**Introduction to**

**Mobile application**

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# About

# Task

Creating a mobile application with simple responsibility which includes:

* + Users (with their profiles)
  + Calculator for operate with data
  + Ability post to social network, such as Facebook, Twitter and others…
  + Ability to use finger scanner in the app for user identity

# Algorithm

The main algorithm was using from the Vidmark’s theoretical data, which include the description about human ability to drink alcohol. In this application, we implemented these data which belong to time calculation and promile calculation.

# Technologies

The main area of technologies that we wanted to use, are belongs to the SOLID statements. Also we use interfaces segregation for database manipulating. As an object-oriented storage for solution’s data, we used JSON format. Also we used the Dependency Injection with StructureMap package.

# Main activities

# Profile

Page profile consists from:

* + Form for adding new user
  + Finger scanner for user identification
  + Button for saving new user

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# Calculator

Calculator consists from three zones:

* + Data inputs zone
  + Scrolling area for choose drink
  + Result panel with calculated info about user’s decision

Data inputs zone includes two inputs about time, when user drank alcohol and about the number of drank alcohol. The second zone includes list of the alcohol collection. Result panel calculates two parameters: time when user can drive a car and value of alcohol in his blood.

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# Statistics

This view contains the number of usage of calculator. Also at this page user can post his results to Facebook.

# Future ideas which we want to implement

# Modules

We want to add ability for combine different drinks and for using application for more than one person. For example, when four friends want to drink alcohol and they want to know what amount of drinks, need to buy.

Also we wanted to add new type of user, admin. And to give him permission for adding new drinks or to change characteristics of available drinks or ingredients.

And the last idea that we want to implement, but have not enough time, is to make a comparable drink with drinks converter, when user can choose the optimal dose of alcohol in different drinks.

# Platforms

We want to put this solution on Android platform. When we started working on this project, we supported both versions IOS and Android, but after we added storage, Android platform couldn’t accept area for storage in solution folder. We could implement UWP platform, but in production this platform is not so popular.

# Coding part

# Structure

The main objects in this projects are:

* + User
  + Drink
  + Ingredient
  + Meter
  + CleverBrain

User, Drink, Ingredient classes have simple properties such as Name, Age, Description and others…, and methods for database manipulating.

Class Meter contains the main calculation methods of this application, includes Vidmark’s formula and the “time to drive” calculation methods.

Class CleverBrain operable with storage activity.

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Also we using interfaces for dependency injection technology and for improving usability.

All data are saving at json files in the solution directory. For working with JSON format we using the popular Newtonsoft packages.

For posting results to the Facebook we using Facebook SDK for Xamarin.

Visualization and compounding by George Kirilenko

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*With the best regards, George K. and Dmytro K.*