Batch: A2 **Roll No.: 1911027**

Experiment / assignment / tutorial No. 5

Title: User interface design using UI tools for mini project

Aim: To enable the students learn different user interface design tools and their aspects

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CO: Prepare the System Design and Model

Books/ Journals/ Websites referred:

1. Roger Pressman, "Software Engineering", sixth edition, Tata McGraw Hill.

Pre Lab/ Prior Concepts:

The user interface Need:

System users often judge a system by its interface rather than its functionality. A poorly designed interface can cause a user to make catastrophic errors. Poor user interface design is the reason why so many software systems are never used. Most users of business systems interact with these systems through graphical interfaces although.

GUI characteristics

Windows Multiple windows allow different information to be displayed simultaneously on the user's screen. Icons different types of information. On some systems, icons represent files; on others, icons represent processes. Menus Commands are selected from a menu rather than typed in a command language. A pointing device such as a mouse is used for selecting choices from a menu or indicating items of interest in a window.

GUI advantages

They are easy to learn and use.

• Users without experience can learn to use the system quickly

The user may switch quickly from one task to another and can interact with several different applications.

Information remains visible in its own window when attention is switched.

Fast, full-screen interaction is possible with immediate access to anywhere on the

User Interface Design Models

User model — a profile of all end users of the system

Design model — a design realization of the user model

Mental model (system perception) — the user's mental image of what the interface is

Implementation model — the interface "look and feel" coupled with supporting information that describe interface syntax and semantics

User interface design analysis:

The overall process for analysing and designing a user interface begins with the creation of different models of system function (as perceived from the outside). You begin by delineating the human- and computer-oriented tasks that are required to achieve system function and then considering the design issues that apply to all interface designs. Tools are used to prototype and ultimately implement the design model, and the result is evaluated by end users for quality.

Study and describe any one user interface tool.

Online tool used for user interface tool: Figma

Figma is a vector graphics editor and prototyping tool which is primarily web-based, with additional offline features enabled by desktop applications for macOS and Windows. The Figma Mirror companion apps for Android and iOS allow viewing Figma prototypes in real-time on mobile devices. You can do a design review, make updates on the fly, and instantly get feedback on your changes. The time between iterations can go from days down to minutes because there is zero time wasted uploading or syncing screens, creating share links, messaging people to look at the links, and so on. All of a sudden the design file becomes a venue where anyone can meet up and have a discussion about the designs. This means that it's easier for designers to work in parallel, exploring options and iterating in shorter increments. This

means that developers can spot and voice technical concerns sooner rather than later. And this means that stakeholders, project managers, or anyone with the link can see how the design is unfolding from an idea to a polished visual, rather than waiting for a big reveal. The feature set of Figma focuses on use in user interface and user experience design, with an emphasis on real-time collaboration. Figma has all the features and capabilities of Sketch + Abstract + InVision + Craft + Liveshare + Freehand + Zeplin + Dropbox all in one, plus a bunch more. Here are just some of the features Figma has:

Prototyping: Figma has a clickable prototyping feature that's similar to Craft + InVision.
Built-in Commenting: Anyone with the link can add comments anywhere on the design, similar to how commenting works in InVision. You can tag people in comments, mark comments as resolved, and even integrate with Slack.
Developer Handoff: Devs can get dimensions, styles, and download icons and images from the project URL. It's like Zeplin, but again, you don't have to sync your artboards whenever you update your designs.
Version Control: Figma includes version history for all collaborators. You can roll back to or fork from a previous state. This works like time machine on a Mac.
Multiplayer Collaboration: Multiple people can collaborate in real time. Similar to Freehand, we all see each other's cursors on the screen and can draw things and make comments.
Liveshare: If you click on someone's avatar, you get to see what they're seeing on their screen and follow their cursor around. This works just like InVision Liveshare (RIP Liveshare).
Components: Similar to Symbols in Sketch, but more flexible and easier to design with.
Constraints: Similar to Resizing in Sketch, but more intuitive.
Team Libraries: You can share and update collections of components across projects.

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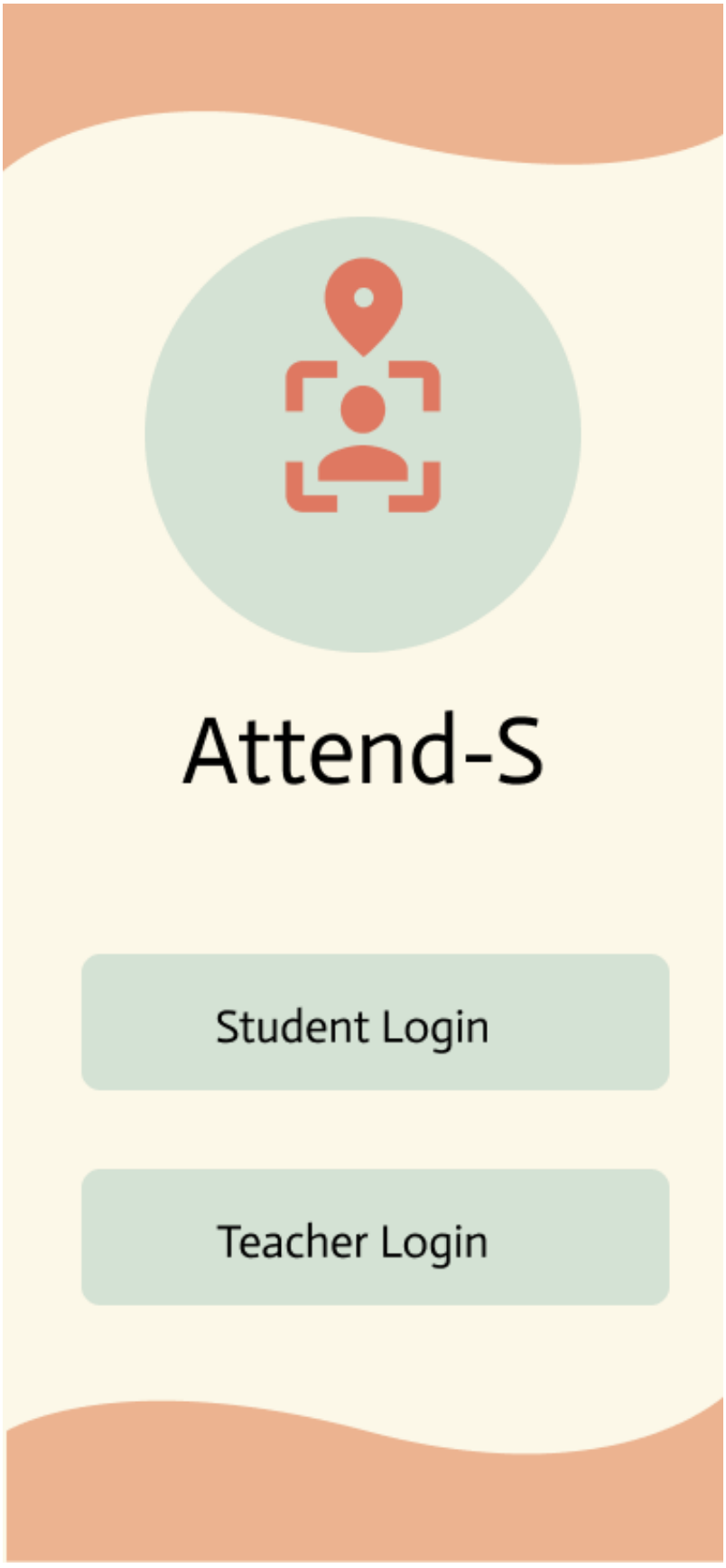

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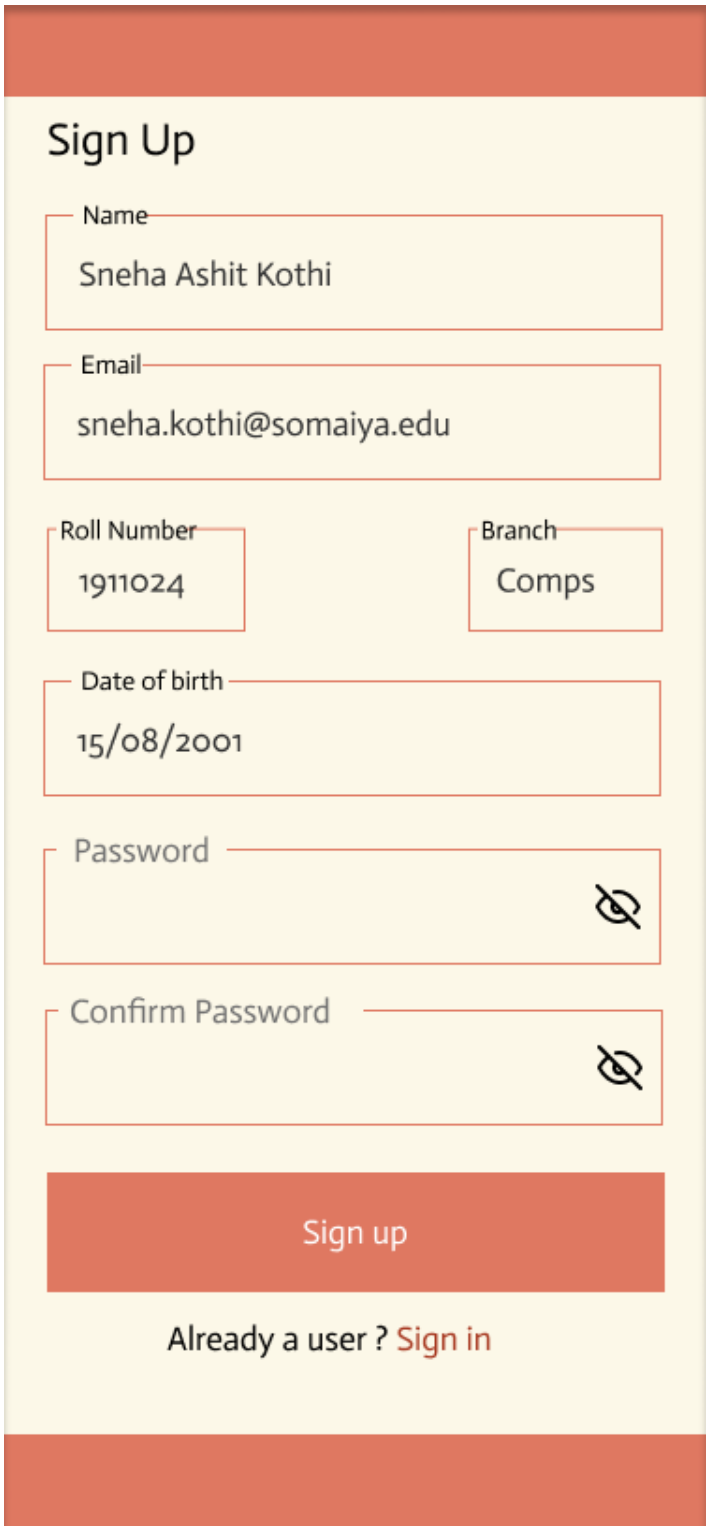

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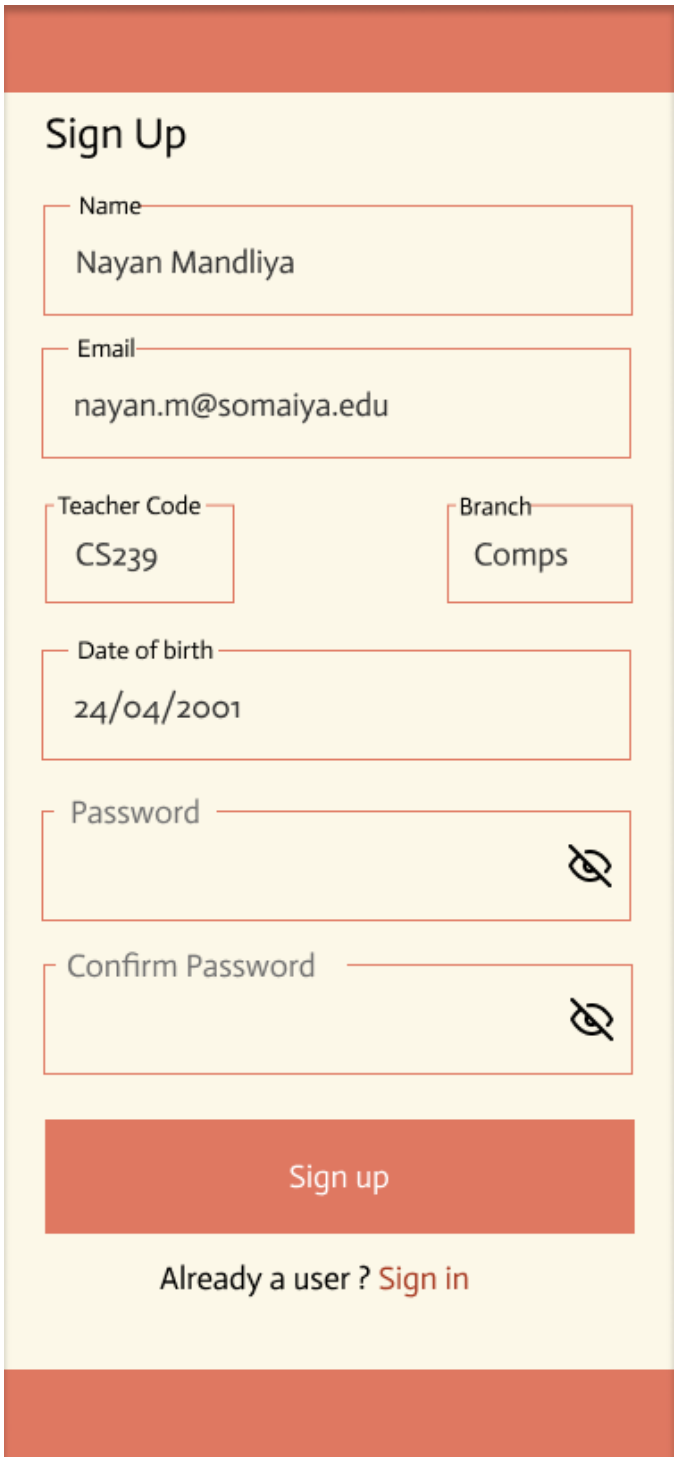

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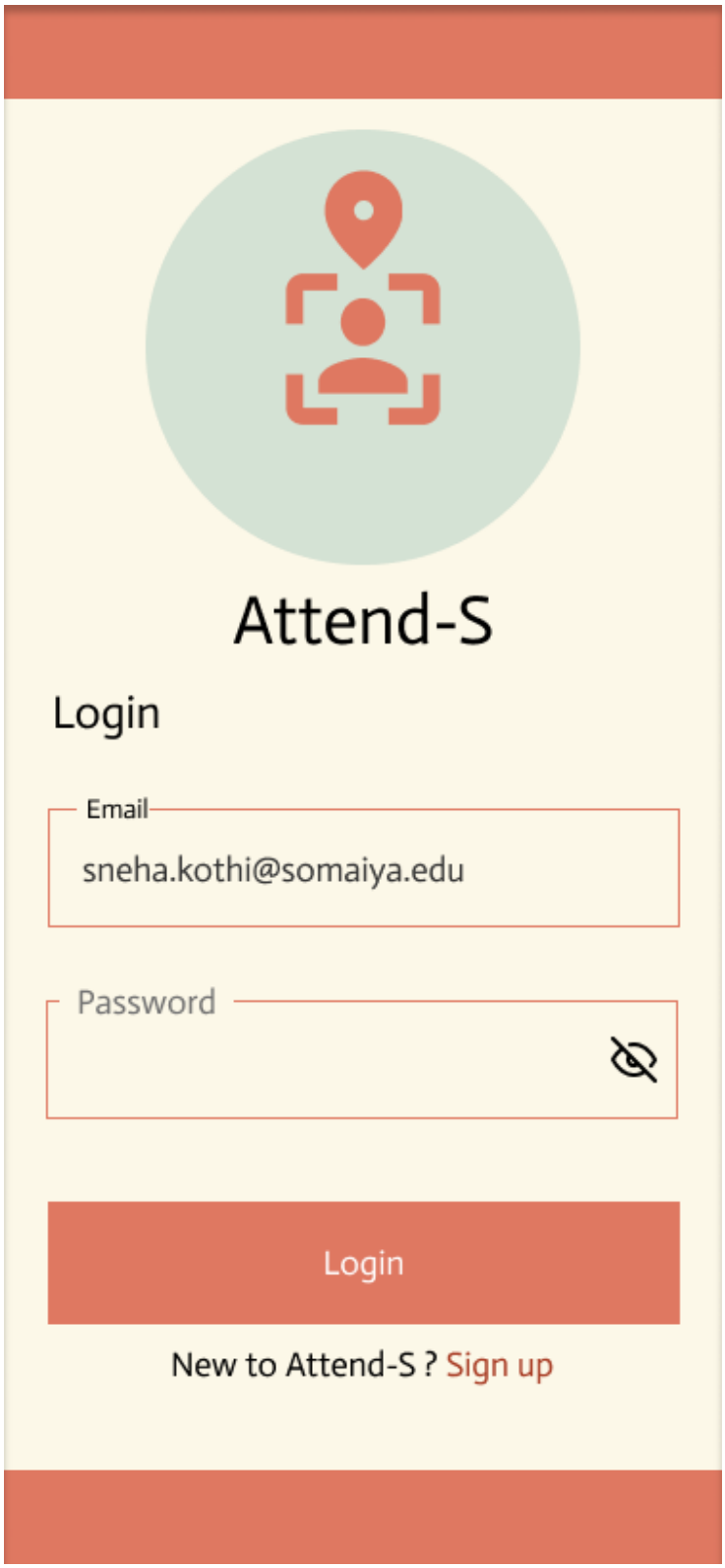
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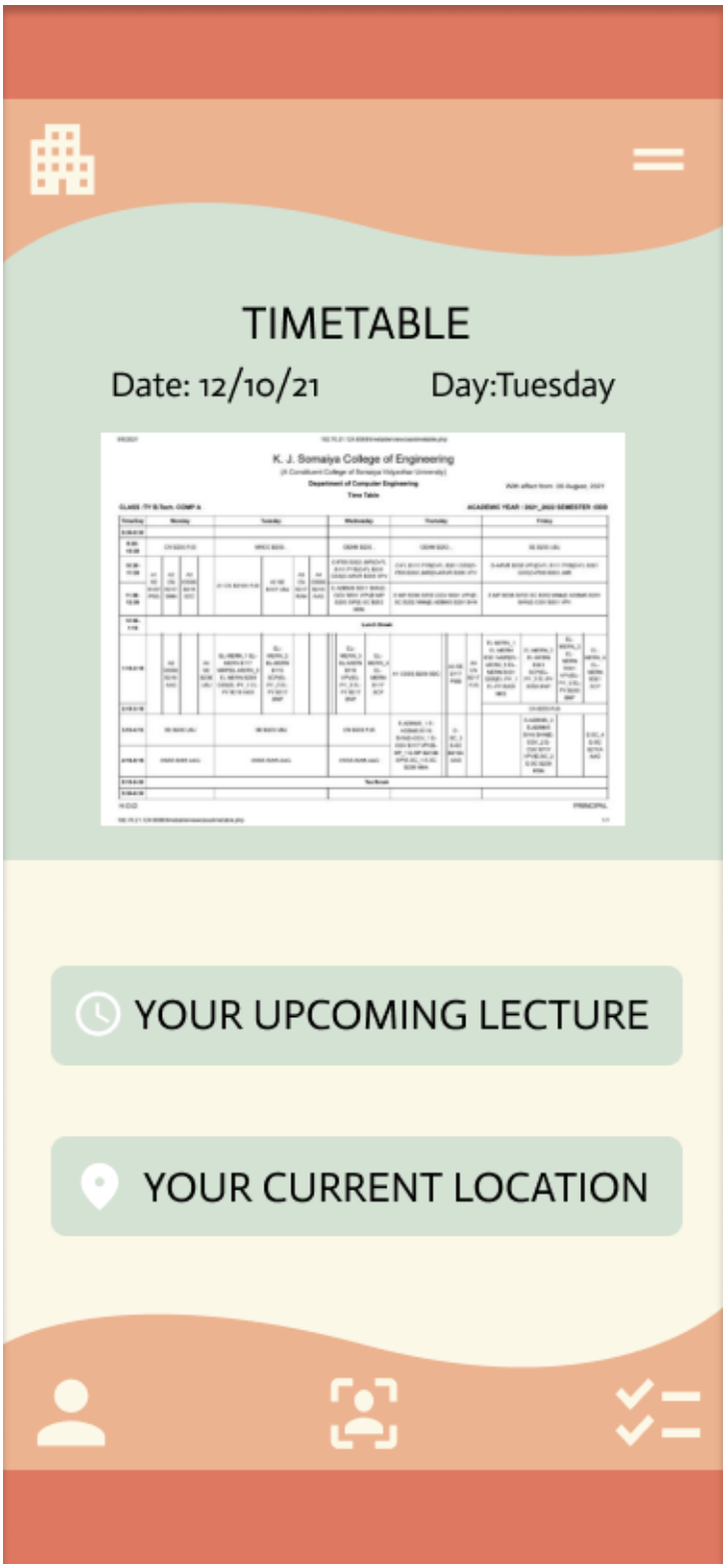

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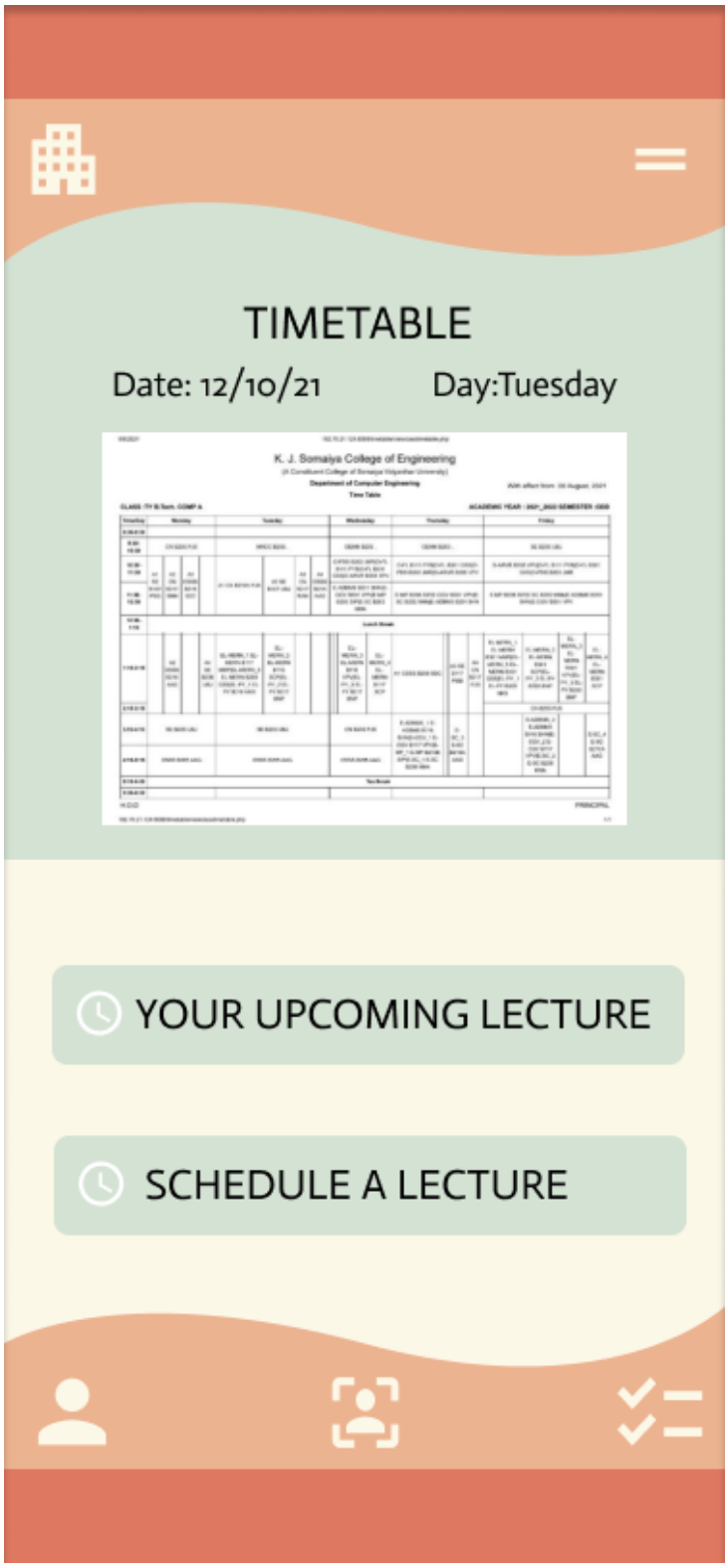

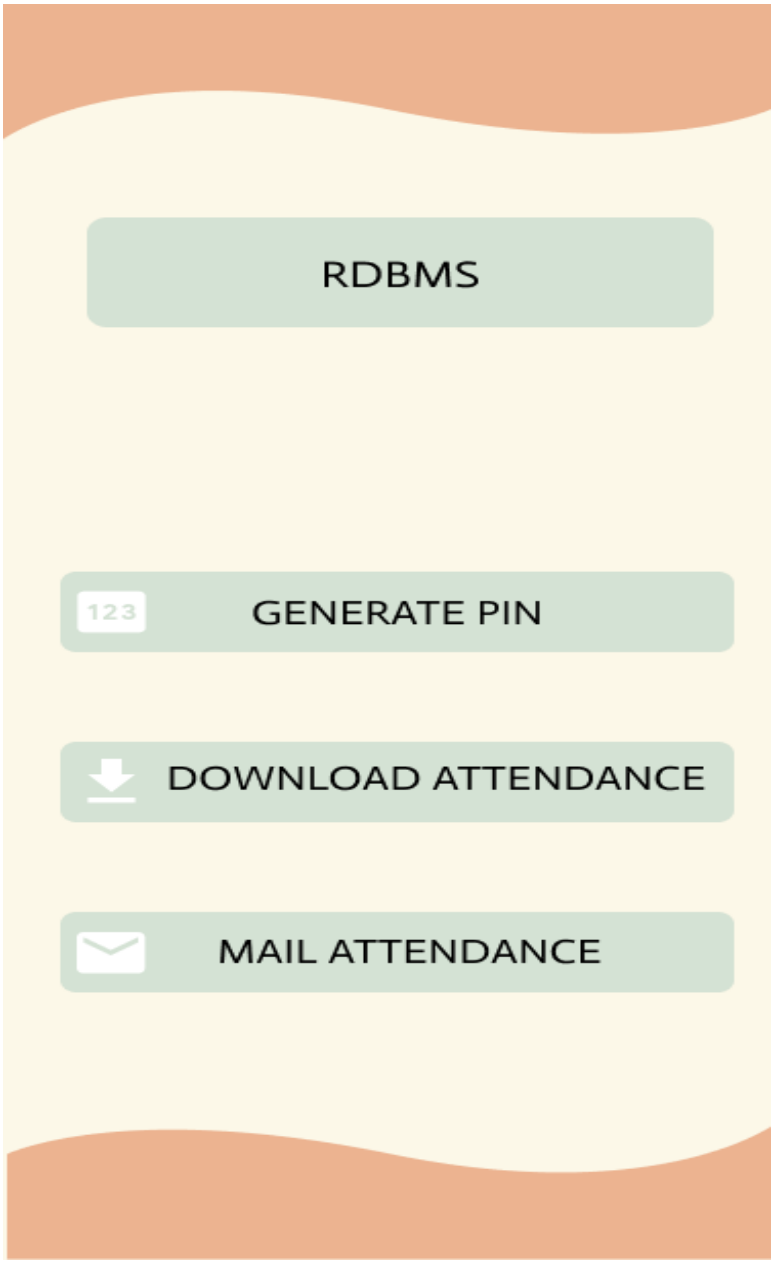

CONCLUSION: Understood the importance of designing in software making. Also visited different tools to make UI design for our project. For this experiment used figma as a tool for creating UI design of our project.

Post Lab Descriptive Questions

1. State various types of UI design tools.

ANS)

Ans) Various types of UI design tools are:-

1) Sketch :- It is a vector graphic editor for macOS developed by the Dutch company. It is primarily used for user interface and user experience design of websites and mobile apps and doesnot include print design features. It has features for prototyping and collaboration. few reasons why it is popular:- Being able to make universal changes - whether it's through their library of symbols, layer styles or text styles, or its smooth resizing and alignment features - saves designers time to deliver consistent prototypes. It takes out what's tedious and lets designers jump in and create. And with a multiple of third party plugins that integrate without problems, there's no shortage of tools out there that can be used with sketch.

2) InVision Studio :- With a full suite of applications, Invision gives designers all of the UI design tools they need to create fully realized and functional prototypes with dynamic elements and animations. Along with these easy-to-use UI design tools, they also make communication easy - with collaboration features that let developers share their work as they design it, receive feedback, and make documented changes at each step. Another Useful aspect of Invision is the digital whiteboard that

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allows team members to get their ideas out there, interact and get that all important sign-off before moving forward.

3) Axure :- Axure functions in prototyping and keeping track of the work flow. It features a smooth interface to document as you go. High fidelity drives the app resulting in prototypes full of details. Axure offers many of the other features of popular prototyping and UI design tools. It allows for testing of functionality and helps everything together for an easy developer handoff. This, combined with an emphasis on communication, ensures that everyone on a project is kept up to date with progress and changes as they happen in real time, making Axure a solid choice for UI design.

4) Craft :- It is a plugin from Invision. works right alongside what you might be doing in photoshop or sketch, with a sync function that updates what you're working on. Along with this time saving feature, craft offers everything you need for prototyping and collaboration. Changes in styling, edits and other tweaks are updated across the board so that everyone is referring to and working from the same version of a project. Craft sets itself apart from other UI design tools with its placeholder content. You get access to both Getty and iStock photos, letting you

fill your layout with better visuals. And if there's data in your layout, you can use your own or bring it from other sources.

5) Proto.io :- It says using their UI design software results in "prototypes that feel real", and Proto.io delivers on this, giving you what you need to create, organize, integrate, and test accurate mockups. It also smooths out the collaboration process, fostering communication between team members through comments and Video feedback. as well as integrating with some of the more well-known testing products, like Lookback, Usersnap and Validately.

6) Marvel :- This design platform makes things easy. With the ability to create both low fidelity and hi-fi wireframes, interactive prototypes and device testing, it gives a UI designer everything they need all wrapped into an intuitive interface. Marvel also has a feature called handoff that gives developers all the HTML codes and CSS styles they need to start building.