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The User Interface Design of HIM Competencies Compliance Measurement Application Using Android Platform

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Abstract

Background: According to Law on Ministry of Health 55/2013, Health Information Management (HIM), professionals as one kind of health practitioner shall maintain their professional standard and competencies. A review of the competencies is important to maintain the accountability of HIM. Re-evaluation with self-assessment method using manual questionnaire can be done. However, based on the interviews, there have been difficulties in data collection because of the limited time of HIM and the number of questionnaire. **Objective:** Designing the user interface of HIM competencies compliance measurement application using Android platform in accordance with the Google Material Design. **Method:** This design is using Lean User Experience method. Identify user needs by interview and FGD while validation is done by user testing method. **Result:** There are 14 main user interface design of HIM competencies compliance measurement. Those are: Splash Screen, Walkthrough, Forgot Password, Sign Up, Main Menu, Sub Unit, List Menu, Profil, Result and 3 Warning Screen.

Keywords: interface design, competencies, HIM, android

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1. Introduction

One of the efforts undertaken by a health care facility in carrying out its duties and responsibilities in maintaining the patient's safety is by maintaining the professional standard and the competencies of the health practitioner in it. Health Information Management (HIM) Professional as one kind of health practitioner in providing services must be in accordance with the competence and adhere to the professional standards [1]. The professional standard is the minimum capability that a HIM Professional must have in order to carry out the work professionally. The competency test that has been implemented to measure the level of competencies cannot guarantee that

a HIM professional can always maintain the professional standards and competencies when he/she has been working in a health care facility. Therefore, re-evaluate with self-assessment method using manual questionnaire to ensure the capability and credibility of HIM Professional should be held. These competencies re-evaluate can provide advice to a professional organization of HIM Professional in Indonesia or in other words called PORMIKI (Perhimpunan Profesional Perekam Medis dan Informasi Kesehatan Indonesia) in making decisions. However, based on the interviews, there have been difficulties in data collection because of the limited time of HIM Professional and the number of the questionnaire (18 pages). Arising from those problems, the HIM competencies compliance measurement application should be made.

The objective of this project is designing the user interface of HIM competencies compliance measurement application using Android platform in accordance with the Google's Material Design and provide users convenience.

2. Method

This design is using Lean User Experience method. Lean UX stands on three foundations, those are [2]:

2.1. Design thinking

Design Thinking is a direct observation of what people want and need in their lives and what they like or dislike about the way particular products are made, packaged, marketed, and sold that uses the designer's sensibility and methods to match people's need with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity.

2.2. Agile software development

Agile methods have been used for years to reduce the cycle times and deliver customers value in a continuous manner. Although Agile methods can pose process challenges for designers and the core values of Agile are the heart of Lean UX.

2.3. Lean startup method

Lean Startup uses a feedback loop called 'build-measure-learn' to minimize project risk and gets teams building quickly and learning quickly.

The object of this design is HIM competencies compliance measurement manual questionnaire in accordance to competencies of HIM Professional. Subjects of this design are the HIM Professional who works in health care facility in Yogyakarta.

3. Results

Lean UX is the practice of bringing the true nature of a product to light faster, in a collaborative, cross-functional way that reduces the emphasis on thorough documentation while increasing the focus on building a shared understanding of the actual product experience being designed [2]. The interface design process started with user needs analysis that has been done by interview and Forum Group Discussion (FGD) with the project team. In addition to that, after the user needs is identified the process continue to the wireframe making process. This process is done to provide an application's overview to the team and the user. Figure 1 is the Main Menu Wireframe design of the application.

The next step after creating the wireframe is first validation to the user to get some critics and suggestions that will become design making base. The next step is creating the high-fidelity version of interface design that well-suited with Google's material design rules. The design making process is using the SketchApp 42 application that integrated with invisionapp. There are many style guides that used in the interface design making process such as [3]:

3.1. Typeface

This interface design used the Roboto regular font, roboto medium font and roboto bold. This font is chosen because it has been the standard font for the android applications. The size of the font in this interface design making process is roboto 24sp, 36sp and 48sp.

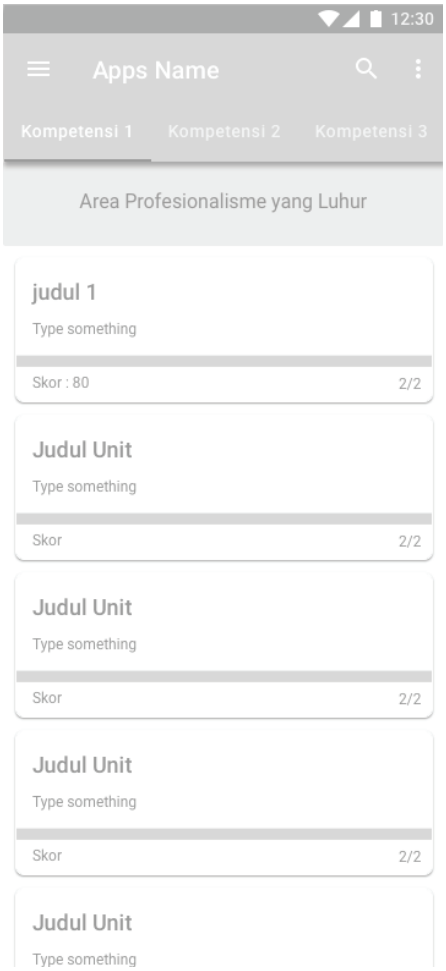

Figure 1: Main menu wireframe.

3.2. Color

This interface design making process used Strong cyan (Irish Blue) color with the hex code is #00BCD4, RGB (0,188,212)

3.3. Screen resolution?

This interface design-making process used a screen resolution 1080x1920 pixels.

3.4. Component

This interface design making process used some components as well, such as: flat button, raised button, dropdown button, cards and text field.

There are 14 main design used in this interface design making process. Those are: *Splash Screen, walkthrough, Login, Forgot Password, Sign Up, Sign Up Done,* Menu Utama, Halaman Sub Unit, *List Menu*, Profil, *Result, Login Warning, Sign Up Warning,* dan *Empty Result*. Figures 2 and 3 are the one of high-fidelity design.

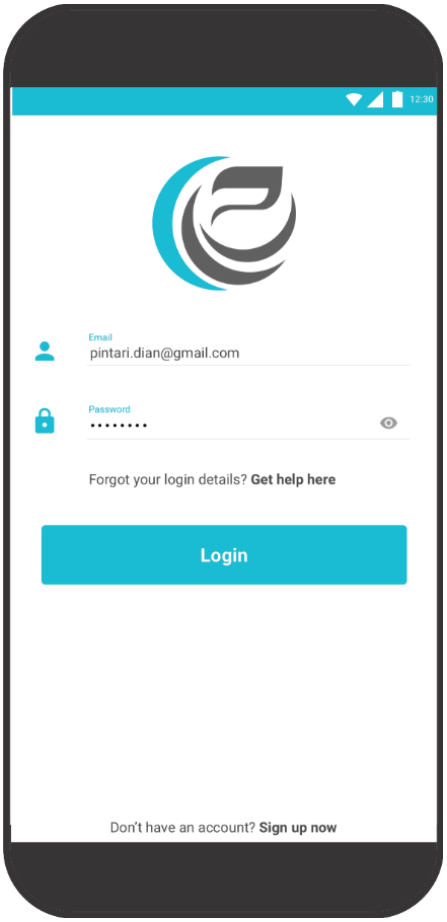

Figure 2: Login menu.

The next steps/the final step in the interface design making process is testing. In this case, the testing process used user testing method. There are a lot of critics regarding the design but unfortunately some of those critics hasn't been applied such as creating the compliance graph, language setting feature, and adding the work experience text field.

4. Closure

4.1. Conclusion

It has been created 14 main design in the user interface of HIM competencies compliance measurement application using android platform with a complete menu as the

Figure 3: Main menu.

user needs and well-fitted to the android's rule that provide an ease and convenience to the user.

4.2. Suggestion

For the next designer should develop this design an adding some features that hasn't been done in this interface design.

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References

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