contextual Observation**

* Watch the user do something to gather data
* Often paired with UX Designer asking “Why”

**UNDERSTANDING:**

* Personas
* User Need maps
* Customer Journey Mapping
* User Profiles

**PERSONAS:**

* Useful for representing a large group of users with similar traits.
* Viewed as one representative person/individual
* Allow us to design for someone we can “get to know”

**USER NEED MAPS**

* Analyze large pool of interview
* Identifies need and groups them under high -level themes
* Helps avoid anchoring on ideas that stick out during interviews

**Customer Journey Map:**

* Captures time-based themes
* Charts out what is happening based on a group of users with similar experiences.

**USER PROFILES :**

* Breaks down interviews into most relevant info & takeaways
* Often a one sheeter that can be understood by the large team in about 5 minute
* Useful to reference

**MAKING:**

**A/B Testing: Comparing two version of the same design.so as to decide which product is most feasible over other design.**

**CARD SORTING:**

* Asks users to group items into categories of related concepts
* Useful in discovering user understanding of terminology

**EVALUATIVE:**

* Test prototypes using software like adobe XD ,invasion ,Principle and others

**Evaluative Sampling**

* Allow the Experience team to capture short snapshots of how their products are being used in the wild**.**

**USER EXPERIENCE ROLE:**

**Researcher or Design/UX Researcher**

* Expert in research “Looking” Deep expertise in areas of qualitative and quantitative research.

**Strategist or Design/UX Strategist**

* Expert in research “Looking”
* Expertise breaking down the research “Understanding” to inform a design solution or wireframes
* Do not necessarily have a deep skills In visual design.

**UX/Experience Specialist**

* List Strategist also includes “Looking” Understanding and “Making”
* May or May not require strong visual design skills
* In companies without a strong philosophy for human-centered design leans heavily on “Making”
* In companies with strong design philosophy, requires “Looking” “Understanding” and “Making”
* Strong visual design skills

**UI Designer**

* Typically, all about the “Making”
* Requires strong visual design skills and little else

**Product manager**

* Like strategist , has expertise in research “Looking” and expertise in breaking down research “Understanding” to inform a design solution or even wireframes “Making”
* Does not have deep skill in visual design
* Additional knowledge computer science; setting them apart from the strategist.

**Analyst**

* Expert in the quantitative data gathered from the platform and contributes to decision making by providing performance insight.

**Teams**

**Pods/Teams**

* Often co-located and cross functional
* Research, design ,and execute an experience from beginning to end and include a UX role or two, developers ,data and content folks

**Pairs:**

* Often Product management and UX designer
* Partnered to create a concept , plan or vision ,and work with a larger dev organization to accomplish shipping a product**.**

**Silos:**

* Separate business units
* Could include a research group that works separately from a design group that work separately from a development group.
* Slower for the organization and less satisfying for the practitioners.

**Lone Wolf :**

* **Often found in companies that struggling to implement Human Centered design .**
* Often an individual who has visual design skills
* Typically works with very large teams of developers , and focuses on basic UI development
* And clean-up

**LEADERSHIP**

**Manager of people**

* Responsible for the individuals
* Cares for supporting skills, career development, personal and professional growth.
* Taking care of administrator need

**The Business of Running product**

* Looking at organizational design, resource allocation , practice management and team building

**Strategy & Execution**

* Understanding the business strategy ,connecting it to the team’s work
* Creating a product vision , looking at long term product planning
* Supporting the work and the collaboration of the teams with an organization.

**Practice LEADER**

* Provides governance over systems and processes the team use(design system , a component library , and research practices)

**Onboarding & Education:**

* Onboarding new team members into product as well as providing education through all areas of the organization.

**External Collaboration**

**------------ set II part II---------------------**

**UX DRIVEN SOFTWARE DESIGN**

**Some attributes of a good software:**

* **Focused-**Strickly oriented to the actual task
* **Maintainable:** Easy to evolve and rewrite
* **Reliable :** Worse-case scenarios duly considered

**Development facts**

* Requirements are mostly guesses
* Communication by assumptions
* Development by assumption
* The sooner you code ;the later you finish
* Project cost much more then excepted

**Mitigations**

* Ubiquitous language everywhere
* Focus on task
* Don’t start until you understand input and output of each business process

**CQRS**: Command and query responsibility Segregation

**Command** : Workflow that alters the current state of the system(read)

**Query** : Workflow that report a view of the current state of the system.(write)

CQRS->Common applications

->Event-based applications

CRUD- Create Read update delete

Crud is about working on entity and aggregate

Create-Create an entity or aggregate

Read-Read data from the database

Update – update data in a database

Delete – Delete specific rows from the table

**Command stack consist Create ,update ,delete**

**Query stack contains Read**

When we store data ,the data don’t remains sync during updating

* So there are four main ways to sync (as soon as someone updater or enter new data it will automatically gets updated at the presentation layer)your data
* Synchronously within each transaction
* As soon as possible within the same business workflow
* Periodically through scheduled jobs
* On-demand

**Temporal Tables:** Stores information about data stored at any point in time

* Supported by SQL Server 2016
* Azura SQL Database
* DB2
* PostgreSQL

**Bus**

* Shared communication hub holding a list of sagas handlers

**SAGA**

* Instance of a state machine whose transaction are triggered by messages both command and events Sagas are registered with a bus.

Event

* Data transfer object describing the data for event that just happened

**Event Sourcing**

It’s about ensuring that all changes made to the application state during the entire lifetime of the application are stored as a sequence of event.

Key Facts of Event Sourcing

* An event is something that has happened in the past
* Have a persistent store for events
* Applied -only , no delete
* Replay related events to get to the last known state of an entity
* Events are expression of the ubiquitous language
* Domain and application events

Read model

* Artificially created data model that offers a business specific view of the current state of the system.

**Qus related with event:**

**Is ‘t Replaying Event an Expensive Operation**

* Effectivity depends on the number of the events per aggregate
* Usually , just a few dozens at most
* Snapshots to optimize performance of replay.

**What if I need More Data in Events?**

* Start storing new event as you need them to be
* Handle conversion from the old to new format

**Fact of event Sourcing**

* Audit
* Design
* Exchange
* Business

**Role of UX/driven Design**

* Extra costs of UX Analysis
* Standard Cost of Software development
* Additional cost of POST-DEVELOPMENT

[An Introduction to Design](https://app.pluralsight.com/library/courses/design-introduction/table-of-contents)

**Set II part III**

**Typography:** the style and appearance of printed matter

* Typeface choice
* Size
* Leading: space between line of text
* Tracking: space between letter
* Measure: length of line of text
* Hierarchy: Visual Hierarchy
* Context
* Aesthetics

**Difference between font ,typefaces and families**

* **Typeface-**type designer-way it look-eg Segoe UI ,Segoe UI Light ,Segoe UI Semibold
* **Font-**The implementation we use
* **Typeface family:** Segoe UI family
* **Typeface Family type :** Roman, Italic ,Bold

**Basic anatomy**

**Kerning** : space between letters

**Leading**: the space between two baselines

**Baseline**: imaginary horizontal line acting as a base for the letters.

**Tracking** : it is space between all the letter in the text.

**Ascender:** the vertical stem of letter that raise in upward direction

**Descendant:** vertical stem of letter that is below the baseline .

**Categories of typefaces:** Humanist(doe),Transitional(doe),Modern ,Slab serif, Sans Serif

**Serifs**: having stock at the end

**Legibility and readability :**

**Legibility** means that the letters are easly differentiable from one another

**Readability** : we can increase readability by increasing leading and spacing.

**Note:**

* to increase comfort level of user we should not write more the 40-85 character in a single line .it will increase their readability.
* Keep leading 120% of text size .

**Better typography :** scale

* Keep the size of heading ,para ,caption consistence

I learned how to use kerning ,leading in a best way.

I learnt about the basic science behind color ,light , Slight , different color models , meaning of color ,

I learnt about how to choose color .

For Best color scheme you can visit : adobe color

**PRINCIPLE OF PROXIMITY :**

Things that are closer to each other seem related

**PRINCIPLE OF SIMILARITY:**

Things that have similarity seems related

**PRINCLIPLE OF FIGURE GROUND:**

Things stand out from the background

**PRINCIPLE OF SYMMETRY:**

Two symmetrical halves appear as one

**THE PRINCIPLE OF CLOSURE**

Filling the blank , Incomplete info but still we can able to figure out what is it.

**PRINCIPLE OF COMMON FATE**

Things moving in the same direction seem related

**PRINCIPLE OF UNIFORM CONNECTEDNESS**

Visually connected things seem related

**PRINCIPLE OF GOOD CONTINUATION**

Things on a line or curve seem related

**THE INTERPLAY OF PRINCIPLES**

**To make a good interface or user experience we use different rules**

* The rule of third – divide the viewport into three sections vertically as well as horizontally an put all information a t the intersection points
* The Golden Radio – keep dividing 10:4
* White Space (negative space)
* Rebatement of the Rectangle : by using squares divide rectangle form both side and then divide the remaining portion again
* The Gutenberg Rule : 1 3

4 2

* Layout Grid
* Desire Path – desire line-shortcut
* Hick’s Law-as number of choices increases the response time also increases.
* The Inverted Pyramid – most important information at the top(When where ,what etc)

**Set II part 4**

## Fundamental design principles

Design principle : Archetypes

* Certain objects and actions have a universal or near-universal form or theme
* For examples , button in the real world are normally round

**GESTALT PRINCIPLES**

* Several principles related to perception in the human visual system
* One Example : proximity
  + Things grouped spatially are associated together by our visual system.

**Fitts ‘s law-** the amount of the time required to locate and use an option is smaller if option is begger

Pareto principle(80/20 rule)

* It’s likely that 4 or 5 of the buttons are used for 80% of user actions

Hick’s Law-The time required to locate and use an option increases as the number of option increases .

Note : To increase a good user experience we must not give lot of choices to the user as it confuse the user.

Tips : Show only most common button and keep other button under some show more option

* Real world objects are good examples of good and bad design
* Studing good and bad design in real world objects sensitized us to good and bad design in software ,because design principle are universal.

I learnt about principles related to screen organization and how the user interacts with screens such as Gutenberg Diagram.

Gestalt Principles

* Human visual system is optimized to see structure and relationships
* This leads to several principles of design that collectively known as gestalt principles

Proximity ,Similarity, Common fate ,Continuity and Closure(filling gaps),Figure/ground

Gestalt : Common fate

* Items that move together are assumed to be grouped
* The most common use in software is a group of the outlines representing items to be dragged and dropped

Gestalt : Continuity and closure

* The pre-processing in the visual system automatically fills the gaps

This is evaluation response to the need to recognize threat quickly

Assessment of figure and ground can change

* A figure can change into a ground and vise versa
* To some degree this is under conscious control
* This can also be used to maintain context in software

Another family of design principle stems from the human desire for natural things

* Biophilia: preference for biological , green things
* Savannah preference : people prefer savannah-like environments
* Whitespace ; layout on a computer screen make a user more comfortable and less stressed if they are open and not too crowded
* Natural gradient preference
* Top-down lighting bias: In a natural world , light comes from overhead almost all the time

As a result , in gradients using the same color family , the lighter color should generally be on top.

* Horror vacuity
* Contour bias : Human usually prefer curved things over sharp-edge things.

Curved connotes safety

Sharp -edged connotes danger

* Unobtrusive animation:

Animation: In software animation can be used to fade indicator in and out

User like that better ever through (as with gradient it is not usually noticed consciously

Animation can help maintain the context

**Because of our evolutionary history , people prefer natural things in many contexts**

* This usually operates at a subconscious level
* Reduction of stress

Natural things that are preferred include lushness , open space , and gradient lightness ,especially lightning from top instead of the bottom

This results in corresponding design principles for software

* Whitespace ,uncrowded screens
* Gradient ,especially those that mimic top-down lightning
* There are exceptions where other design principles overrides the preferences for naturalness

Ways to foster impression of 3D

* Shapes
* Shadows
* Layering
* Reflections
* Perspective
* Texture gradient
* Atmospheric perspective (foggy or grayed background)

**Attractive Bias :** We are drawn to beautiful or attractive things

Aesthetic -usability Effect

User believe that beautiful software is more usable.

**Legibility**

* **Size**
* **Contrast**
* **Spacing**

Proportionally spaced typefaces are preferred

**Various principles related to reducing cognitive load**

Progressive disclosures

Mapping

Affordances

Highlighting

Design principles that reduce or manage cognitive (think)load for user

* Recognition over recall
* Progressive disclosure ; Control and manage the number of options that the user needs to ss at once

Progressive disclosure in a new UI stacks : A tooltip , for example ,can hold whatever information the user needs to see ,so you must redefine what your own internal definition of a tooltip.

* Highlight and DE highlighting
* Mapping
* Affordable and entry points
* Constraints : When an action is not appropriate ,prevent the user from doing it

Provide a visual signal that the action is not available.

Try to prevent the user from doing mistakes instead of showing error msg you can disable save button

Constraints impose extra responsibilities on you

One of the most frustration flaws in software is denying the user an action they should able to perform .

* Confirmation of actions
* Forgiveness

**Design principle about design**

* Talking context and circumstances into account
* Balancing design factor against one another
* Design principle are guidelines not rules

**Flexibility /Usability tradeoff**

* Adding flexibility generally reduce usability
* Finding the right balance has challenges

Every business application has a core functionality set required for the business to operate

A system that satisfies design principles but does ‘t offer this core set is a bad design.

**Satisficing**

* **First goal-get to “good enough”**
* **No design is perfect**
* **You will never please everyone**

Trimming around the edges rarely yield to successful design ;you must push into new territory to be successfully in most cases.