**1. Importance of Design Principles of User Interface (UI) and User Experience (UX) in the Development of Mobile applications**

The importance of UI and UX design is imperative because the user experience of an app and the interaction with that application entirely depends upon it. The app with a properly developed user interface will make the application beautiful and user-friendly whereas in the case of user experience design, the effective design will make the application logical, usable, and capable of satisfying the user demand. Their importance can be described as follows:

* First impression: A catchy and well-prepared UI leaves a first impression on the user and makes him or her explore the app more.
* Increased Visibility: Whenever there exists a good UX design then it can be attributed to the design having a sense of flow, fewer steps that one has to take in order to accomplish a task and that it is a friendly experience, which reduces the feeling of frustration by the user.
* High Retention Rates: an application that is designed with ease of use, offers good navigability. Furthermore, one that has been decomplexified will guarantee long-term continuous usage and retention of an application.
* Competitive Advantage: A competitive UI/UX design can assist the app to emerge out of the overcrowding in the apps markets as it is one of the best methods of getting downloads and positive reviews.
* Maximum conversions and ROI: An optimized UX will lead to more user satisfaction and thus imply maximization of conversions, sales, or any other target indicators.

**2. The Plan and Execution of a Requirement-Gathering for User Interface (UI)**

Collection of the UI requirements ensures the final design of the work being constructed shall satisfy the needs of the target audience. According to the article and the video, the following step-by-step plan is possible:

**Step 1:** **Determine the Purpose and the Goals of the App**

* Explain what the app is all about and what its principal goals are.
* Write down the expected final results of the user (e.g., time saving, improved access, entertainment).

**Step 2:** **Target User Discovery and Knowledge**

* Define the user personas (experience, age, demographics, preference, and tech-savviness, etc).
* Conduct research on their behavior, pain points, and expectations of other apps like this.

**Step 3:** **Gather Requirements in Many Ways (PowerApps Tutorial, 2022)**

* Surveys and Questionnaires: These will be quantitative research and will be used to collect information about the preferences of users.
* Interviews and Focus Groups: Obtain a more in-depth qualitative information on user requirements.
* Competitor Analysis: Analyze the available applications in the same sphere to define the strong and weak aspects of their UI.
* Observation/Usability Testing: Observe how users are interacting with other app of the same nature to identify the points of friction.

**Step 4: Define the Functional and Non-Functional UI requirements**

* Functional: The structure of the layout, the navigation pattern, where the buttons are located, accessibility features, and more.
* Non-Functional: Themes of colors, responsiveness, consistency with brands, preferences of aesthetics, etc.

**Step 5:** **Drafts and Mockups**

* Convert the needs into low fidelity sketches or into digital wireframes.
* Show UI thoughts using Figma or Adobe XD.

**Step 6:** **Requirements Checking**

* Put the prototype to the test on actual users so as to acquire feedback.
* Rinse and repeat on UI design, the UI design is iterative and bettered with the use of usability tests and user input.

**Step 7**: **Write UI Requirements (Bhatt, 2020)**

* Write up all this in a Mobile App Requirements Document that include:
  + Objective and extent
  + Target audience
  + Functional requirements and non-functional requirements
  + Design Guidelines and wire frames
* When the agreement is reached by all stakeholders, then go ahead to development.

**3. Conclusion**

Optimizing design of User Interface and User Experience are very essential throughout the development of a mobile app as they outline the efficiency and enjoyable process of acquisition of the desired objectives within an app. The appropriate structuring of the UI and the flawless UX leads to high levels of interaction, customer satisfaction and gradual success of the application in the long-term. The need for usability must also be mined within a structure of planning, research and feedback in the collection of information made by the users and it is true that the end design should portray the user’s needs and expectations. The process of creating an application that can be effective in terms of the functionality aspect and user experience must be structured in a manner that the objectives must be identified, the users must be examined, the needs must be collected as well as verified and documented.

**References**

Bhatt, P. (2020, Feb 20). *Essential steps to create a mobile app requirements document*. Medium. <https://medium.com/@piabhatt420/essential-steps-to-create-a-mobile-app-requirements-document-946950dd7046>

PowerApps Tutorial. (2022, May 16). *Gathering requirements for app development* [Video]. YouTube. <https://www.youtube.com/watch?v=4dyByPWyey8>