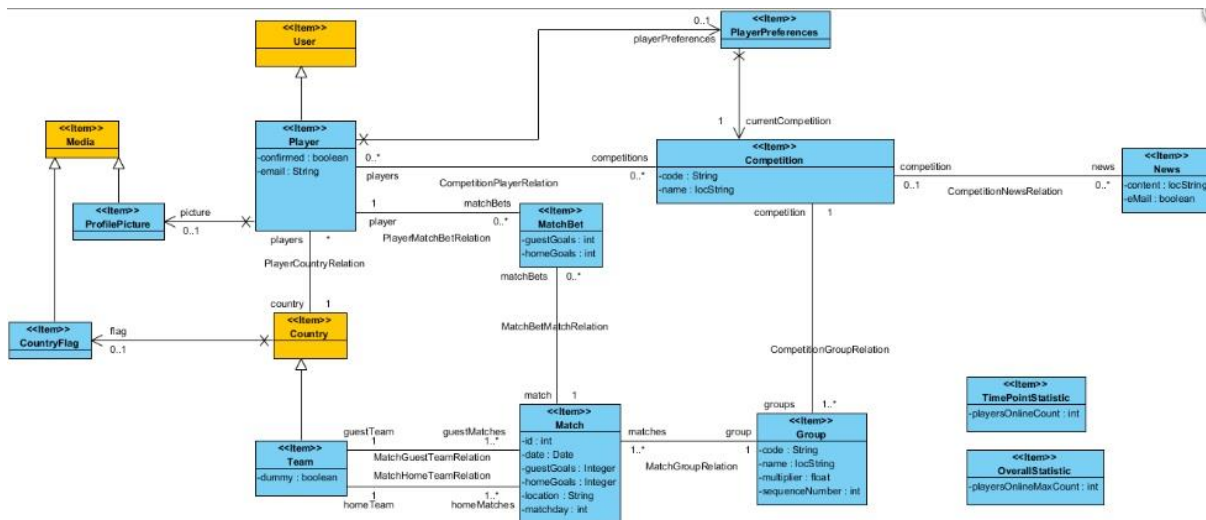This method gets some match by id from data base and converts result into object of suitable model type (MatchModel).

Also, the application's architecture contains models which interact among other. There is standard kit of models for implementation simple online book-maker platform.

Picture 2 – Main schema of data models

For testing application, the couple of test-cases were written for DAO and Service layers which consist of Unit-tests and Integration-tests.

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THE CONCEPT OF A CLOUD OBJECT STORAGE

Today it is difficult to argue with the fact that technologies based on cloud computing are in high demand and are actively developing. Private «clouds» are intended for use within the company. They may belong to the enterprise itself or be hosted by the provider.

The first deployment model provides more control and more security, because the infrastructure components and customers are situated in the same organization. Each detail is optimally adapted to the needs of this company. However, this approach to IT infrastructure implies a significant resource cost.

In the second case, cloud storage is provided as a web service, for example, Amazon S3, Microsoft Azure Blob Storage, Google Cloud Storage. These services are based on the object model.

All mentioned systems use «bucket» and «object» principles as abstraction above folder and file. In our case, such correspondence will be incorrect, because this cluster system will work only with JSON data format. New project uses «collection» term instead of «bucket» in meaning of list of objects of particular type.

So, creating collection includes submitting not only name, but also data schema («type»). And when creating or updating of new object in that collection is requested, system have to validate object data.

That principle of operation allows to perform application as clustered backend data storage in JSON format with complex of any enterprise business logic which accepts such data format.

Also, system should provide ability to connect any custom database via configuration file, which provide more flexibility comparing to out-of-the-box defined databases from mentioned solutions.

Performers of the system:

– Client. Performs HTTP requests to the system with API-defined methods.

– Cluster administrator. Configures each replica (node shard) before running.

– Database administrator. Configures and provides database requisites to cluster administrator.

Use cases of each performer are discussed in the report.

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DEVELOPMENT OF THE SYSTEM FOR DATA STORAGE AND REPLICATION ON ENTERPRISE SERVERS

Developed clustered storage is designed in «collection» and «object» concepts. Creating of collection includes submitting not only name, but also data schema. And when creating or updating of new object in that collection is requested, system validates object data. Web application is developed in Java programming language and uses its Standard Edition capabilities for application core and Enterprise Edition which provides servlets and web context. Servlet is a Java class that is used to extend the capabilities of servers that host applications accessed by means of a request-response programming model. The service is created by architectural