

In the process of development, projects were assigned 2 roles:

– Consumer. In the process of the application usage consumers can get some information about the product with the ability to create an order, update an order, reserve some products or delete related data.

– Administrator. Can manage consumer's access to the application functions, update any product or configure already created orders.

The basic workflow can be divided into several parts. First a consumer can login or register in the system. After that, a consumer has the ability to check some available products. If a customer will find any needed product, then the order can be created.

Stepan Dubrovski

(Fr. Skorina GSU, Gomel)

Scientific advisor **Viktar Liauchuk**, Ph.D. in technics, associate professor

DEVELOPMENT OF A MOBILE CLIENT FOR A DISTRIBUTION NETWORK

In the development process, a variety of tools and technologies have been used. Java was chosen as the programming language. The choice fell on Java because it has been the main development language for Android for a while and has wide libraries, community and plugins support. Also, it gives a possibility to migrate to Kotlin language with no problem and big-time consumption. Additionally, at the moment it is one of the most popular programming languages. Java is an indispensable tool for developers and has opened up huge opportunities for them. Its community is growing and this allows it to develop stable and optimized applications with high tempo.

For UI layouts development XML standard is used. Extensible Markup Language defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. Android provides a straightforward XML vocabulary that corresponds to the View classes and subclasses, such as those for widgets and layouts. Declaring UI in XML gives the possibility to separate the presentation of an app from the code that controls its behavior. Using XML files also makes it easy to provide different layouts for different screen sizes and orientations.

In addition, Room SQLite was used as a way to save app data at the local DB. The Room persistence library provides an abstraction layer over SQLite to allow fluent database access while harnessing the full power of SQLite. In particular, Room provides such benefits as compile-time verification of

SQL queries, convenience annotations that minimize repetitive and error-prone boilerplate code and finally streamlined database migration paths. Room is offered as an alternative to Realm, ORMLite, GreenDao and more.

In order to facilitate the development of the project, some design patterns were used. For this application development was used MVVM pattern. The choice of this pattern is explained by the fact that it is ideal for the implementation of our project. Model-View-ViewModel is a client application architecture pattern that is an alternative to MVC and MVP patterns when using Data Binding technology. In our project, it helped to produce a separate development of UI, the operational unit and the part with data storage. View-Model - an object that describes the logic of View behavior depending on the result of the Model. It describes the behavior that was initiated by the user.

Also were used Adapter, Observer and Singleton. Adapter pattern is used when it's needed to combine two different interfaces without changing them. Observer provides a way to react to events happening in other objects without coupling to their classes. Singleton design pattern ensures that a single-threaded application will have a single instance of a certain class, and that provides a global access point to that instance.

During the course project implementation was developed a mobile client for distribution network. The project was written in Java using various frameworks to achieve the best user interaction with the system. All the necessary functionality was implemented with the goal of maximum performance, speed and quality. The user interface was designed in the most minimalistic style to improve the understanding of information and user experience. The project fully meets all requirements.

For testing purposes was used JUnit, which allows us to test each program module of our project. During the tests, the application worked stably, which indicates the proper implementation of design patterns.

Alexandr Elistratov

(Fr. Skorina GSU, Gomel)

Scientific advisor **Natallia Aksionava**, senior lecturer

DEVELOPMENT OF IN-GAME OBJECTS

Game object is any isolated entity in the game space with which the player can interact. Game objects in video games are represented as ordinary accessories, as well as characters, objects and other things that have their own parameters or behavior.