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Faculty of Mathematics and Informatics
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Subject: System for management of software projects in small and middle companies

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The aim of this master thesis is to be researched and defined minimal but enough conditions about effective management of software projects in small and middle companies and to be design and developed system like this. This includes investigation of needs of small and middle companies, which are connected with management of developing process. Because of the fact, that the teams in these firms are compact and relatively independent, the current master thesis is developed most of all for needs of the team like functional unit. The system does not provide algorithms and methodologies in pointed out area and works as repository of information about projects. It helps in everyday work of developers and it is not time consuming for them.

The main advantages of current master thesis are:

1. It is used MySQL as database system, which has very good performance in point of view of data's quantity and number of users.
2. It has to be easy accessible and has not need of third party software, because a member of team could be out of the office.
3. The management system should have possibility of defining a team and its projects
4. It has a possibility of tracing the version of documents, which are attached to a project or a task.
5. The defining of project's goals gives an opportunity to every one of team's members to see all of his current tasks. The owner of task can divided it in smaller subtasks, which are part of its own working space.
6. The tracking of status of every one task
7. In point of view of team leader it is necessary to exist easy and intuitive access to the view with time allocation of projects tasks.

Architecture and used software resources

The system is tested on Microsoft Windows operating system. The programming language is Ruby. It is used framework for web application- Ruby on Rails. The advantages of this technology are:

- Speed and fluency which gives the possibility to concentrate on the discussed issue
- Easy for use and friendly interface of the created application
- Execution of the program on a wide range of PCs

As program architecture is used three layer object model, which is built on model-view-controller pattern. These layers are:

1. view (graphical user interface)- This is the result, which is viable for end user.
2. controller- The controllers contains the business logic
3. model (data model)- In this layer the data are united in objects called domains.
The other layers of architectures work with these objects. The model is the end layer, which communicate with database.

Conclusion

As a conclusion one could say that the created application has easy for use and friendly interface and reaches its basic goals as functionality. Despite the initial accomplishment of certain module the program could be accepted as a good milestone for further development of serious product, which will find its own place.