MOBILE APPLICATION DEVELOPMENT

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ABSTRACT

Introduction to machine learning is the development and consolidation of knowledge and skills in science for users who want to learn the subject. Another advantage is that this application can be implemented in higher education institutions and as a science manual.

Keywords: *Figma, prototype, mobile app, Android.*

АННОТАЦИЯ

Введение в машинное обучение — это развитие и закрепление знаний и навыков в науке для пользователей, желающих изучить предмет. Еще одним преимуществом является то, что это приложение может быть реализовано в высших учебных заведениях и в качестве учебного пособия.

Ключевые слова: *Figma, прототип, мобильное приложение, Android.*

Before developing mobile applications, it is necessary to know the stages of its creation. Because it helps to create mobile applications that are useful to users and of high quality.

Steps to create a mobile application:

•analysis;
• terms of reference;
• design and design;
• development;
• testing and stability;
• hundreds of publications;
• Support and development.

Analysis. Every program starts with an idea. What we need to do in the future is tell us, and we continue to gather analysts. At each stage of deep market cuts, analysis of available solutions, study of competitors and customer behavior, and analysis, we remember the end user and think about the customer's life cycle. It helps

people understand together how to use the new app and how to make it as convenient, understandable and useful as possible. Such a service will benefit your business.

Analysis is a very important stage. Don't give up on it and start working on the project from a technical assignment. In the analysis process, we understand who is in the market, who to lead, and how to do better. We usually collect best practices and offer proven solutions that work 100% for the customer.

Terms of Reference. We will compile a detailed description of the functionality and design of the future application. We identify user characters, describe user stories (user story), create a user travel map (Customer Journey Map), and formulate technical requirements for the service. That is, it determines what the program should be, what it should do, and how it should work.

Thanks to this Terms of Reference (TZ), the team of designers and developers clearly understands what kind of service the customer wants to receive and gradually implements the initial idea.

The result:

•a list of features that should be in the application;
• interface, user roles, security, performance, and other non-functional requirements;
• describe how all of these requirements are met;
• project estimate.

The most important stage of mobile application development:

Stages of development of the terms of reference. The amount of TT for program development depends on the size and complexity of the program.

Goal setting and research.

We are in constant contact with the client during the development process. We need to determine the purpose of the application and get real source information related to the development.

The basic structure.

We will develop a simplified version of TT that describes everything in simple language. We check with the client to understand all the processes - if new information appears, we bring it, if not, we continue to study in detail

Technical requirements and restrictions.

Depending on the type of liner, we will describe in detail the scope of application and requirements. For example, the server can be given additional information about the load: what it is and how to provide it.

Logic.

Using flow charts, we clearly describe the program and the interactions between the subsystems so that the technician carrying out the project does not ask any questions.

Client and administrative interface.

In the graph, we describe what the interface looks like for the client and the application administrator, and what colors and elements to use.

Server partition and integration.

We describe the software requirements.

The terms of reference are the first stage of development on which the future of the project depends. It is important to take into account all the nuances and features: any subsequent changes and corrections will result in financial costs and delays in launch.

UX-design (user experience design) requirements:

- ❖ Place product requirements according to pyramid levels:
- ❖ The product must be fully functional
- ❖ The product must be easy to use (available)
- ❖ The user should enjoy the work with the product emotionally
- ❖ The product must work reliably

UX-design.

UX (user experience) literally means "user experience". In a broader sense, it is an understanding of all the experiences that a user has experienced interacting with a site or application. UX is responsible for design features, product flexibility, and how it feels to users. The clearer the interface, the easier it will be for the user to get the result and perform the targeted action.

The idea of using windows instead of a command line existed until 1984, but the graphical interface was first introduced by Apple's designers.

UX designer (user experience designer) - a designer who studies the needs of users, creates logic diagrams of the interface, tests prototypes in the target audience and creates a technical task for UI designers.

UI design UI (user interface) - translates as "user interface". UI design is the process of viewing a prototype based on user experience and target audience research.

UI design - includes work on the graphical part of the interface: animation, pictures, buttons, menus, scanners, photos and fonts.

The UI-designer determines the color palette and location of objects in the interface: whether the drop-down menu works properly, whether it is easy to press the "order" button, whether it is easy to fill out the form, whether the text reads well

from a smartphone, this or that action solves problems such as how the site delivers the message.

The main task of the UI-designer is to help the user to quickly and stresslessly understand how to use the product: a website, application, software, payment terminal, microwave or remote control. To do this, the designer makes sure that the interface meets the basic requirements.

UX / UI design quality requirements:

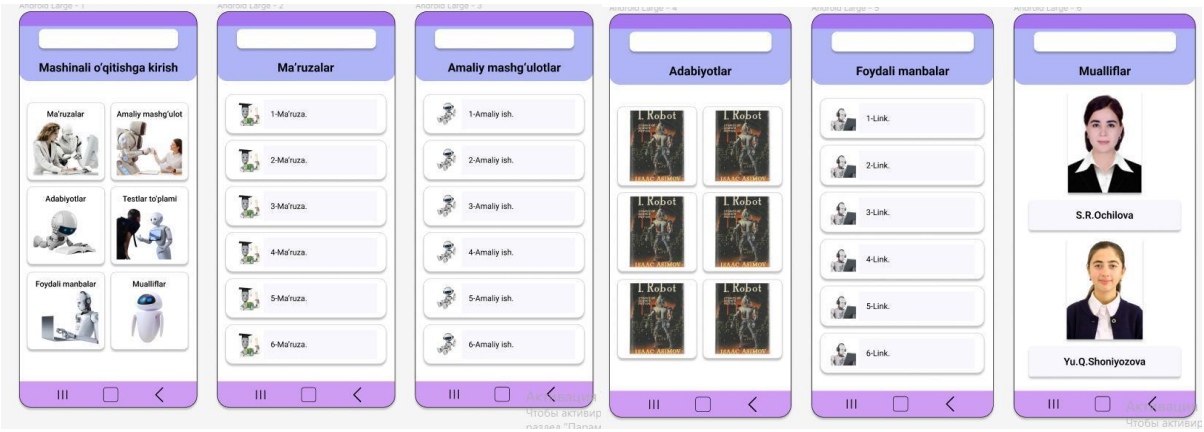
- Clarity
- Abbreviation
- Recognition
- Answer
- Continuity
- Aesthetics
- Efficiency
- Pleasure

The UX design of the Introduction to Machine Learning mobile application is as follows:

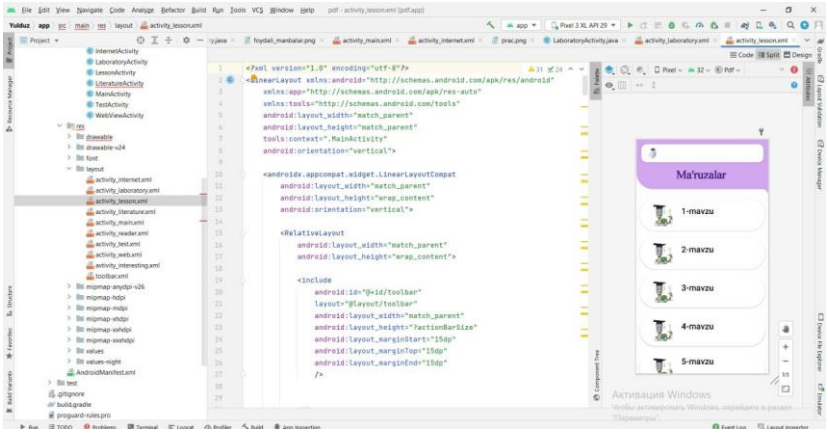
Picture 1. UX design of mobile application.

Picture 1 below illustrates the interface of the mobile application. The mobile application has 6 main windows: main window, lectures, workshops, literature, useful resources and authors. These windows are connected in series to perform the process. We can illustrate these images more clearly using the Figma program.

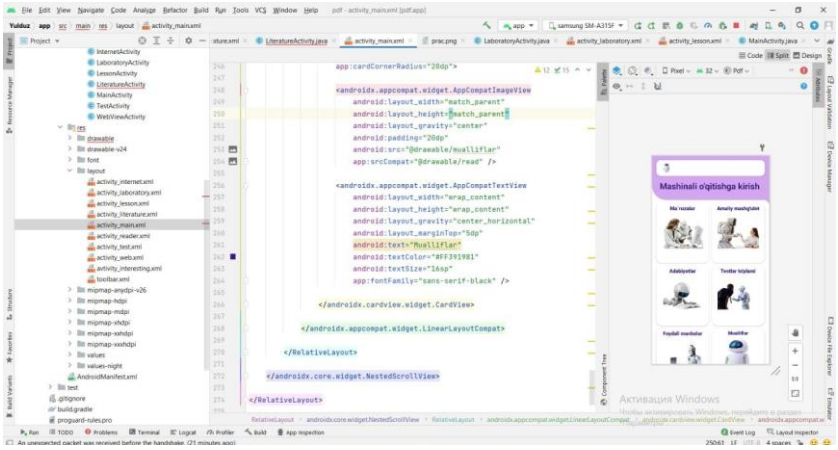
Picture 2 shows a graphical representation of the mobile application Introduction to Machine Learning. It has a UI design for each section.



Picture 2. Figma UI design of a mobile application.

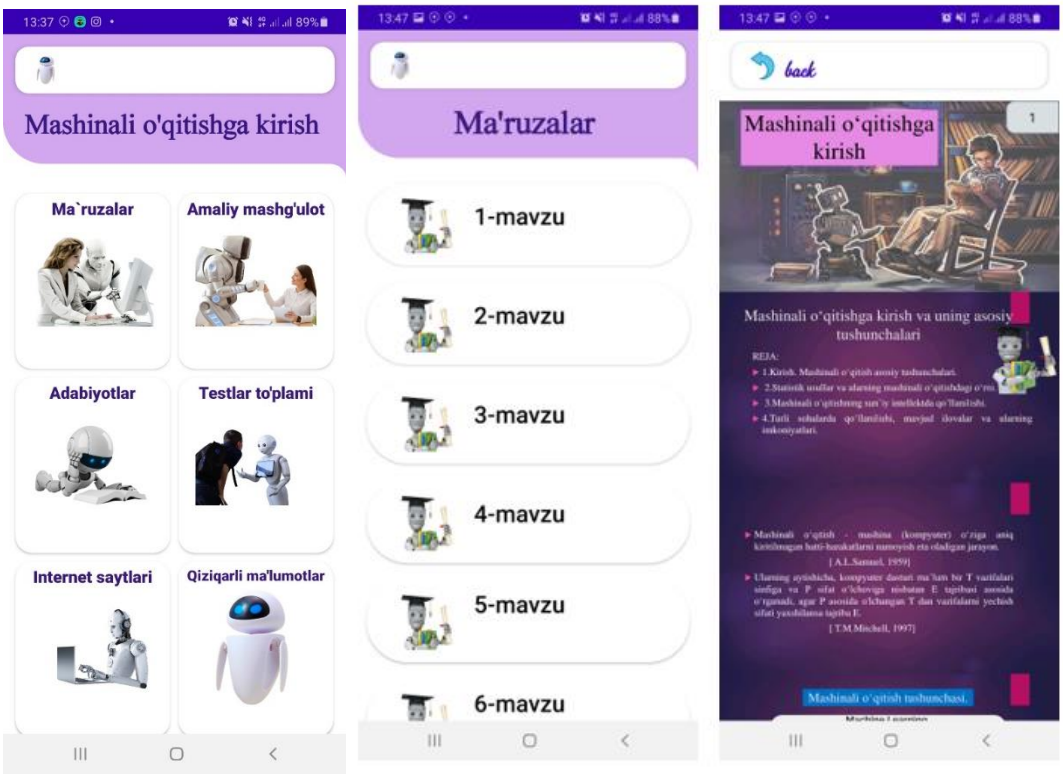


Picture 3. The process of creating a report window.



Picture 4. The process of creating a main menu window.

Picture 3-4 shows the process of creating prototypes of a mobile application developed in Figma In Android Studio.



Picture 5. Ready status of the mobile application.

Today, everything from iPhones to Android gadgets are playing an important role in our lifestyles. According to the Deloitte research center, a smartphone user looks at their smartphone an average of 50 times a day. This process can be observed in our country. Because today we are witnessing the use of smartphones and tablets by users of mobile operators in all walks of life: from schoolchildren to adults. At the same time, the use of "smart" devices in education and distance learning systems is expanding.

However, we can see the lack of programs for "smart" devices for students of higher educational institutions of the Republic, which allow them to acquire knowledge in various fields of knowledge in the national language.

That is why the creation of free mobile applications that help university students to acquire knowledge in various disciplines is one of the urgent tasks today.

It is important to improve the teaching of "Introduction to machine learning" in higher education, to increase the effectiveness of education through the widespread use of modern pedagogical and information technologies, non-traditional and interactive methods in the study of science. Therefore, the development and implementation of a set of teaching materials in accordance with the content of teaching, especially in the form of games, is the basis for the inclusion of young people in the educational process.

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