ABSTRACT

The aim of this thesis was to create an application designed for mobile devices implementing the concept of augmented reality goggles.

In our work we focused on combining multiple solutions in order to offer the user the greatest possible experience which augmented reality gives. We have combined the functionality of a smartphone camera, *Google Maps* and the *Google Cardboard* platform. Using this, we were able to develop ***FindMyMeal*** application that offers to user the ability to find the best restaurants in her/his vicinity. The application also includes functionality for creating a collection of user's favourite places, ability to choose one place for the target navigation and an instructional video that is showing the proper use of an application.

Whole project is based on the *Android* platform (version *KitKat* and grater). Furthermore to run the application the device must be equipped with a set of sensors such as magnetometer or accelerometer. User must guarantee the Internet connection and allow our application to access the data about the current geographical location.

FindMyMeal requires *Cardboard* goggles module. *Cardboard* box is equipped in two focusing lens. Splitting screen into two parts and generating two independent images provides user a spatial vision. Interface is interacting with the magnetic button - this replaces the touch on screen device. Navigating within the application (eg. at the main menu) is possible due to movements of the head.

The application is built in *Component Object Model*. Thanks to the independence of its' modules we gained the ability to make changes more easily. Components written by us can be adapted in other projects. Adding new extensions to our application should not create any problems.

We already have directions of further development of the application. It should be compatible with next product - *Google Glass*.