

Using the right approach to testing allows to provide the customer with a quality product. In order to be able to conduct a test assessment, it is necessary to develop an assessment tool that will allow to quickly and efficiently obtain a test assessment. Such a tool can be the software being designed. The evaluation is performed using the following indicators: the percentage of missed defects in the release; the percentage of defects that were repeated in the new release; coverage percentage of functional requirements; coverage percentage of non-functional requirements; coverage percentage of execution environments. For the software being designed, the following must be done: 1) create a library that should contain the implementation of the calculation of the testing quality assessment; 2) develop the server part of the software, which will provide an HTTP interface for external access by users.

The C# programming language, ASP.NET WebApi 2.2 technology + IIS 10 (application server) will be used to implement the application. The Microsoft Azure cloud platform was chosen to host the application. Figure 1a shows the software deployment diagram. Figure 1b shows a diagram of the software classes that encapsulate the logic of the test quality calculation and define the data types.

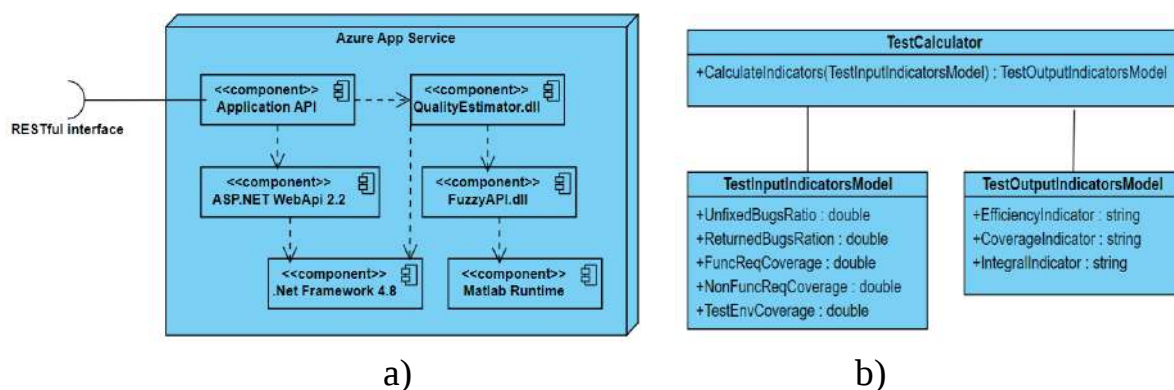


Figure 1 – Deployment diagram (a) and class diagram (b) for the software

QualityEstimator contains the software logic for the formation of intermediate results and the evaluation result of the testing process. FuzzyAPI hides Matlab-converted wrapper functions that make function calls to base functions found in the Matlab Runtime component. The Application API component handles user requests. ASP.NET 2.2 and .Net Framework 4.8 components are the software platforms on which the application runs.

The TestCalculator class contains the calculation logic; the TestInputIndicatorsModel class displays input data; the TestOutputIndicatorsModel class displays the output data.