AIM: Introduction to UI life cycle and UI tools.

❖ THEORY:

○ INTRODUCTION:

1. A user interface, also called a "UI" or simply an "interface," is the means in which a person controls a software application or hardware device.
2. A user interface is the point of human-computer interaction and communication on a device, webpage, or app.
3. This can include display screens, keyboards, a mouse, and the appearance of a desktop. User interfaces enable users to effectively control the computer or device they are interacting with.
4. User interface is important to meet user expectations and support the effective functionality.
5. A successful user interface should be intuitive, efficient, and user-friendly.
6. Nearly all software programs have a graphical user interface, or GUI. This means the program includes graphical controls, which the user can select using a mouse or keyboard.
7. A typical GUI of a software program includes a menu bar, toolbar, windows, buttons, and other controls.
8. User Interface Design is the craft and process of designing what a user interacts with when communicating with software.
9. Types of UI are:
    a. **Form-based user interface**: Used to enter data into a program or application by offering a limited selection of choices. For example, a settings menu on a device is form-based.
    b. **Graphical user interface**: A tactile UI input with a visual UI output (keyboard and monitor).

c. **Menu-driven user interface**: A UI that uses a list of choices to navigate within a program or website. For example, ATMs use menu-driven UIs and are easy for anyone to use.
d. **Touch user interface**: User interface through haptics or touch. Most smartphones, tablets and any device that operates using a touch screen use haptic input.
e. **Voice user interface**: Interactions between humans and machines using auditory commands. Examples include virtual assistant devices, talk-to-text, GPS and much more.

- **UI LIFE CYCLE:**

1. UI life cycle can be categorised into four following parts:
    a. **Research and Analysis**:
        i. In traditional Research & Analysis phase, two categories of information are gathered and analyzed by the user experience team.
            I) Information about the users of the application
            II) Information about the application itself
        ii. This establishes the context for User Interface design and this context informs the entire design process.
    b. **Design and Branding**:
        i. During the design and branding phase, User Interface design is created that addresses the specific needs identified in the research & analysis phase and creates, revise or leverage the applications brand.
        ii. During design phase UI developers can work closely with the UX team to define the User interface (Wireframes, Visual design). A User Experience team may think out of the box while creating wireframes and visual design, but may not be aware of challenges, possibilities and limitations. Involving UI developers in

this phase may ease the process, as UI developers understand the technologies and possibilities. This will reduce the last minute efforts from the UI developer's side and additionally both the UI and UX team, as well as client will have a clear expectations set.

c. **Prototype Development**:
    i. Using the approved design document as blueprint, prototypes of the User Interface designs are created. Based on clients needs the prototypes are created using HTML or flash. Prototypes can be low fidelity or high fidelity based on user needs.
    ii. The scope of the prototype created during this phase is tailored to the specific application and the user testing requirements. Some applications require a comprehensive click through or working model of the entire interface, while others only require a prototype of core functionality.

d. **Production**:
    i. A proper UI and UX team collaboration and Integration of UI design from the starting of SDLC can reduce lot of efforts and confusion. Also it can help in successful and timely delivery of the products in any company without any slippages and can increase customer satisfaction. Additionally it can help building ongoing relations with our clients.

- **UI TOOLS:**

1. **There are multiple UI tools present such as:**

a. MockFlow:

i. MockFlow WireframePro is the leading tool for designing User Interface blueprints for Websites and Apps. It includes ready-made UI components for iOS,

Android, Web, Bootstrap, WatchOS.. etc; and also comes with a built-in template store to quickly turn your User Interface Ideas into designs.

b. Balsamiq:

i. Balsamiq Wireframes is a user interface design tool for creating wireframes (sometimes called mockups or low-fidelity prototypes).

ii. You can use it to generate digital sketches of your idea or concept for an application or website, to facilitate discussion and understanding before any code is written. The completed wireframes can be used for user testing, clarifying your vision, getting feedback from stakeholders, or getting approval to start development.

c. Axure:

i. Axure is a dedicated rapid prototyping tool that allows anyone with even a basic familiarity with the software to create simple wireframes. It uses a 'what you see is what you get' (WYSIWYG) interface that allows you to drag shapes onto a canvas and build up your design.

ii. Axure is particularly well suited to low-fidelity prototyping as it has a very short learning curve. Within a few hours, anyone can be creating designs that are quick and cheap to change. A single click will render your prototype in a web browser on your desktop, tablet or phone and allow you to gain feedback from users or other stakeholders.

d. Adobe XD:

i. Adobe XD (also known as Adobe Experience Design) is a vector-based user experience design tool for web apps and mobile apps, developed and published by Adobe Inc.

ii. Adobe XD supports website wireframing and creating click-through prototypes.
iii. Adobe XD creates user interfaces for mobile and web apps. Many features in XD were previously either hard to use or nonexistent in other Adobe applications like Illustrator or Photoshop.

e. Sketch:

i. Sketch is a vector graphics editor for macOS developed by the Dutch company Sketch B.V.
ii. It is primarily used for user interface and user experience design of websites and mobile apps and does not include print design features.
iii. Sketch has more recently added features for prototyping and collaboration. Being only available for macOS, third party software and handoff tools may be used to view Sketch designs on other platforms.

❖ CONCLUSION:

We successfully learnt about UI life cycle and UI Tools.