User Manual

For Bug Reporting System

Business to business Web application for reporting and management of bugs

CONFIDENTIAL

Innovation Academy

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Overview

Bug Reporting System is leading cloud computing software solution in quality assurance and task management. The usage is quick, simple and easy as using e-mail web client. It allows organizations to collect, track and assign bugs and tasks related to equipment purchase, software development of a new product, service launch, beta testing or market research. Since the software is realized as a Software-As-A-Service cloud computing solution it is fully web-based, and is compatible with leading operating system platforms and browsers and can be accessed worldwide by any user, allowing your organization to effectively manage and quickly respond to bugs, tasks and user feedback.

The main benefit of a bug-tracking system is to provide a clear centralized overview of development requests (including the bugs as well as the improvements, the boundary is often fuzzy), and their state. The prioritized list of pending items (often called backlog) provides valuable input when defining the product roadmap, or maybe just "the next release". In a corporate environment, a bug-tracking system may be used to generate reports on the productivity of programmers at fixing bugs. However, this may sometimes yield inaccurate results because different bugs may have different levels of severity and complexity. The severity of a bug may not be directly related to the complexity of fixing the bug. There may be different opinions among the managers and architects.

It is common practice for software to be released with known bugs that are considered non-critical, that is, that do not affect most users' main experience with the product. While software products may, by definition, contain any number of unknown bugs, measurements during testing can provide an estimate of the number of likely bugs remaining; this becomes more reliable the longer a product is tested and developed ("if we had 200 bugs last week, we should have 100 this week"). Most big software projects maintain two lists of "known bugs"— those known to the software team, and those to be told to users. This is not dissimulation, but users are not concerned with the internal workings of the product. The second list informs users about bugs that are not fixed in the current release, or not fixed at all, and a workaround may be offered. There are various reasons for not fixing bugs:

- The developers often don't have time or it is not economical to fix all non-severe bugs.
- The bug could be fixed in a new version or patch that is not yet released.
- The changes to the code required to fix the bug could be large, expensive, or delay finishing the project.
- Even seemingly simple fixes bring the chance of introducing new unknown bugs into the system. At the end of a test/fix cycle some managers may only allow the most critical bugs to be fixed.
- Users may be relying on the undocumented, buggy behavior, especially if scripts or macros rely on behavior; it may introduce a breaking change.
- It's "not a bug". A misunderstanding has arisen between expected and provided behavior

Keywords

These are the most used words in the user manual document and their explanation.

- **Bug Reporting System** – System that helps a company to allow their customers to report bugs, errors and deficiencies in certain domain of its project work. It changes the communication between the product or service customer and the company which provides it. Sometimes it is referenced as "application".
- **Company** – Organization that is interested of using the Bug Reporting System as company service or as service for their customers.
- **Registration** – Process that every company that is interested of using the Bug Reporting System must pass in order to use the system.
- **Project** – Product or service project that is the ordered by the customer and that will be provided by the company that uses the Bug Reporting System.
- **Module** – Subarea of project. Each project must to have at least one.
- **Version** – Time limited unit of a project.
- **Bug** – Type of customer message in order to report the bug that occurred in the project. The bug is reported to the developers that are responsible for the module.
- **Type –** Every bug report has to have type of bug that the best way describes the nature of the bug (deficiency, functionality).
- **Status** – Each customer bug report passes through few stages called statuses. Each status describes the phase of the developer work on the problem reported by the product customer.
- **Clarification** – Message by which the developer requests for more description and explanation of the managers/customers.
- **Suggestion** – Message by which the developer expresses his/her new ideas for the project he/she is developing.
- **Company administrator** – Employee of the company (which passed the registration process for the Bug Reporting) who is responsible for the company information, the definition of projects and modules and project managers users.
- **Manager** – Employee of the company (which passed the registration process for the Bug Reporting) who is responsible for defining developers users for resolving the reported bugs for certain project and project modules.
- **Developer** – Employee of the company (which passed the registration process for the Bug Reporting) whose task is to resolve the reported bugs for the project and report the statement for his/her work.
- **Customer administrator** – Employee of the company (which passed the registration process fo the Bug Reporting) who cares for the customer users by project and also preview the reported bugs.

- **Customer –** A company representative whose company ordered the project from the provider company which uses the Bug Reporting system.

Reference Manual

1. User guide

This is a complete user guide in detailed steps for usage of the Bug Reporting System. [Innovation Services and Technologies]() offers the [Bug Reporting System application]() cloud computing solution in a form Software – As – A – Service. The initial registration process is described in 1.1 and is realized as log in web page. The user should register his/her company and follow the registration procedure.

1.1 Registration process

Details about the registration page are shown in the section 2.

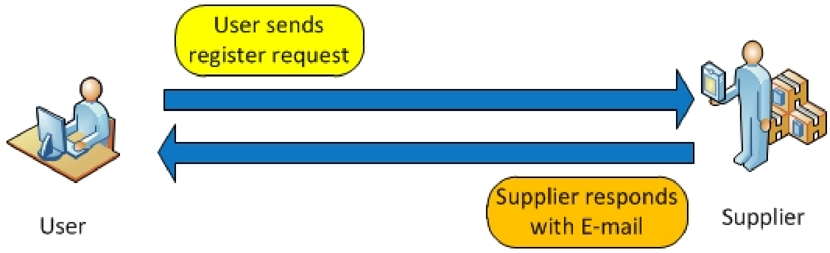


Figure 1-1 Registration process

After approving the request an e-mail is sent to the applicant with username and password credentials to log in as company administrator account. At this point the process of registering for the Bug Reporting System service is finished.

1.2 Setting up a new project

A project is a item which presents the real life project of a company. The project obviosly is some kind of software application but project's boundaries are not limited only to software. Foe example, a project can be car development or book writing or anything that has to be tested before the final release. The project is devided into smaller subareas called modules and each project has to have at least one module. Also, a project is devided into time limited units which are called versions. Modules and versions are great way to classify the reported bugs per project.

Each bug is reported for project module and project version. There are 2 sides of project teams, the development team and the customer team. The customers report bug to the development team, and the developers resolve them. The customers, depends on their satisfaction with the solution, can close or reject the bug solution.

Setting up a new project is possible once the user has registered for the service and obtained the company administrator credentials. The company administrator logs in the Bug Reporting System (more details can be found in section 4.1).

The entry point where the company administrator adds new projects is the *Project administration* page (a snapshot is shown in Figure 4-12). The setting up procedure continues with setting up general specification about the project: name, description and logo. Also, this user can create new users of the manager user role and assign each manager to appropriate project. This proccess is shown in Figure 1-2. Detailed explanation of the procedure is explained in section 2.1.

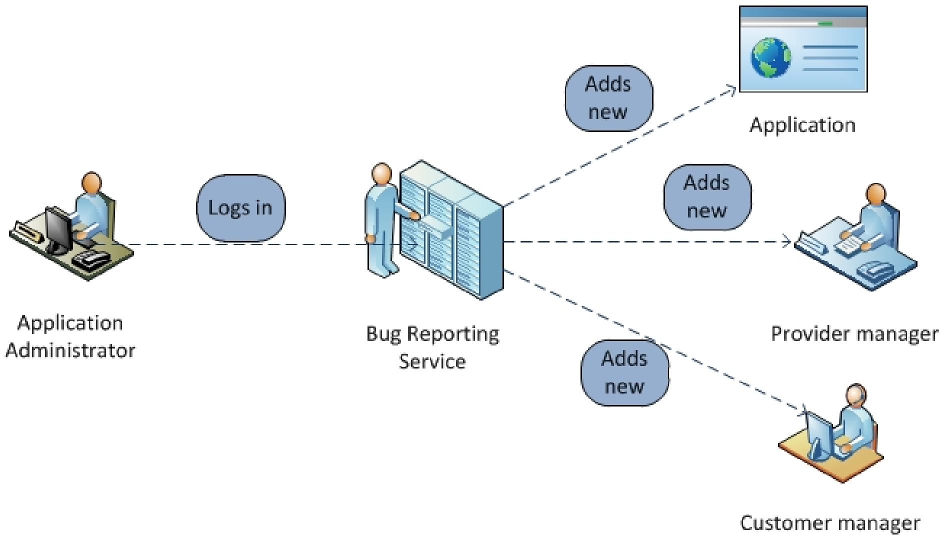


Figure 1-2 Setting up a new project

1.3 Setting up versions, modules and problem solvers

The details about project modules and its solvers can be defined after the company administrator has defined the provider company and its manager. The provider manager can log in the system using the same login procedure explained in section 4.1.

The roles of the provider manager in setting up the system are definition of current version, definition of modules and assigning problem solvers for a given module, as in Figure 1-3.

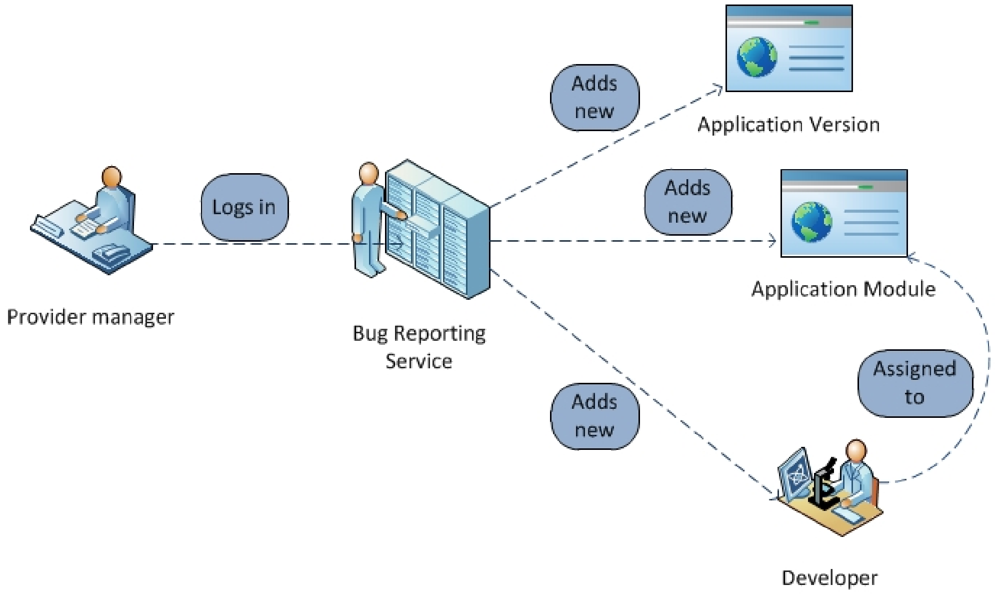


Figure 1-3 Setting up the system by the provider manager

Definition of a new version for a particular application is explained in details in section 2.7, and definition of modules in section 3.2.
Prior to assigning users as problem solvers for a given module, the provider manager can create new users as explained in section 5.2.1 with role to be problem solvers and afterwards to assign them modules for which they will be responsible for. The problem solvers (developers) are the users that will work on resolving the reported bugs.

1.4 Setting up the testing side and customers

Setting up the testing side and customers can be realized after the provider manager has defined the system by defining project version, modules and assigned problem solvers for a given module; and after the company administrator has set credentials for the customer administrator.
The customer administrator can log in the system using the same procedure explained in section 4.1. The main role of the customer administrator is to define customers that will perform testing and assign them modules for which they will be responsible for, as shown in Figure 1-4.
This process is described in more details in section 5.2.2.

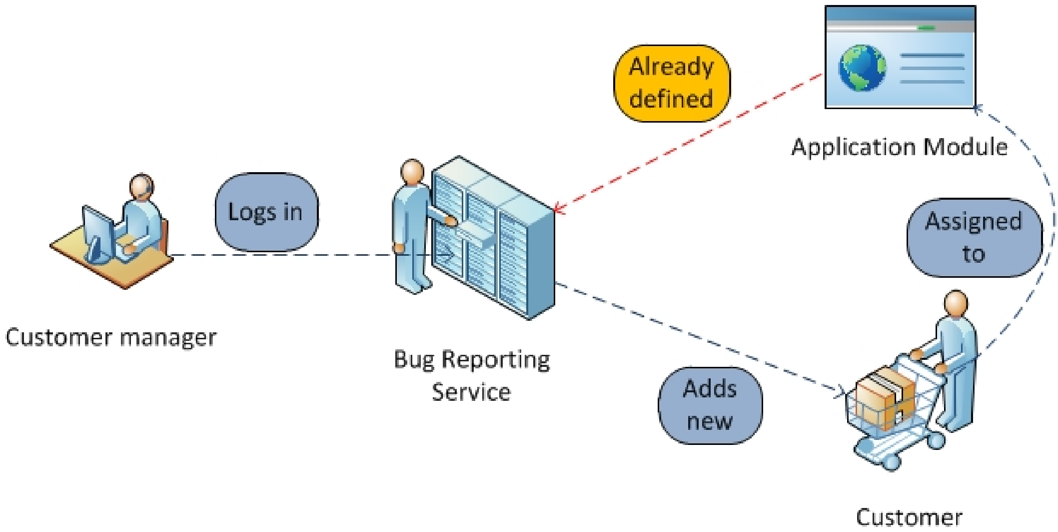


Figure 1-4 Setting up a testing environment by the customer administrator

1.5 Usage

The roles of all users can be easily explained via the state transition diagram for bug reporting (represented via lifecycle), as presented on Figure 1-5. The entire life cycle of a bug is described in details in section 5. All the functionalities of different user groups will be explained in sections 4.1-4.8.

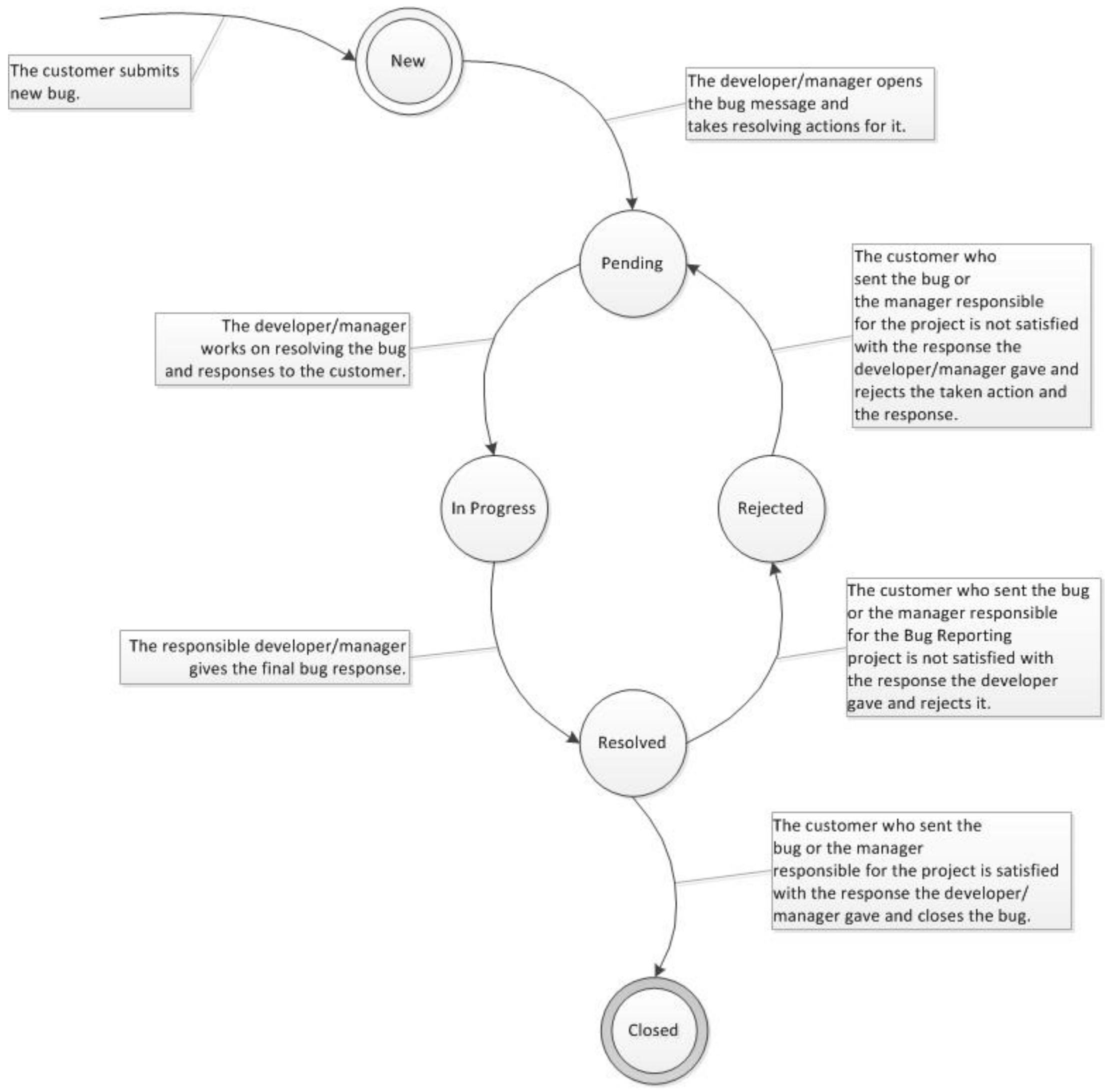


Figure 1-5 Lifecycle of activities in bug reporting

The customers can test the application represented by a bug reporting project and report bugs. They are actually debuggers – they have the responsibility to report new bugs as shown in Figure 6-11 and explained in greater details in section 6.5.
The customer administrator can have access to details of all bugs reported and corresponding answers, as well to summary reports.
The problem solvers or otherwise the developers can answer and solve problems. They receive the reported bugs, open them and work on the problem. When it is solved, they change the bug status, and wait for the response of the managers or customers.
A lot of reports are available for the provider manager and he/she can manage all process of development and maintenance.

2. Administration

2.1 Registering for Bug Reporting Service

To register for Bug Reporting service a client should click on the offered Bug Reporting product on the site which is shown on Figure 2-1. Full description of the system and its functionallities are shown and also start free trial now and register and pay it buttons are avaliable as shown on Figure 2-2.

Figure 2-1 Offered products. Among them is the Bug Reporting service

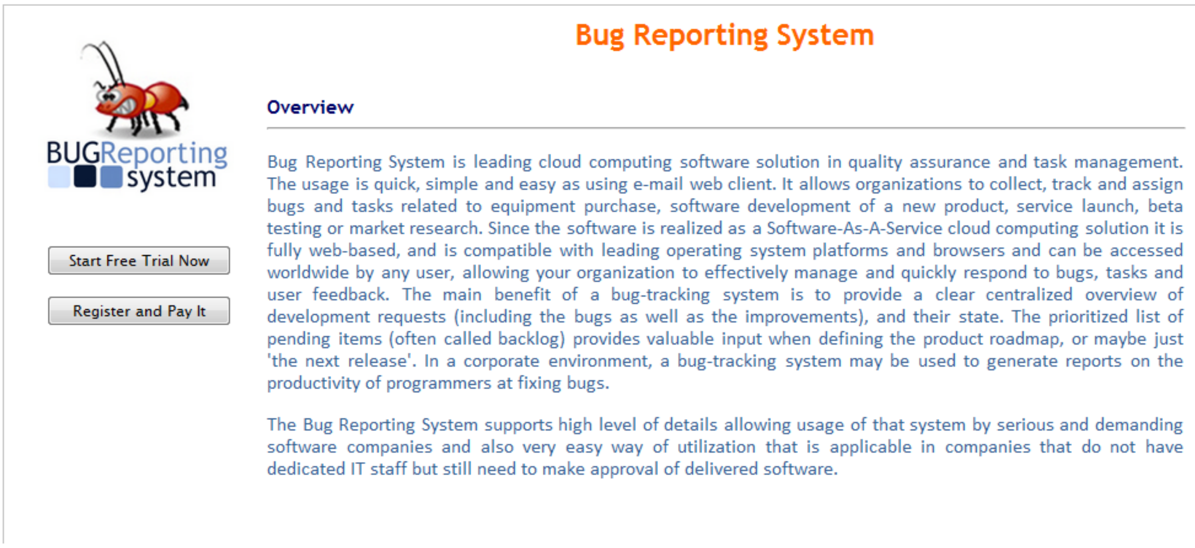


Figure 2-2 Full description for the Bug Reporting service

There are two buttons as shown on the previous figure, one for registering the company for trial period usage of the service, and the other for registering the company and paying to use the service.

If the client selects the trial version of the service, he/she must register the company first and then the registered company gets the 1 month trial period for using the service.

If the client selects to register and pay for the service, then the client must pass the following steps of the registration process.

In the first step of the registration the client has to choose which service he/she registers his/her company for, to choose for how long the company will use the service and how many users will use the service for their company. After that the client continues the registration process on the second registration step. In the following Figure 2-3 is shown the layout of the first registration step.

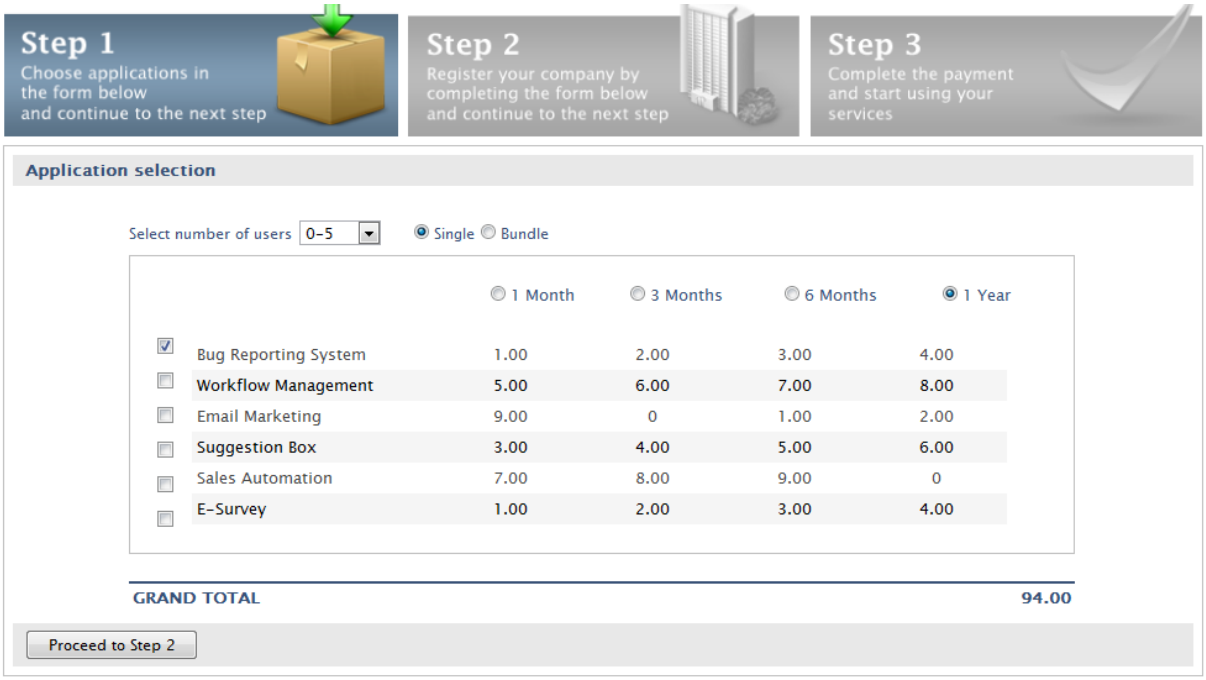
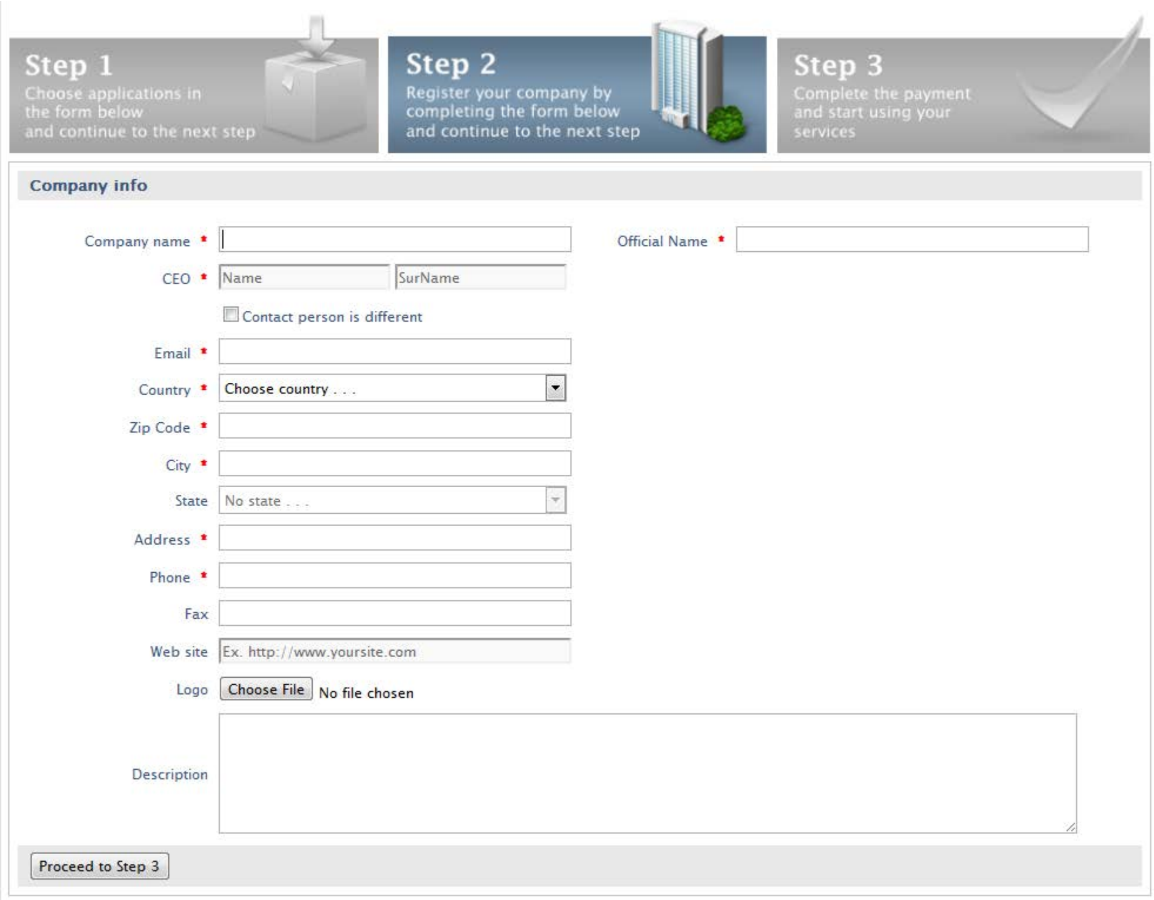


Figure 2-3 Registration step 1

After click on the “Proceed to step 2” button, the user continues to the second registration step. In this step, the client enters information for the company he/she represents. The basic needed information is the company name and the company official name, the CEO of the company, the address, city, zip code, state and country of the company headquarters. Also the client has to enter basic contact information as phone and fax number, email address to which the contract and login information will be sent later and the company website. As optional information, the client can upload the company logo and to write small description of the company. The client can choose also that the contact person and the CEO person are different, so he/she will have to enter basic contact information about the contact person. The next Figure 2-4 is shown the layout of the second registration step.



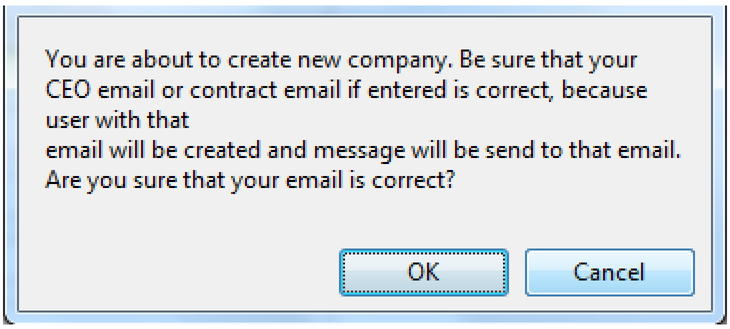


Figure 2-4 Registration step 2 and the confirmation alert

In the next step all the information that were entered or chosen in the previous steps is shown. This step is confirmation step of the entered information. In this step, the client also must accept the terms of usage and also include information about paying for the service. The payment can be made by credit card or Pay Pal service. This step is shown in the following Figure 2-5.

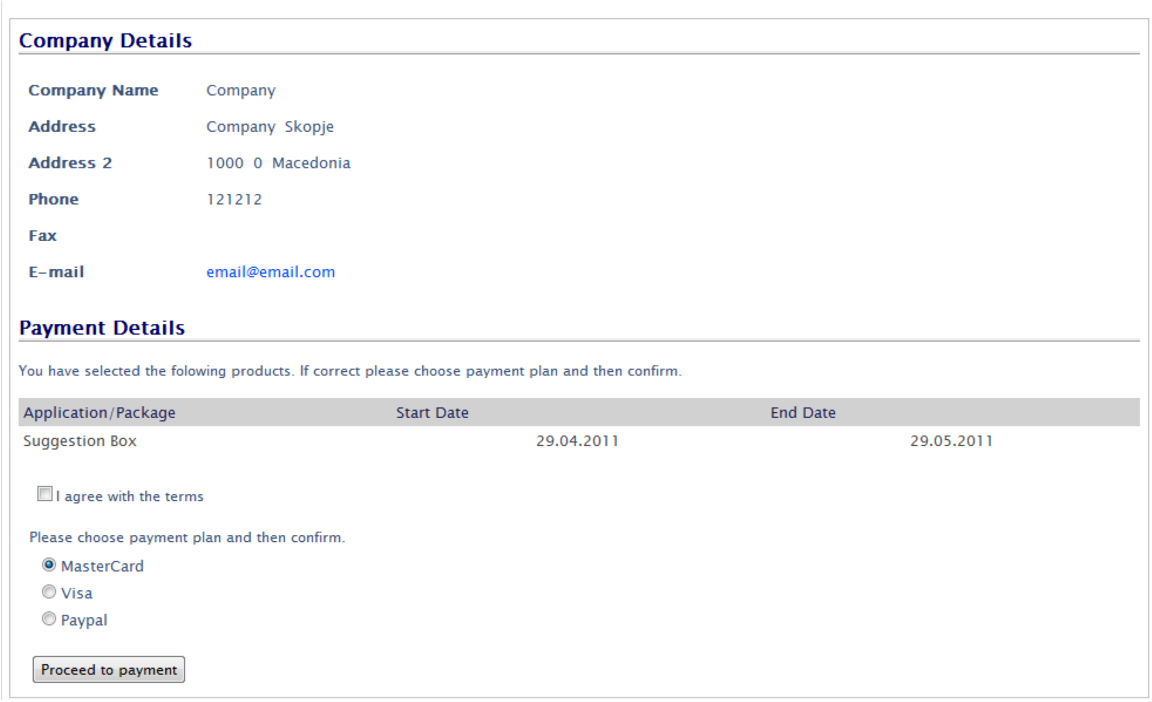


Figure 2-5 Confirmation of the entered registration information and payment

The last step of the registration for service is the completion message if the paying was successful. If the registration step 2 was successful then email messages are sent to the company CEO email. The email messages contain information about the contract, and also login information for the created company administrator user. The confirmation message is shown in the next Figure 2-6.

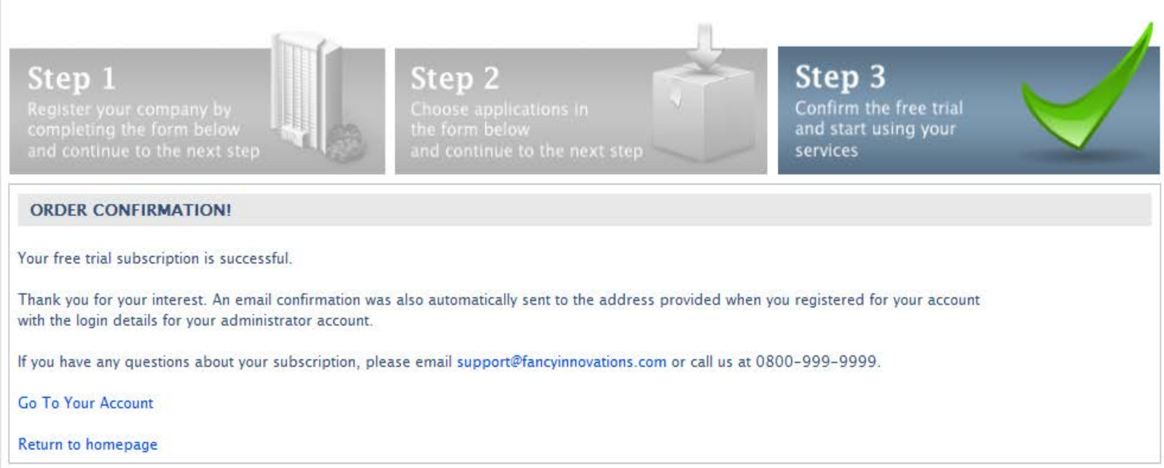


Figure 2-6 Confirmation message

Once the registration process is finished and successful the company administrator can login the system with the sent login credentials and update the company information, add new projects and create new user who will use the service.

2.2 Adding new project

The only user that can add a new project is the company administrator. The process of logging in is the same as for all other users. At first, the administrator must choose the *Projects* button to see al the projects of the company. On the same page the *New project* button is positioned. On click on the new project button the user is redirected to the *Add new project* page shown on Figure 2-7.

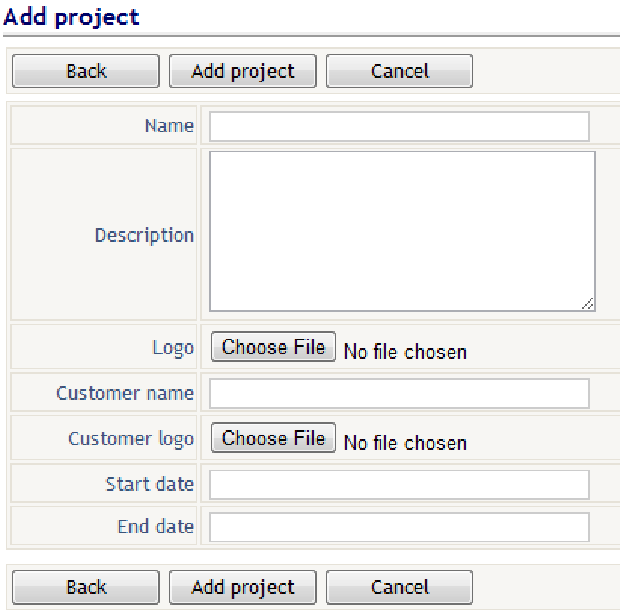


Figure 2-7 Add project page

Here the company administrator fills up the project name, project description and logo of the project. The other fields are optional.

2.3 Searching projects

Searching for project is done on the projects administration page.

There is no special way of searching for an project. All projects are shown in this table. In the top of the table there is a ordering bar with a number of buttons shown in Figure 2-8.

Figure 2-8 Arranging bar

Those are *application name (Bug Reporting)*, *project name*, *project description*, *managers of the project*, *start and end date of the project* and the *date the project was* added. By clicking on them we can arrange the projects in ascending or descending order based on the name of the button that is clicked.

At the bottom left side of the table there is a bar with navigation buttons shown in Figure 2-9.

Figure 2-9 Navigation bar

The button is used to go to the first page of the table, button is used to go to the last page in the table. The button is used for going to the previous page and the button is used to go to the next page. The drop down list Page size 10 can be used to change the number of projects per page in the table.

2.4 Editing project

All project properties can be edited on click on the edit icon which is positioned in every row of the project table. There, the project name, project description and the logo can be changed. The logo must be reuploaded.

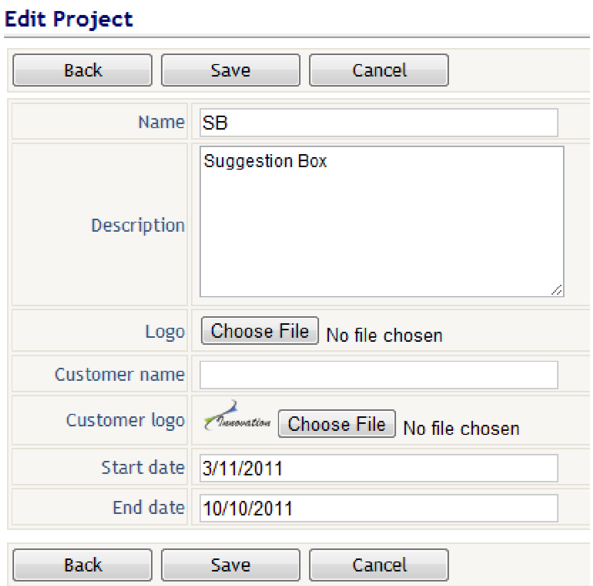


Figure 2-10 Project administration - edit information

After auditing the desired properties the *save* should be pressed to save the changes. Pressing any of the three buttons *save*, *back* or *cancel* in the navigation bar Figure 2-11, results in redirection to the *all projects* page shown on Figure 2-12.

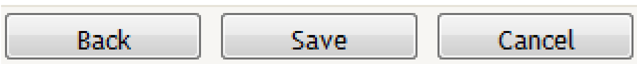
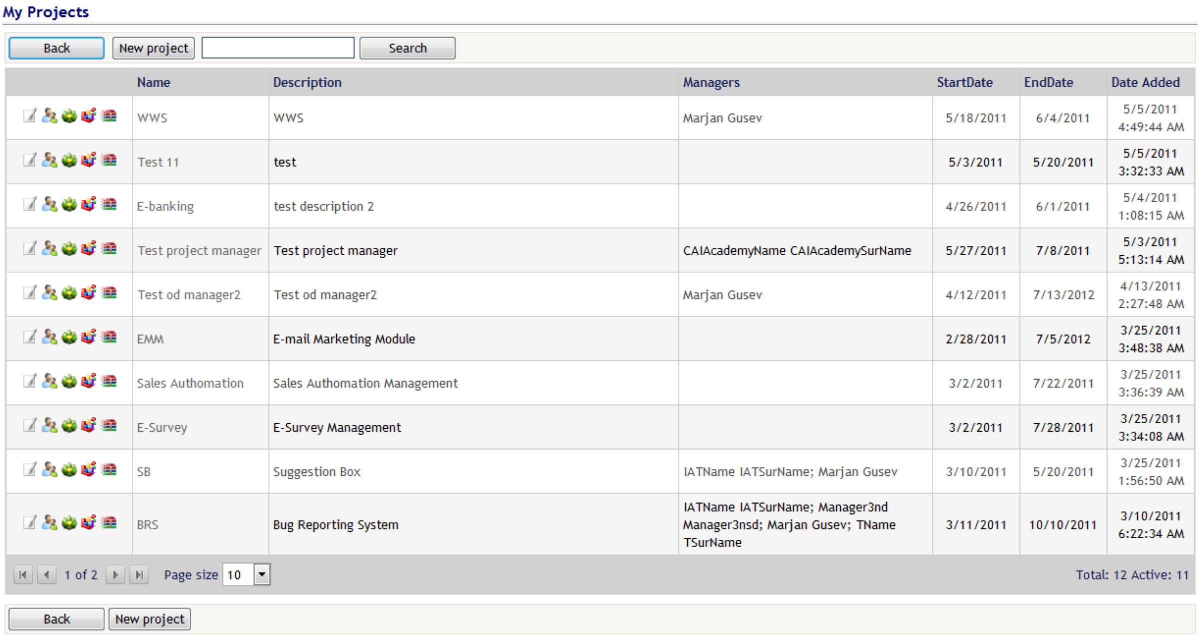


Figure 2-11 Navigation bar

2.5 Managing projects

Only the company administrator has privilege to view the list of all projects for the company. Three type of user groups can add and edit project versions. The preview is shown as table as in Figure 2-12.


My Projects

Back | New project | Search

	Name	Description	Managers	StartDate	EndDate	Date Added
	WWS	WWS	Marjan Gusev	5/18/2011	6/4/2011	5/5/2011 4:49:44 AM
	Test 11	test		5/3/2011	5/20/2011	5/5/2011 3:32:33 AM
	E-banking	test description 2		4/26/2011	6/1/2011	5/4/2011 1:08:15 AM
	Test project manager	Test project manager	CAIAcademyName CAIAcademySurName	5/27/2011	7/8/2011	5/3/2011 5:13:14 AM
	Test od manager2	Test od manager2	Marjan Gusev	4/12/2011	7/13/2012	4/13/2011 2:27:48 AM
	EMM	E-mail Marketing Module		2/28/2011	7/5/2012	3/25/2011 3:48:38 AM
	Sales Authomation	Sales Authomation Management		3/2/2011	7/22/2011	3/25/2011 3:36:39 AM
	E-Survey	E-Survey Management		3/2/2011	7/28/2011	3/25/2011 3:34:08 AM
	SB	Suggestion Box	IATName IATSurName; Marjan Gusev	3/10/2011	5/20/2011	3/25/2011 1:56:50 AM
	BRS	Bug Reporting System	IATName IATSurName; Manager3nd Manager3nsd; Marjan Gusev; TName TSurName	3/11/2011	10/10/2011	3/10/2011 6:22:34 AM

1 of 2 Page size 10 Total: 12 Active: 11

Back | New project

Figure 2-12 All projects page

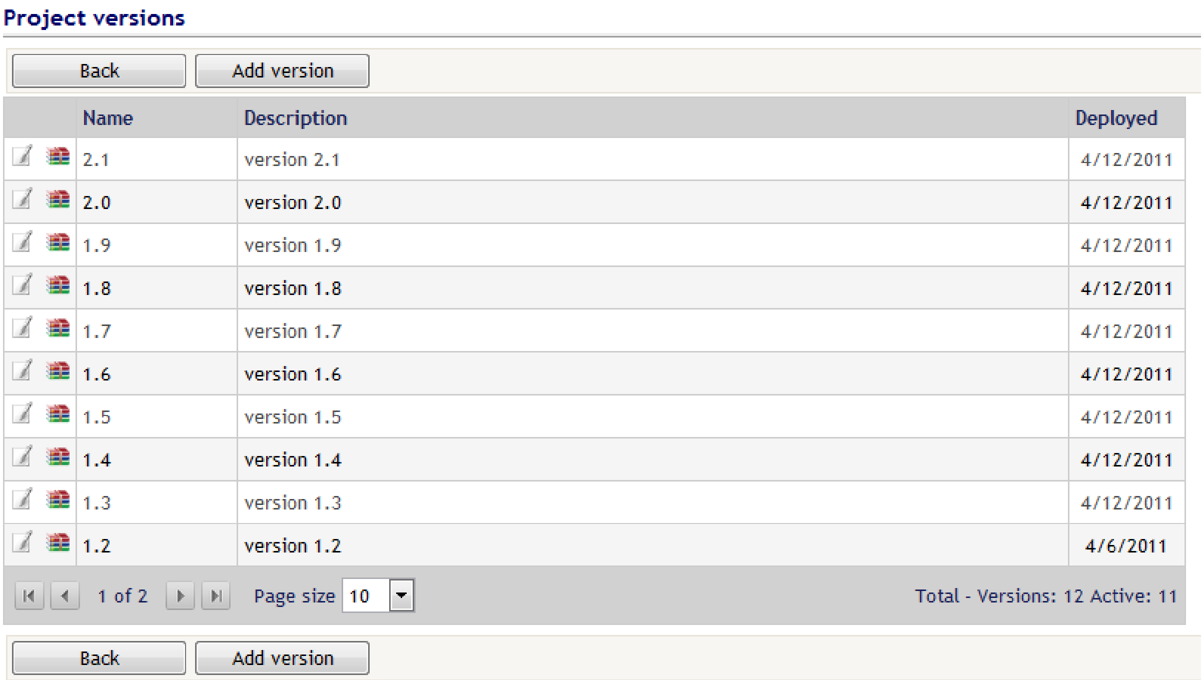
From here the user can search for project, edit project, check the users managers responsible for the project, and also archive the project. All these functionallities are enabled by the icons which are postitioned in each project row of the table.

2.6 Manage project versions

Every project that is shown in the table of all projects as presented in Figure 2-12 has versions. This project property is very usefull when the project is released in versions until the final version. The reported bugs for the project are defined always for the last project version.

All project versions can be previewed on click on the versions icon which is shown in each project row. The preview is shows as table as in Figure 2-13.

Each project version can be edited on click on the edit icon , or archived on click on the archive icon . The editing an existing version is shown in Figure 2-14. Also, new project version can be added as described in section 2.7.



Project versions

Back | Add version

	Name	Description	Deployed
	2.1	version 2.1	4/12/2011
	2.0	version 2.0	4/12/2011
	1.9	version 1.9	4/12/2011
	1.8	version 1.8	4/12/2011
	1.7	version 1.7	4/12/2011
	1.6	version 1.6	4/12/2011
	1.5	version 1.5	4/12/2011
	1.4	version 1.4	4/12/2011
	1.3	version 1.3	4/12/2011
	1.2	version 1.2	4/6/2011

1 of 2 Page size 10 Total - Versions: 12 Active: 11

Back | Add version

Figure 2-13 All project versions page

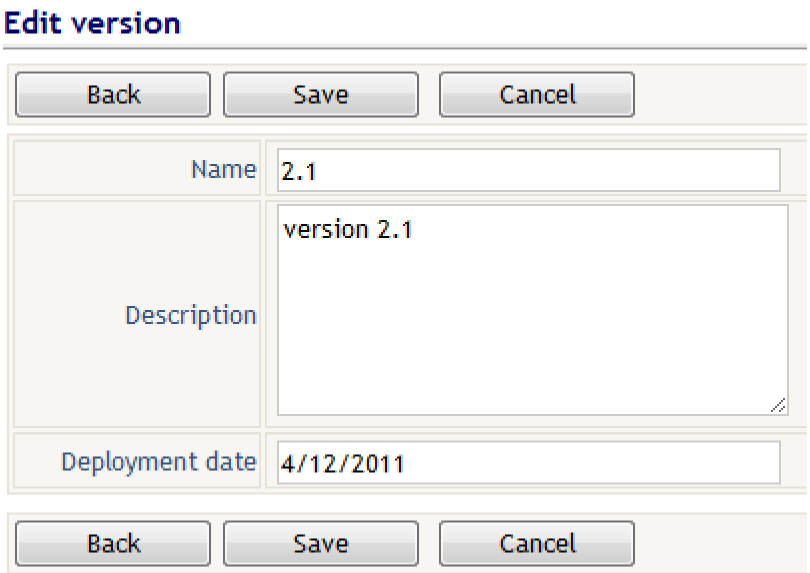


Figure 2-14 Edit version details

2.7 Add new project version

Each project can have many versions. Each version marks new phase of the project, or the previous version is a functioning unit of the project.

Required information for each version are the name and the description. The deployment date is automatically added i.e. it is the current date.

The add new version form is shown in Figure 2-15.

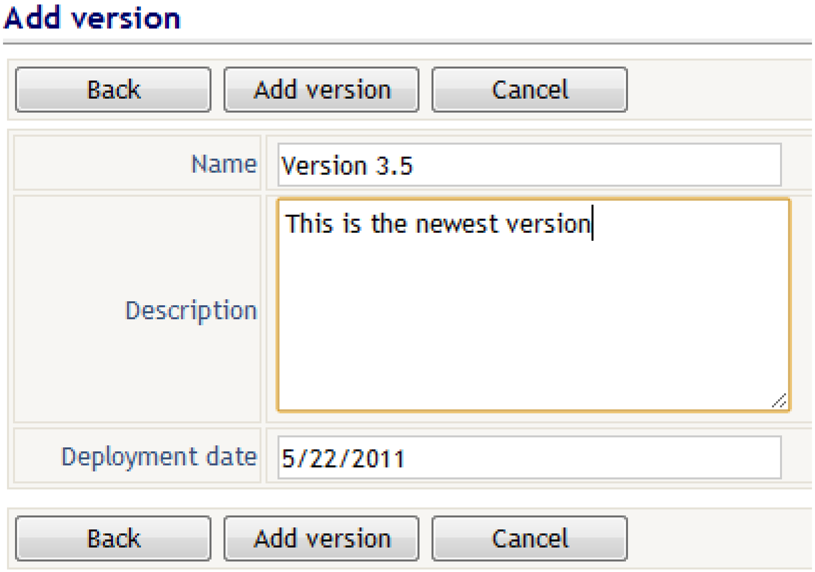


Figure 2-15 Add new project version

3. Modules administration

The only user group that can add new modules is the manager user group. After adding a new module explained in section 3.2 - Adding new module, the manager defines developers for that module, and the customer administrator defines the users who will be debugers.

3.1 Searching a module

All modules can be seen in the table in *Module administration* page.

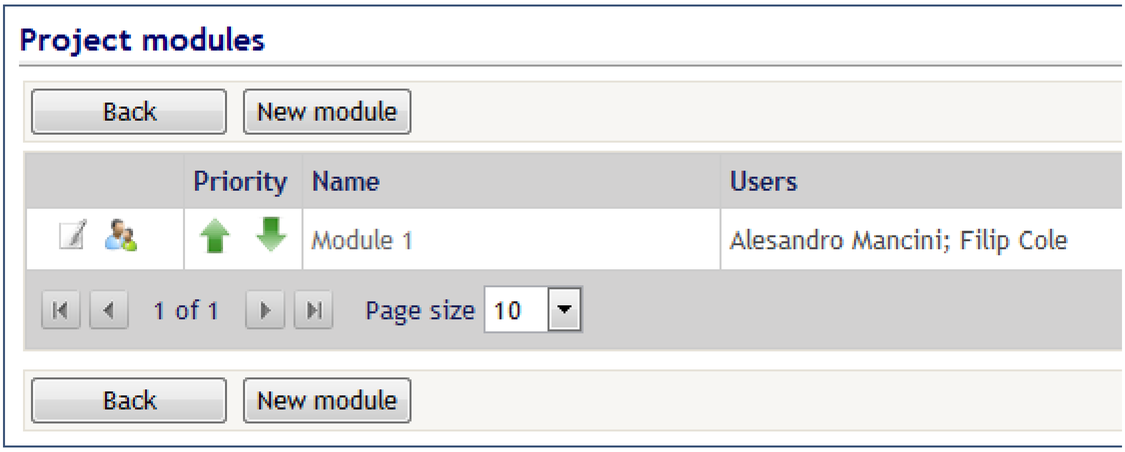


Figure 3-1 Module administration page

A desired project can be selected from the *all projects* list. On the top of the table there is an ordering bar with two buttons that can be used to order the modules in the table in dependence of the name of the button. Those are *priority* and *module name* button.

At the bottom left of the application there is a bar with navigation buttons shown in Figure 3-2.

Figure 3-2 Navigation bar

The button is used to go to the first page of the table, button is used to go to the last page in the table. The button is used for going to the previous page and the button is used to go to the next page. The drop down list Page size 10 can be used to change the number of project per page in the table.

3.2 Adding new module

As it was explained earlier, only the manager can add a new module. When a user is logged as a manager, by clicking the *modules* button, he will be redirected to *Modules administration* page Figure 3-1. From there he can add new module by clicking *the new module* button. Then he will be redirected to the *New module* page Figure 3-3.

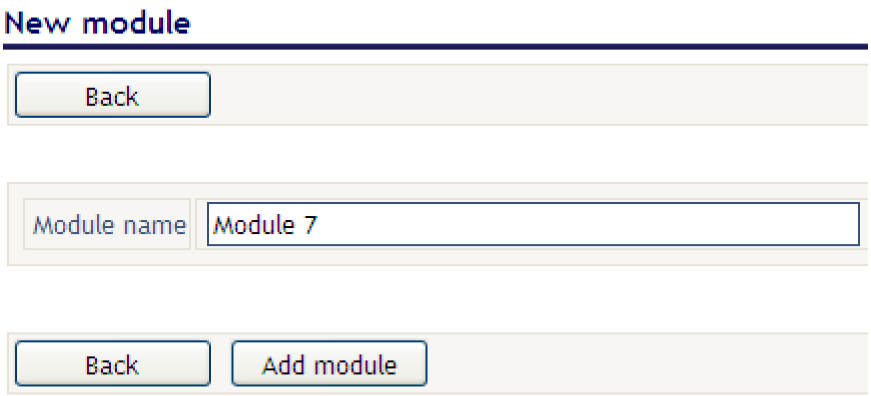


Figure 3-3 New module page

Here there is only one input field and that is the *module name* field. After entering the module name the *add module* button is pressed to save the new module and enter it in the modules list. The administrator is then automatically redirected to *module administration* page.

3.3 Editing a module

The manager is the only user group that can edit a module. Manager can edit a module by pressing the button on the *Module administration* page Figure 3-1, or by clicking the module name in the module name column. Then the manager is redirected to *Edit module* page Figure 3-4.

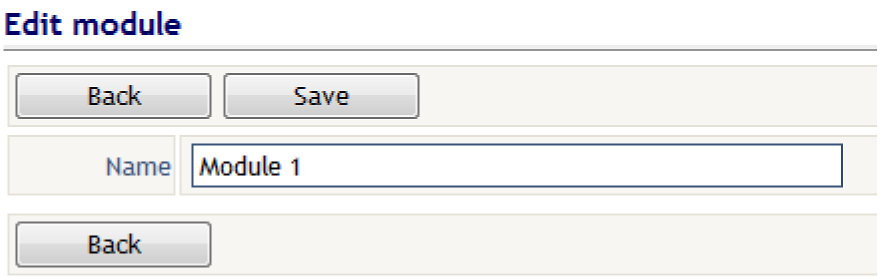


Figure 3-4 Edit module page

From here the manager can change the module name and click the save button to save the change. The other possibility is to click the *Assign users* button to assign developers to a module explained in section 3.4 - Adding and removing developers to a module.

3.4 Adding and removing developers to a module

Adding a developer to a module is done on *Assigning users to a module* page. In the navigation bar shown in Figure 3-7, there are three buttons. The *back* button is used to go one level back. The button *users* is used to go to *All users administration* page. On the left side of the *Assign user to module* page, there is panel called *available developers*. To add a developer to a module click on the wanted developer and then on the button shown in Figure 3-5 and then click the *save* button. The process of removing a developer from a module is similar. First click on the appropriate developer in the *Module developers* panel, click on the button shown in Figure 3-6 and then click the *save* button.

Figure 3-5 Insert button

Figure 3-6 Remove button

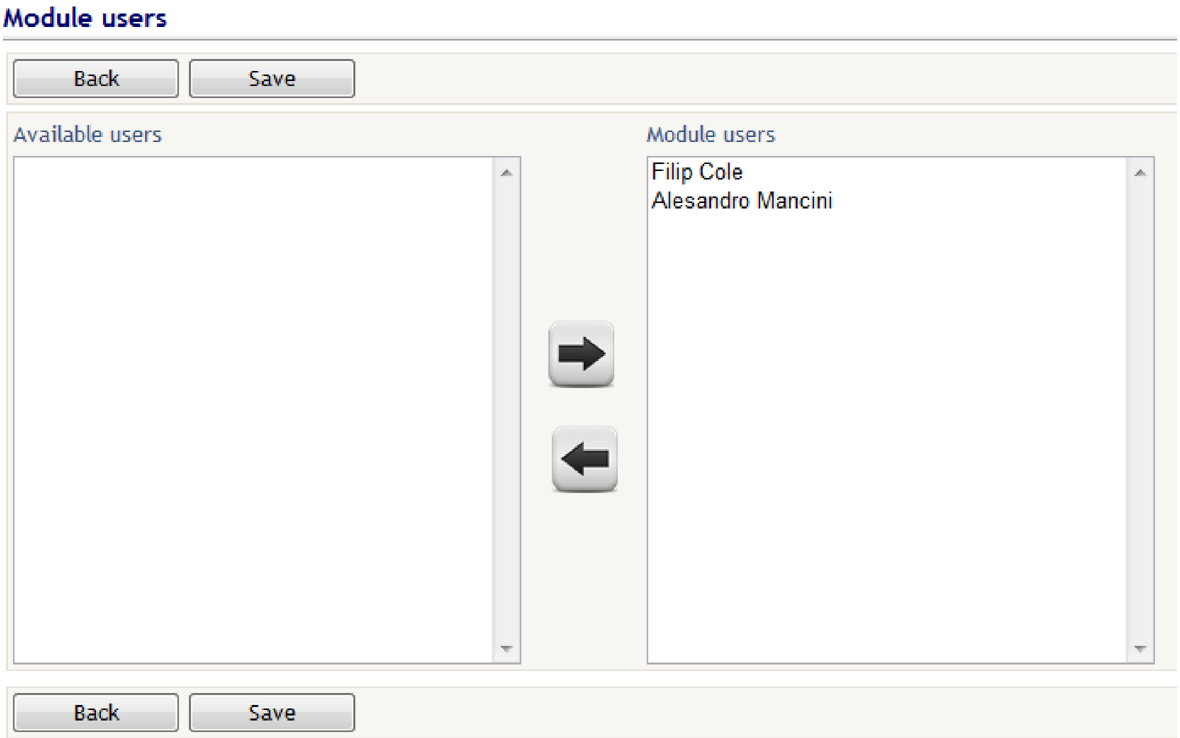


Figure 3-7 Assign users to module page

3.5 Assigning and removing customers (debuggers) to a module

The only group that can assign debuggers to a module is the customer administrator user group. By clicking *modules user* button on the customer administrator default page Figure 4-7, he will be redirected to the *Assign users to module* page Figure 3-8, with a look slightly different from Figure 3-7. The difference is in the right panel. Here the right panel is a *module users* panel. Actually in it all the module debuggers are contained. The left panel is the *available users* panel. Only the users from customer and customer administrator are contained in that panel. That is because only users from this two user groups can report new bugs.

The process of assigning debuggers to a module is easy. First appropriate user is selected in the *available users* panel. Then the Figure 3-5 is clicked. The process is finished with the pressing of the button *save*. More than one user can be added to a module.

The process of removing user from a module is similar. Select the appropriate user from the *module users* panel, click on the Figure 3-6 button and press *save*.

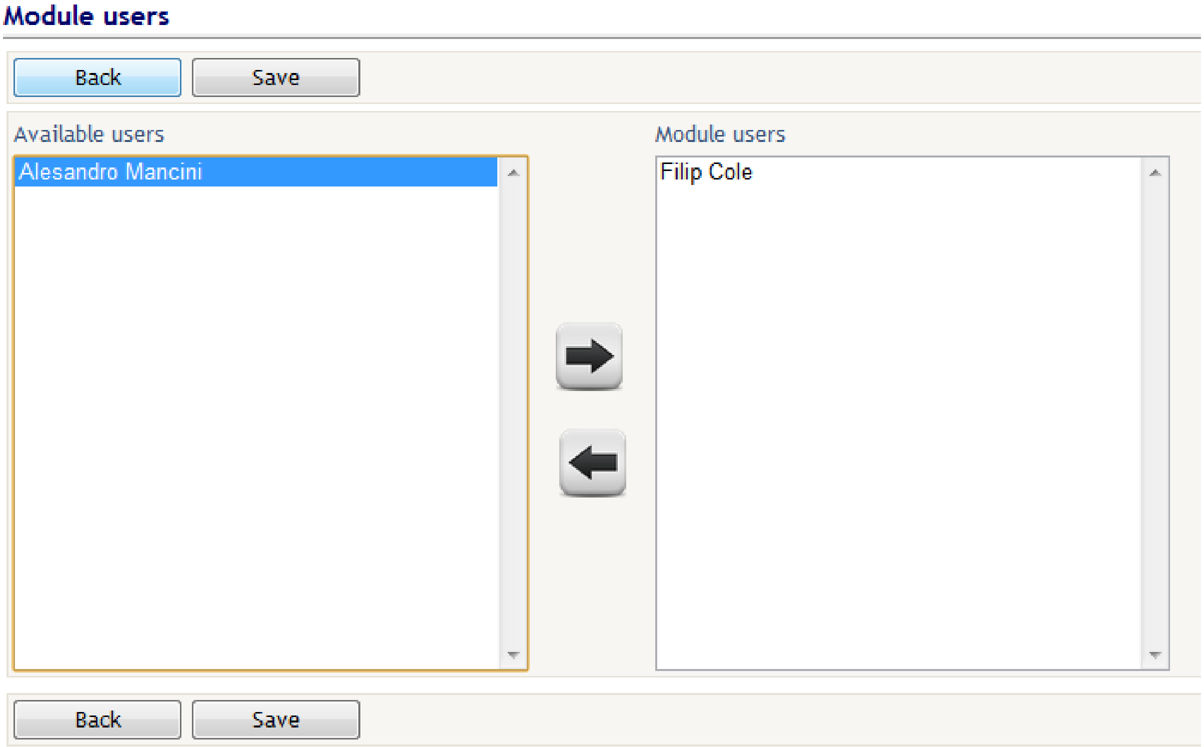


Figure 3-8 Assign debuggers to module page

4. Appearance and functionality of the application

The bug reporting application realized as cloud computing solution can be accessed at the address http://fancyinnovations.com/bugreporting/.

The log in page is shown in the Figure 4-1. The application logo is positioned in the left half of the window. The input fields for authorization of user are positioned in the right half of the window in the *account information* panel. This panel will be explained in greater detail later in section 4.1 - User Authorization. The link used to register for service is provisioned directly above the panel. That procedure is described later in section 2.1-Registering for Bug Reporting Service. The login button is positioned in the right bottom part of the window.

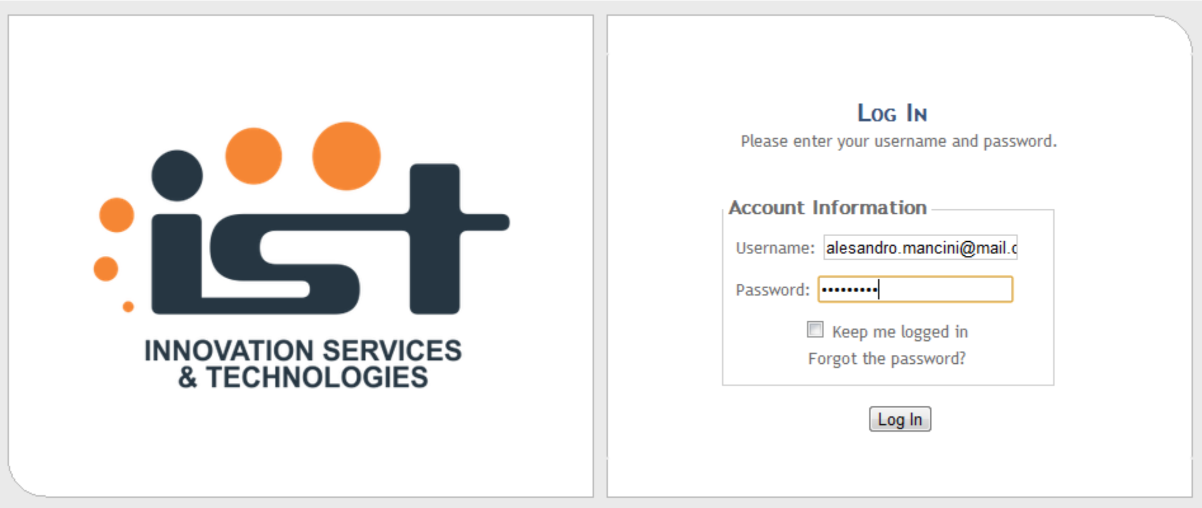


Figure 4-1 Log in page

There are 5 different types of user groups, and users from all the groups must log in to use the application:

- *Company administrator* – with role to register and administer the project, assign customer and provider managers.
- *Customer administrator* – with role to administer the customers and customer administrator user groups, report bugs, accept the solutions of the resolved bugs or reject them.
- *Customer* –reports bugs, evaluates the way the bug was resolved, accepts it or rejects it.
- *Developer* – the user that is actually working on solutions and fixes the bugs. The role here is to change the bug status and fill out appropriate reports.
- *Manager* –creates and assigns developers, manages versions and modules for the project. The role is monitoring the process of bug reporting and solving.

The functions and the users privileges are shown in the following table.

Function	Company Administrator	Manager	Developer	Customer Administrator	Customer
Registration of a company	x				
Project administration	x				
Project versions administration	x				
Modules administration	x	x			
Administration of customers				x	
Administration of developers		x			
Bug reporting	x	x			
Administration of bug statuses		x	x		x
Approving of solutions					x
Summary reports		x			x
Detailed reports		x			

Default action is click on log in button with filling proper username and password. The check box keep me logged in is used to give instructions to the browser to remember credentials and keep open the established session. The link forgot the password is used to reset the password and the link register for service is used to provide credentials for usage of the system.

4.1 User Authorization

5 types of user groups can log on the application:

- *Company administrator* – logs in, administers the projects, assigns customer and provider managers
- *Customer administrator* – logs in, manages customers and defines debuggers
- *Customer* – logs in, and has role to report a bug
- *Developer* – logs in, changes bug status and reports the actions taken
- *Manager* – logs in, manages developers, define project versions and modules.

To log in, enter username and password in the text fields for username and password and then click the *Log in* button, as shown in Figure 4-2.

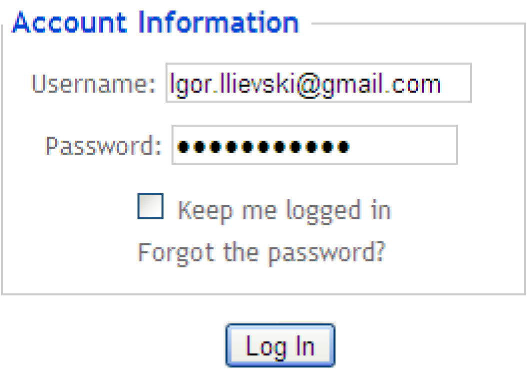


Figure 4-2 Log in

After successful logging in the upper right corner of the top bar there is a welcome message with link to change the profile and log out as shown in Figure 4-3. Logging out is done by pressing the [Log out] button.

Figure 4-3 Logging out and My profile bar

4.2 Password reset

If for any reason user forgets his password he can click on *forgot the password* link to go to the password reset page shown in Figure 4-4.

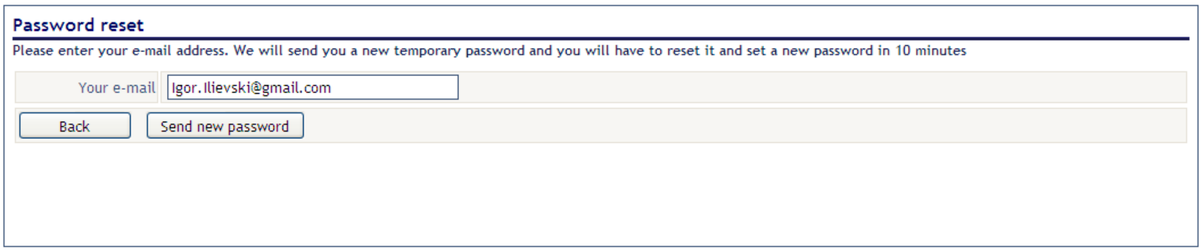


Figure 4-4 Password reset page

Then user should enter his username which is an e-mail address and click the *send new password* button. A new password will be sent to that e-mail address. After that a user can log in with his username and the new password.

4.3 Edit Profile

The rightmost end of the top bar (Figure 4-3) contains a link called *my profile*. By clicking it the browser will open the *My profile* page as shown in Figure 4-5.

Possible action buttons are: *Back* to return to the previous page, *Save user info* to change the new information about the user and *Change password*.

There are two panels. The left panel is *Account info* and the right is *Change password*. In the *Account info* panel, a user can change his user name, name or surname. After making a change the *save user info* button should be clicked to save the change. If the username is changed the user will be automatically logged out. Then he should log in with the new username.

Changing the password can be realized in the right panel called *Change password*. First the old *password* should be entered, than the *new password* and *confirm new password* which must be the same as the *new password*. The passwords must be at least 6 characters long and contain at least one special character. After changing the password the *change password* button should be pressed to change the password.

Appropriate action will be taken by clicking either *Save user info* button or *Change password* button and the user will be redirected to the default home page.

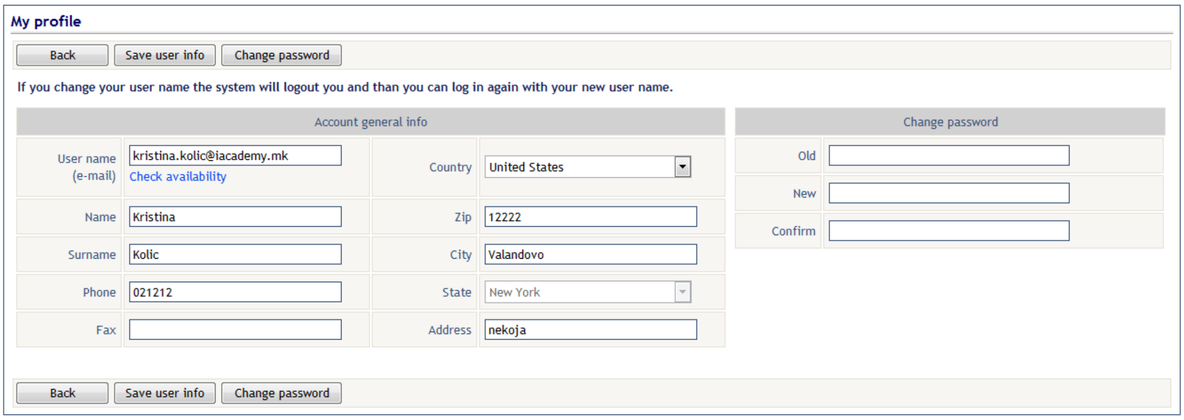


Figure 4-5 Profile information

4.4 Customer user

Figure 4-6 shows the default home page for the customer user after logging procedure. The customer user has role to report encountered bugs or to evaluate the effectiveness of resolved bug.

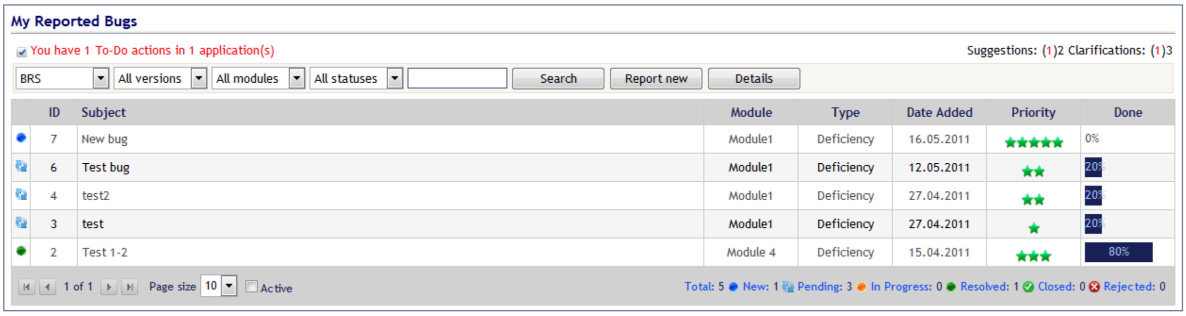


Figure 4-6 Default page for customers

The main window contains grid with all reported bugs. The leftmost column contains a colored icon with the following meaning: blue icon – new suggestion, refresh icon – pending suggestion, yellow icon – in progress suggestion, green icon – resolved suggestion, tick icon – closed suggestion, and red close icon – rejected suggestion.

There is a To Do bar with reminder - which shows between the title and the filter bar and action buttons if there is no reminder – then this bar does not appears.

The function bar is positioned under the To Do Bar. It contains 2 drop down boxes to select projects and statuses and so filter the bugs. After the selection there is a text box and search button to activate a search of a bug. Two more buttons are positioned: the *Report new* button and the *Details* button.

There are number of available functions on this page:

Reporting encountered bugs and evaluation the effectiveness of a resolved bug is explained in section 6.5 - Adding a new bug.

Customers can log out by clicking the Log out button in the rightmost top bar (executing the procedure explained in section 4.1 - User Authorization).

The first part of this page is the filtering bar shown in Figure 6-2. Those controls can be used to select project, version of that project and particular module of that project. Also there is a control which can be used to search for a particular bug by key value and status. The way to use this controls is explained in section 6.3 - Searching bugs. The *details* button is positioned at the right end of this bar. By clicking on it the customer can view analytical graphical and tabular reports about the status of his reported bugs as described in section 6.9 - Analytical reports.

Under the filtering bar is the table with the reported bugs. On the top of the table there is a bar with buttons that are used for arranging the bugs in the table in dependence of some parameter as explained in section 6.4 - Arranging bugs.

The status bar is in the bottom right of the table. The buttons in this bar can be used to filter the reported bugs as is explained in section 6.3 - Searching bugs.

The navigation bar with buttons used for going through the table is positioned in the bottom left part of the table. It is shown in Figure 6-7. The function of this buttons is explained in greater detail in section 6.3 - Searching bugs.

4.5 Customer administrator

After the login procedure the default page is open. In this case it looks slightly different from the previous Figure 4-6 as shown in the Figure 4-7. The difference is that the customer administrator has a menu bar with option to see all the users of the projects he/she is customer administrator of. This user can only see the bugs that are reported for the projects he/she is customer administrator of, but cannot edit or update them.

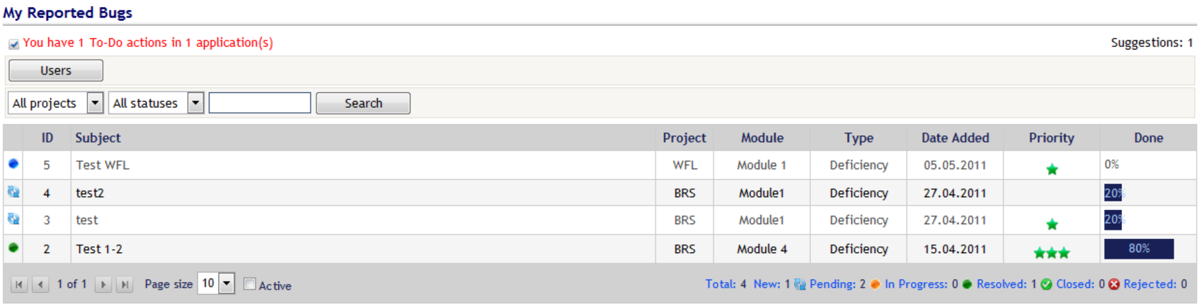


Figure 4-7 Customer administrator's default page

From the functionalities explained in 4.4 - Customer the customer administrator has all the functionalities except the ability to view the analytical report.

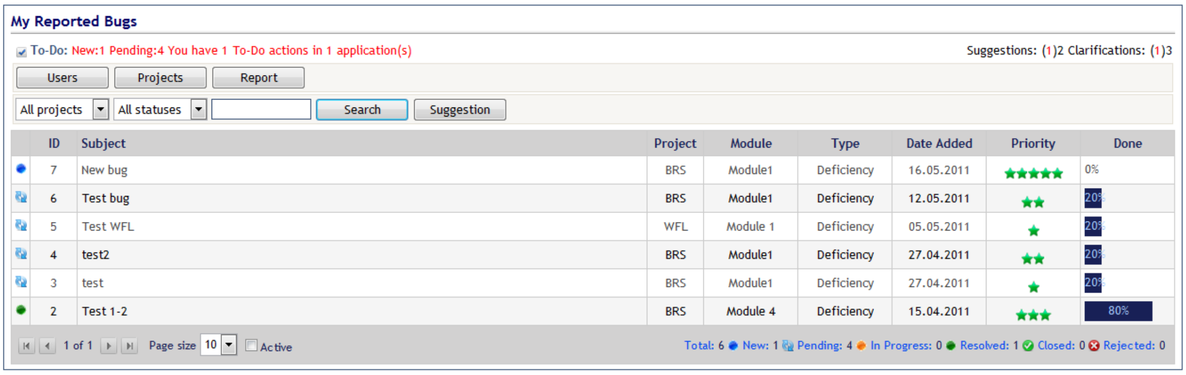
The customer administrator has a few additional functionalities. Customer administrator has the ability to manage and create other customers or customer administrator. This functionality is explained in depth in section 5.2.2 - Adding users with customer administrator user group. He also has the ability to edit customer and customer administrator users as explained in section 5.3 - Editing users.

One of his primary roles is to define debuggers - customers that will be designated to report bugs for a given module, explained in section.

He logs of with the same procedure described in section 4.1 - User Authorization.

4.6 Developer

After the developer logs in the default page is shown as in Figure 4-8. He/she logs in as described in section 4.1 - User Authorization.



ID	Subject	Project	Module	Type	Date Added	Priority	Done
7	New bug	BRS	Module1	Deficiency	16.05.2011		0%
6	Test bug	BRS	Module1	Deficiency	12.05.2011		20%
5	Test WFL	WFL	Module 1	Deficiency	05.05.2011		20%
4	test2	BRS	Module1	Deficiency	27.04.2011		20%
3	test	BRS	Module1	Deficiency	27.04.2011		20%
2	Test 1-2	BRS	Module 4	Deficiency	15.04.2011		80%

Figure 4-8 Developers default page

The developer has all the functionalities as a customer described in section 4.4 - Customer accept the ability of reporting new bugs and view reports.

The primary responsibility of the developer is to change the bug status during the resolving process. That is explained in section 6.6 - Editing a reported bug.

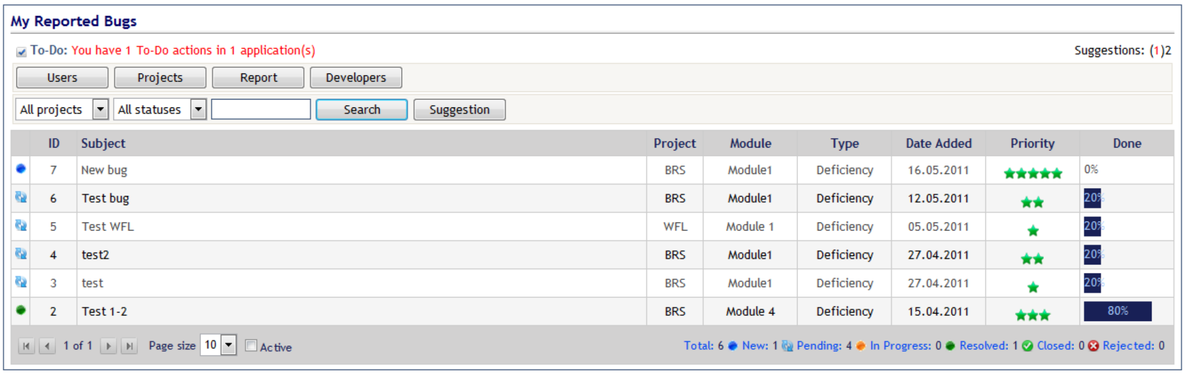
He/she can also define a new project version described in section 2.6 - Add project versions.

The process of logging out is the same as for customer and customer administrator described in section 4.1 - User Authorization.

4.7 Manager

After manager logs in (explained in section 4.1 - User Authorization) the default page is shown as in the Figure 4-9. To be able to see all the functionalities for the manager, an project should be selected using *All projects* drop down list Figure 6-3.

The manager has all the functionalities as customer (explained in section 4.4 - Customer). The only functionality he/she does not have is the ability to report new bugs.



ID	Subject	Project	Module	Type	Date Added	Priority	Done
7	New bug	BRS	Module1	Deficiency	16.05.2011		0%
6	Test bug	BRS	Module1	Deficiency	12.05.2011		20%
5	Test WFL	WFL	Module 1	Deficiency	05.05.2011		20%
4	test2	BRS	Module1	Deficiency	27.04.2011		20%
3	test	BRS	Module1	Deficiency	27.04.2011		20%
2	Test 1-2	BRS	Module 4	Deficiency	15.04.2011		80%

Figure 4-9 Managers default page

Manager has the ability to manage all user groups explained in detail in section 5 - Users administration, create new versions of a particular project, define modules for a given project and assign developers to modules. They also have the ability to manage the bug reports explained in section 5 - Users administration.

Managers also have the ability to view centralized reports in graphical and tabular form for the progress and status of the reported bugs explained in section 7.7 - Reports.

The only user group that has the authority to create a module is the manager user group. That procedure is explained in detail in section 3.2 - Adding new module. From the module administration page Figure 3-1 he is also able to edit a module 3.3 - Editing a module, add users (developers) to a module explained in section 3.4 - Adding and removing developers to a module, or simply deleting a module by pressing the button .

4.8 Company administrator

The fifth user group is Company administrator user group. Their role and functionalities are fundamentally different from the ones of the other user groups. The procedure for logging in is the same described in section 4.1 - User Authorization. After the application manager logs in he/she is redirected to the company info page, shown on the following picture.

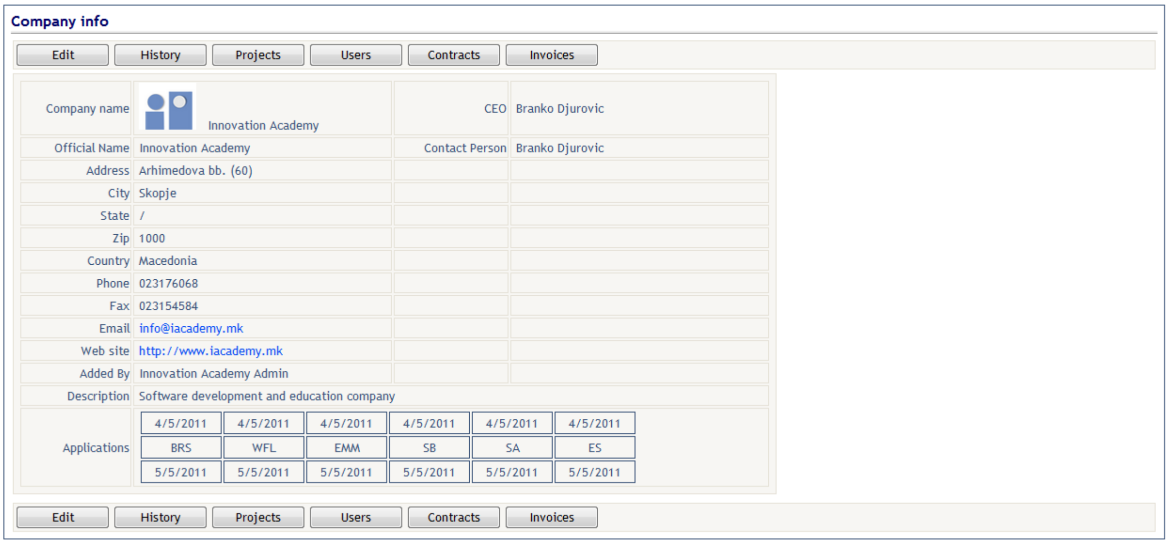
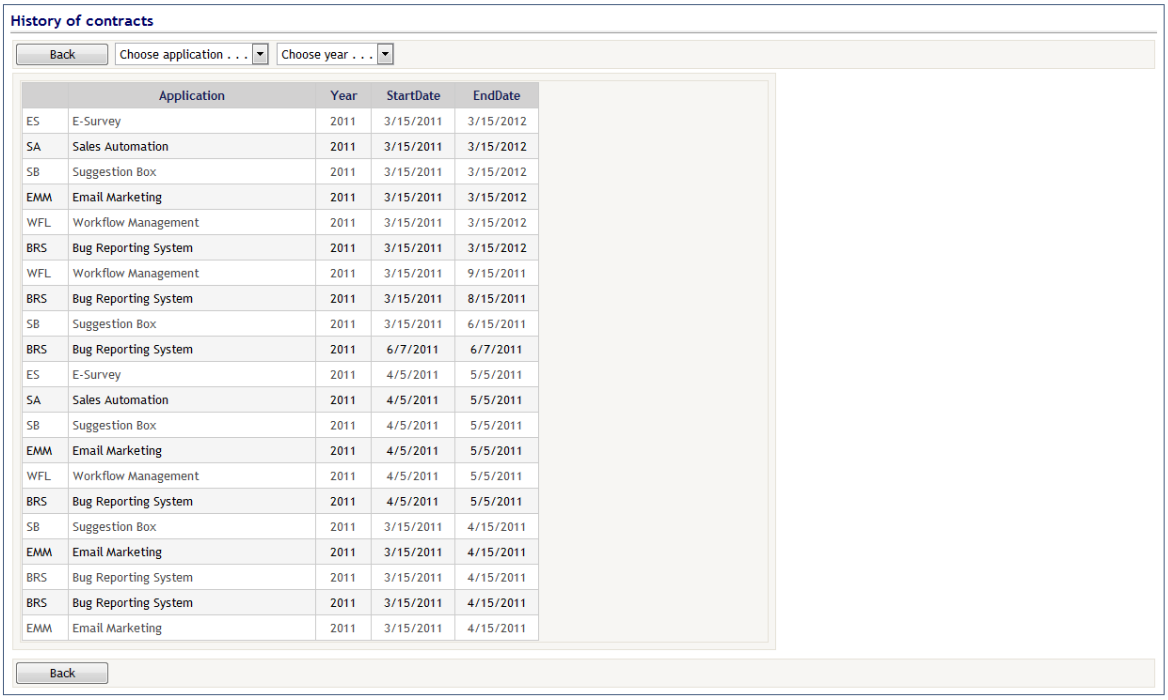


Figure 4-10 Company information page

This page has menu button which leads to other pages. The menu buttons include: Edit, History, Projects, Users, Contracts and Invoices.

On click the Edit button, the system enters in the edit mode for the company info.

History button leads to page which shows history of all company contracts in table. The history of contracts includes current and passed company contracts. That table is shown on the following figure.



History of contracts

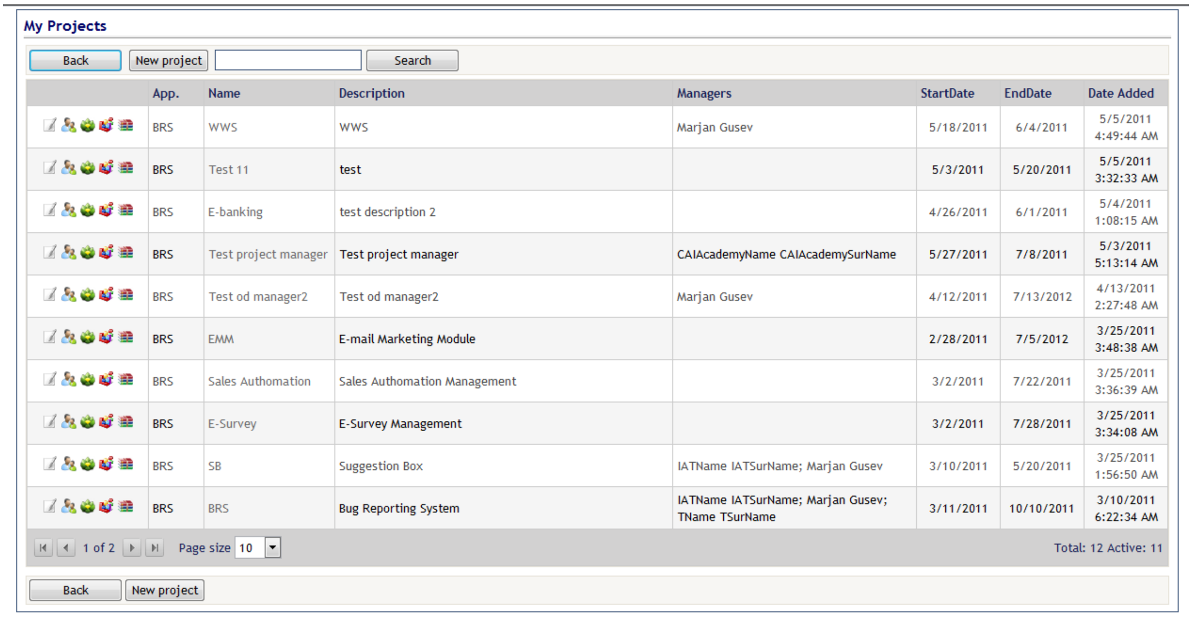
Back | Choose application . . . | Choose year . . .

	Application	Year	StartDate	EndDate
ES	E-Survey	2011	3/15/2011	3/15/2012
SA	Sales Automation	2011	3/15/2011	3/15/2012
SB	Suggestion Box	2011	3/15/2011	3/15/2012
EMM	Email Marketing	2011	3/15/2011	3/15/2012
WFL	Workflow Management	2011	3/15/2011	3/15/2012
BRS	Bug Reporting System	2011	3/15/2011	3/15/2012
WFL	Workflow Management	2011	3/15/2011	9/15/2011
BRS	Bug Reporting System	2011	3/15/2011	8/15/2011
SB	Suggestion Box	2011	3/15/2011	6/15/2011
BRS	Bug Reporting System	2011	6/7/2011	6/7/2011
ES	E-Survey	2011	4/5/2011	5/5/2011
SA	Sales Automation	2011	4/5/2011	5/5/2011
SB	Suggestion Box	2011	4/5/2011	5/5/2011
EMM	Email Marketing	2011	4/5/2011	5/5/2011
WFL	Workflow Management	2011	4/5/2011	5/5/2011
BRS	Bug Reporting System	2011	4/5/2011	5/5/2011
SB	Suggestion Box	2011	3/15/2011	4/15/2011
EMM	Email Marketing	2011	3/15/2011	4/15/2011
BRS	Bug Reporting System	2011	3/15/2011	4/15/2011
BRS	Bug Reporting System	2011	3/15/2011	4/15/2011
EMM	Email Marketing	2011	3/15/2011	4/15/2011

Back

Figure 4-11 History of contracts

The next button *Projects* leads to the all projects page, where the company administrator administers the existing projects in the system.



My Projects

Back | New project | Search

	App.	Name	Description	Managers	StartDate	EndDate	Date Added
	BRS	WWS	WWS	Marjan Gusev	5/18/2011	6/4/2011	5/5/2011 4:49:44 AM
	BRS	Test 11	test		5/3/2011	5/20/2011	5/5/2011 3:32:33 AM
	BRS	E-banking	test description 2		4/26/2011	6/1/2011	5/4/2011 1:08:15 AM
	BRS	Test project manager	Test project manager	CAIAcademyName CAIAcademySurName	5/27/2011	7/8/2011	5/3/2011 5:13:14 AM
	BRS	Test od manager2	Test od manager2	Marjan Gusev	4/12/2011	7/13/2012	4/13/2011 2:27:48 AM
	BRS	EMM	E-mail Marketing Module		2/28/2011	7/5/2012	3/25/2011 3:48:38 AM
	BRS	Sales Authomation	Sales Authomation Management		3/2/2011	7/22/2011	3/25/2011 3:36:39 AM
	BRS	E-Survey	E-Survey Management		3/2/2011	7/28/2011	3/25/2011 3:34:08 AM
	BRS	SB	Suggestion Box	IATName IATSurName; Marjan Gusev	3/10/2011	5/20/2011	3/25/2011 1:56:50 AM
	BRS	BRS	Bug Reporting System	IATName IATSurName; Marjan Gusev; TName TSurName	3/11/2011	10/10/2011	3/10/2011 6:22:34 AM

1 of 2 Page size 10 Total: 12 Active: 11

Back | New project

Figure 4-12 Projects administration page

A search panel is positioned at the top of the table with the available projects. In it there are a number of buttons used for arranging the projects in the table. Their role is described in detail in section 2.3 - Searching .

By clicking on the name of a particular project the administrator will be redirected to the *View project details* page Figure 4-13. From there he can edit the application info as described in section 2.4 - Editing . Also he/she can manage the project versions explained in section 2.5 - Managing projects. He/she also has the privilege to manage the projects users. By clicking on the *Users* button in Figure 4-13, he/she will be redirected to the *all user administration* page Figure 5-1, from where he/she can manage all the users for that project as explained in section 6 - Users administration.

The fields in the first column are actually a navigation bars with six buttons Figure 4-14.

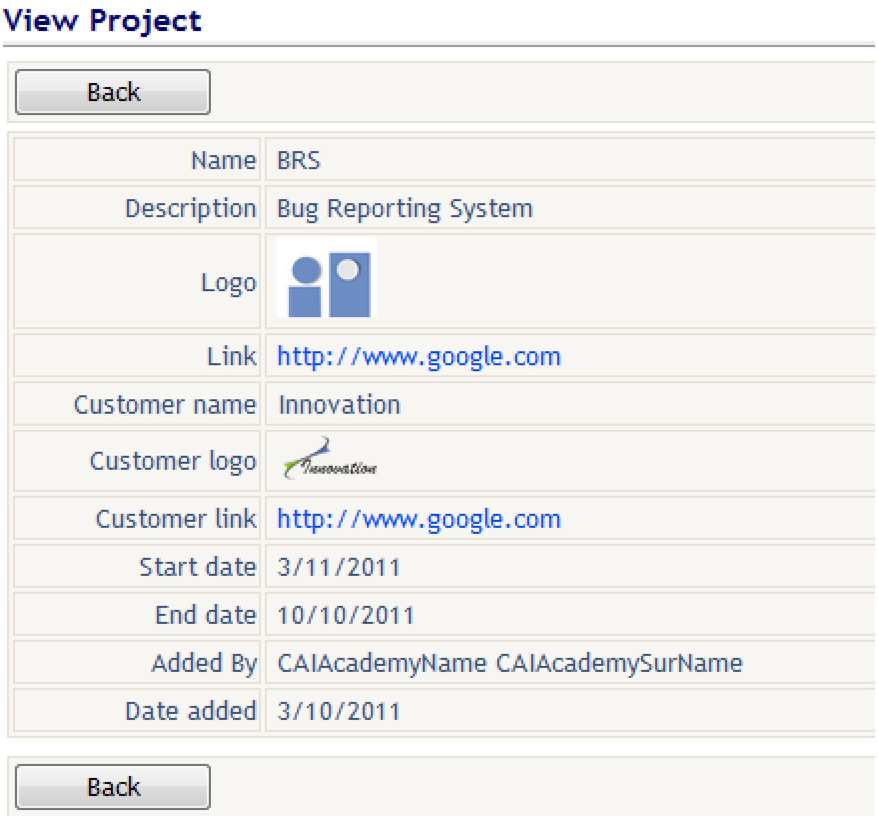


Figure 4-13 View project details

Figure 4-14 Project navigation bar

If the button is pressed the administrator will be redirected to the *Project administration – edit info* page. From there he/she can edit the project as described in section 2.4.

If the project administrator presses the button he/she will be redirected to the *All user administration* page from where he/she can manage all the users for the project as described in section 6.

By pressing the button he/she will be redirected to the *Project versions* page from where he/she can add or edit project version as explained in section 2.5.

The project modules can be previewed by the icon. The user is redirected to the next page where the all the project modules are shown and also has the ability to add new module by clicking the *New module* button.

The forth button is used for deleting an project i.e. deactivating project.

5. Users administration

The company administrator, manager and customer administrator user group can create and edit users. Customer administrator can create and edit users only from customer and customer administrator user group described in section 5.2.2 - Adding users with customer administrator user group. He/she can also add users (debuggers) to a module as described in section 3.5 - Assigning and removing debuggers to a module. Managers can add and edit users from all user groups explained in section 5.2.1 - Adding users with manager user group. They also assign developers to the modules as described in section 3.4 - Adding and removing developers to a module. The company administrator is the user group with the biggest privileges in adding and editing users. He can create and edit users from all five user groups described in section 5.2.3 - Adding users with company administrator user group. In this process he/she can assign a user to a module or modules if the user is from the developer, customer, or customer administrator user group.

5.1 Searching and arranging users

Searching for users is possible when a user is logged in as a company administrator, manager or customer administrator. By pressing the *Users* button on the *default* page a redirection occurs to *all users administration* page Figure 5-1.

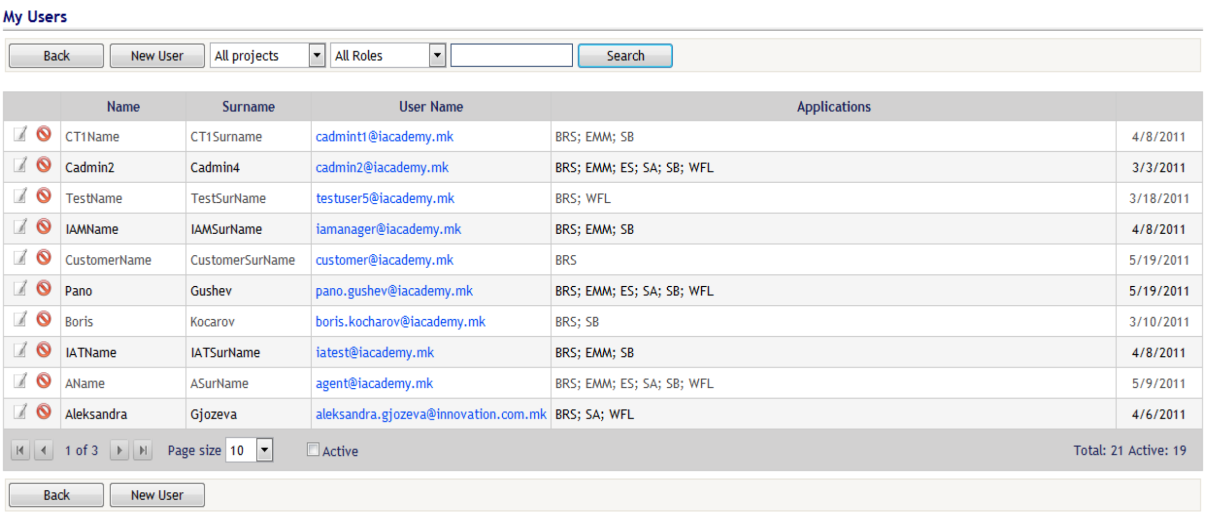


Figure 5-1 All users administration page

There is a difference between manager and customer administrator. The manager can see all the users but customer administrator can see only customers and customer administrators. Apart from that difference everything else involving searching and arranging users in the users table is the same.

The special function for searching user by key value is not available. Filtering is possible by selecting a project of interested from *choose project… list* only the users from that project will be seen in the users table.

In the top of the table there is a list of buttons arranged in a bar that enable arranging the users in the table in ascending or descending order in dependence of some property. Those buttons are shown in Figure 5-2.

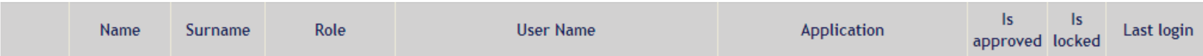


Figure 5-2 Arranging buttons

By pressing the *Name* button the users will be arranged by their name in ascending order. By clicking the same button again users will be arranged by their name in descending order. The functioning of the other buttons is exactly the same. The name of the button that is pressed is the attribute by which the users will be arranged in the table.

Editing and deleting users is possible from the same window and that will be explained in section 5.3 - Editing users.

Users from developer and customer user groups cannot administer users. They cannot create nor delete users. The two user groups that have the authority to create and reassign users are manager and customer administrator user group. The first step in administrating users is the same for the two user groups. From the default page by clicking on the *Users* button the user is redirected to *all users administration* page Figure 5-1.

5.2 Adding a new user

5.2.1 Adding users with manager user group

By clicking the *Users* button on the default page the manager will be redirected to the *users* page where he/she can see all the users for a given project. From here by clicking the *New user* button he/she will be redirected to the *New user* page shown in Figure 5-3, where he/she can create a new user.

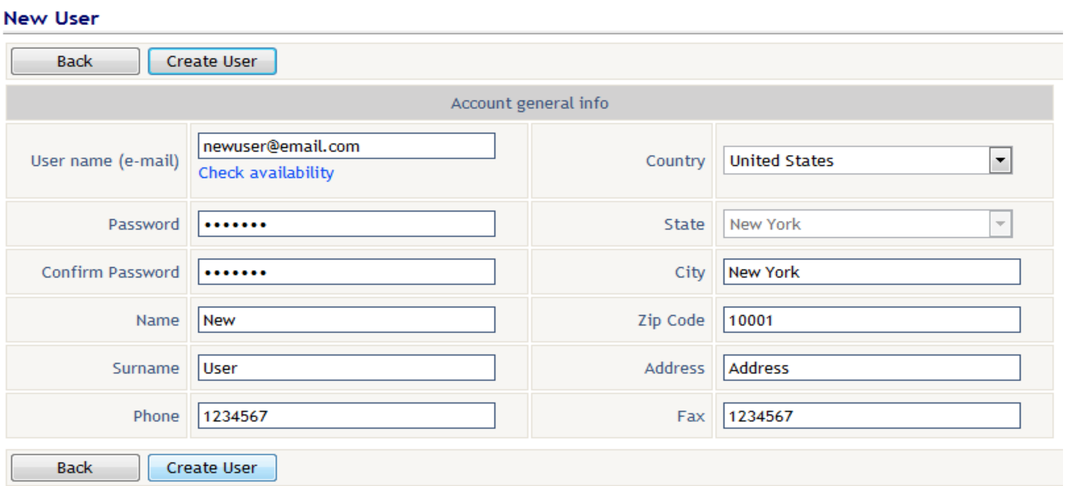


Figure 5-3 New user page

All the input fields are mandatory. The username must be in valid e-mail, password must be at least 6 characters long, and password and confirm password must match. In the next screen the user roles per projects is chosen. After choosing the roles per projects, the roles per projects have to be chosen. Those two screens will appear as shown in Figure 5-4.

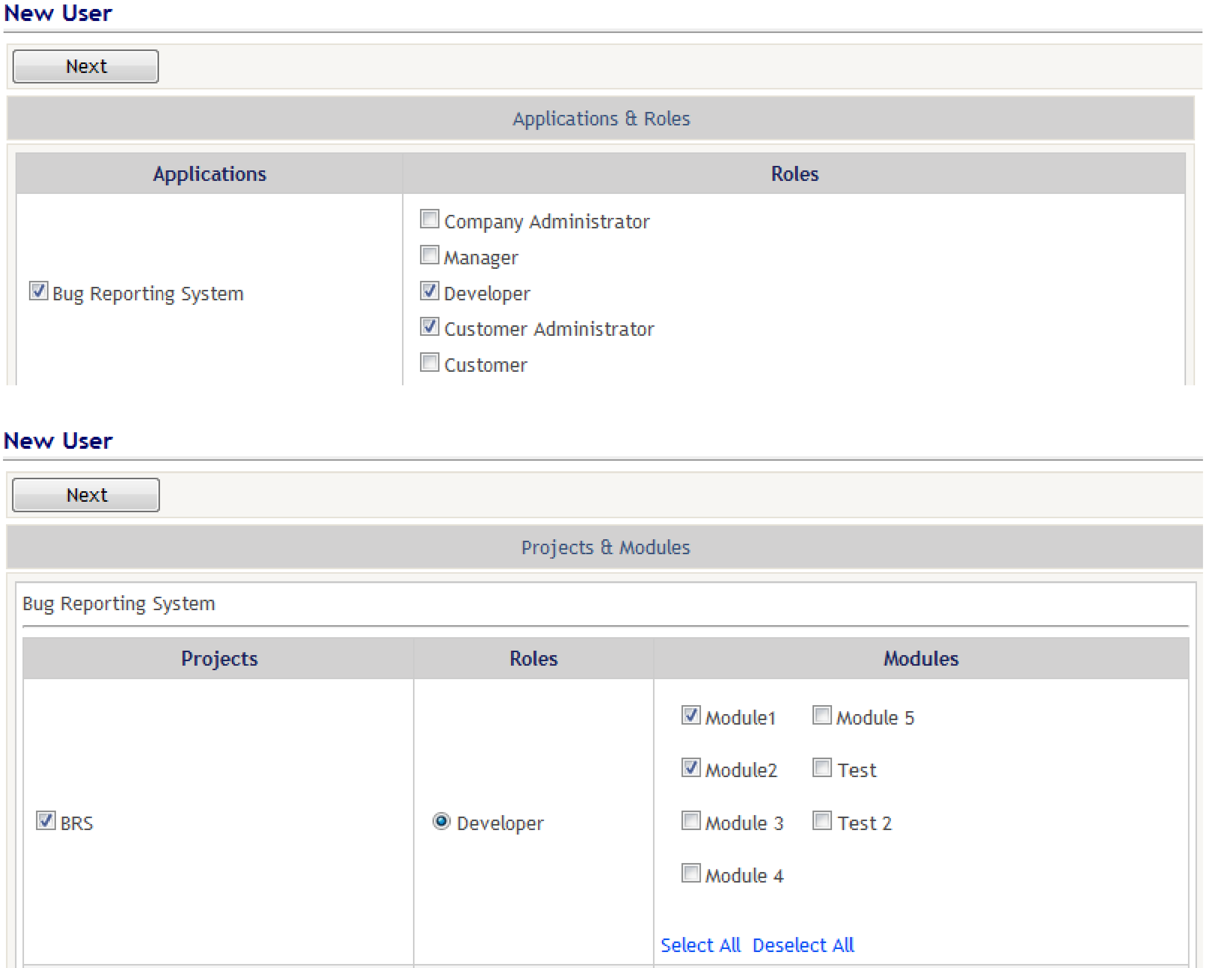


Figure 5-4 Applications, projects, modules and roles section

Here a number of modules can be associated with the user that is being created. This is not mandatory because it can be done later by editing the user.

5.2.2 Adding users with customer administrator user group

The procedure for getting to *New user* page is the same as for the manager explained in the previous section. Again the *Username (e-mail)*, *Password*, *Confirm password* and *Role* fields are mandatory. The username must be in valid e-mail, password must be at least 6 characters long, and password and confirm password must match. The combo box is for selection of user group. The only difference here inability to create user from manager or developer user group shown in Figure 5-5. The process of creating a new user is finished by clicking the *create user* button. If there is any error in the input a red message will appear from the right side of the mistaken field explaining what was wrong with the inserted value.

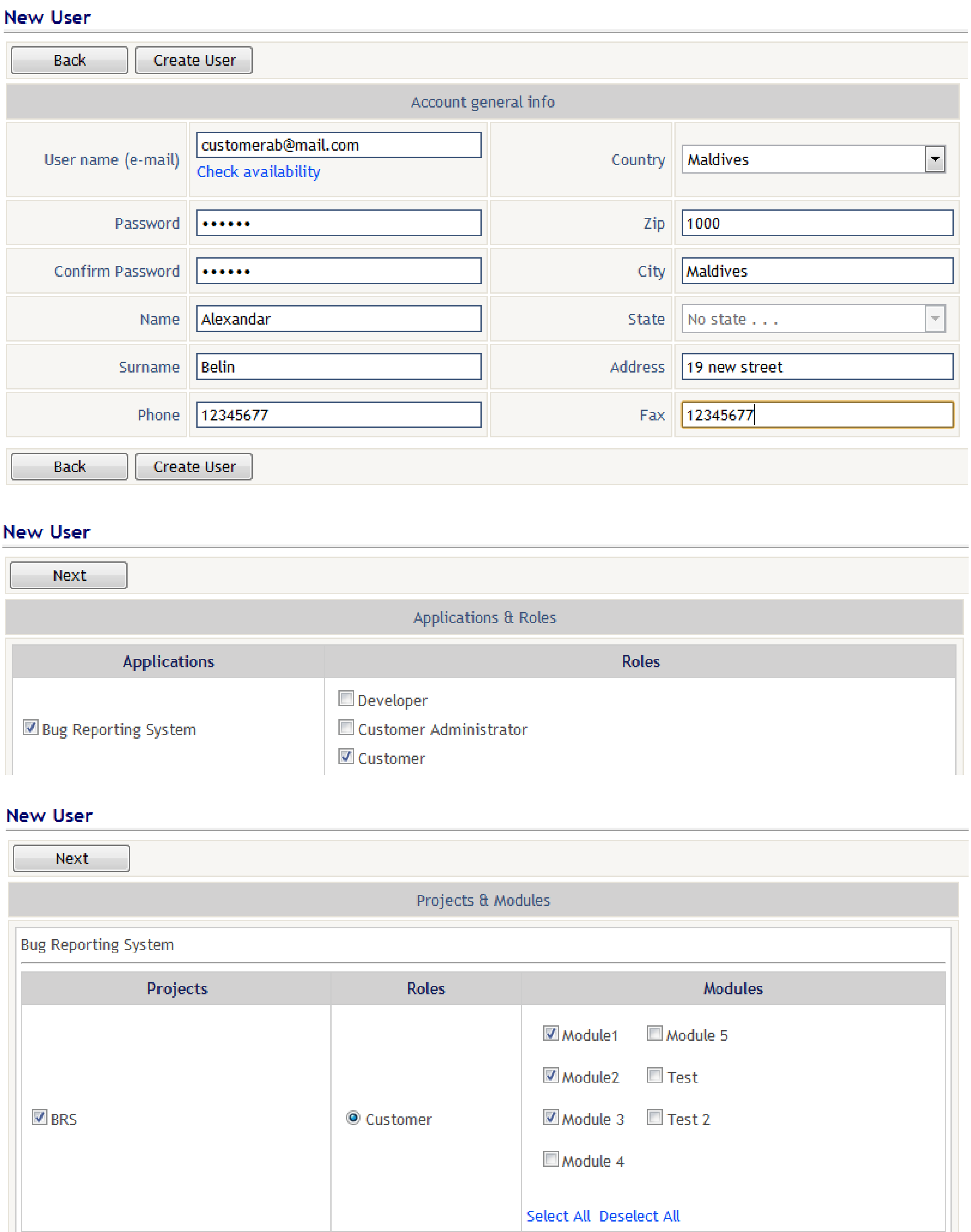


Figure 5-5 New user page steps

5.2.3 Adding users with company administrator user group

If the company administrator presses the button he will be redirected to the *All user administration* page Figure 5-1 from where he can manage all the users for the project. He can select a wanted project from the *all projects ...* list. After clicking the *new user* button he will be redirected to the Figure 5-5. The *Username (e-mail)*, *Password*, *Confirm password* and *Role* fields are mandatory. The username must be in valid e-mail, password must be at least 6 characters long, and password and confirm password must match. The combo box is for selection of user group. Here in the role section he will have all the five user groups to choose from. If a user is from developer, customer or customer administrator user group the manager can immediately assign him to a module or modules. After filling all the fields, by pressing the *create user* button the newly created user will be saved.

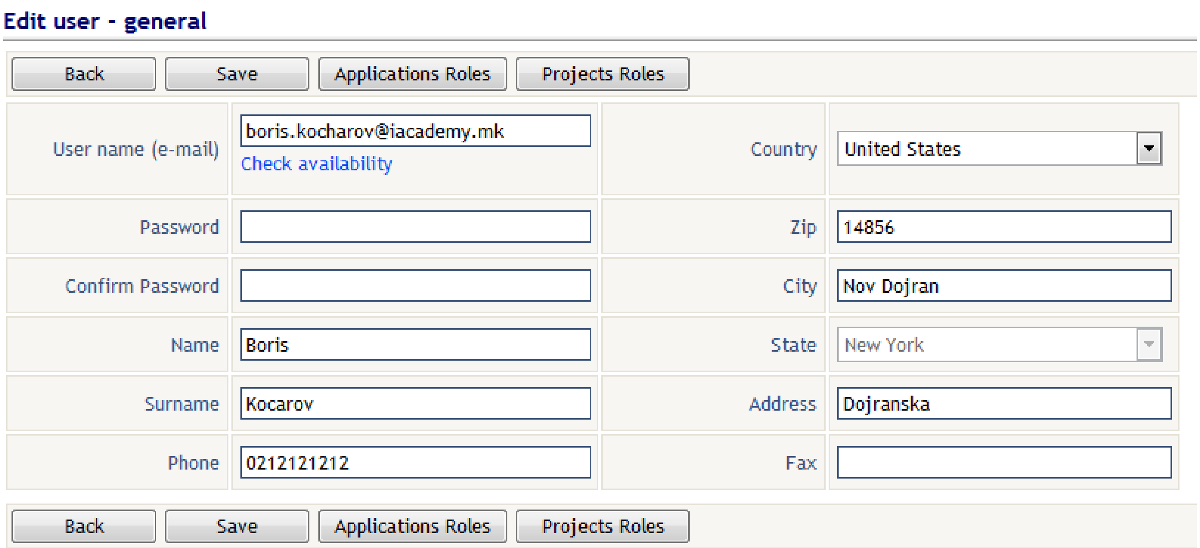
5.3 Editing users

There are three user groups that can edit users. Those are manager, customer administrator and company administrator user group. In both cases the procedure is the same. In the *all users administration* page there are two icons shown in Figure 5-6.

Figure 5-6 Edit and disable buttons

If a user clicks on icon deactivate a user. If he clicks on icon he will be redirected to the *edit user* page shown in Figure 5-7. On this page he can change the user all the user properties. Again the difference between manager and customer administrator is in designating a *role* property of a user. Customer administrator can choose only the customer and customer administrator role. The thing that should be mentioned is that if a user changes his own username he will be automatically logged out. He should then log in with the new username. The process is finished by clicking the *save* button.

If a user is disabled he will not be able to log in until his privileges are restored from manager or customer administrator using the previously mentioned procedure.



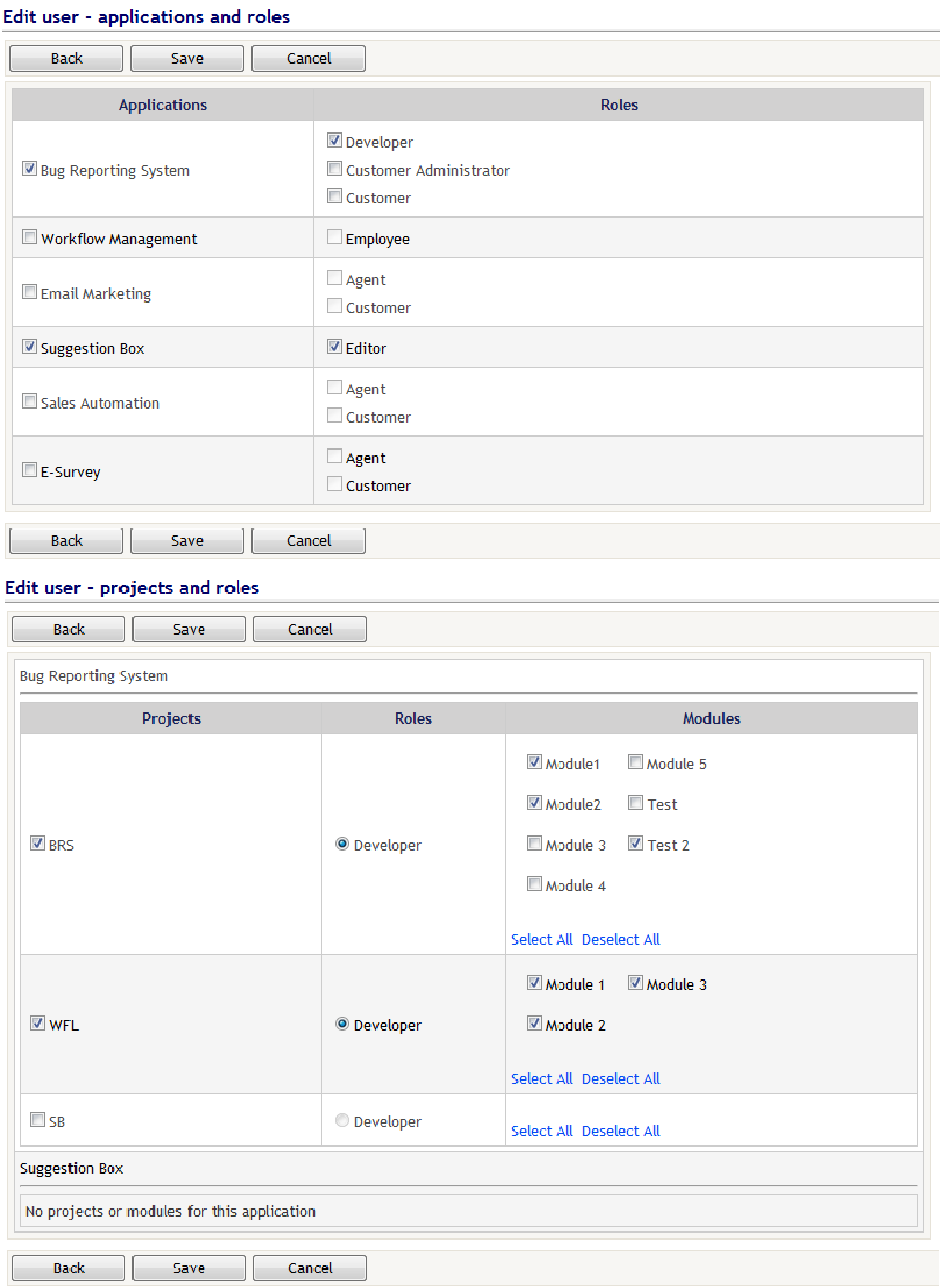


Figure 5-7 Edit user page steps

6. Manage bug reporting

6.1 Main functionalities

The main functionality of this application is reporting bugs and managing them from a centralized place. The process starts with reporting a new bug from customer or customer administrator user group by filling the form shown in Figure 6-11. Then developers start working on that bug, continuously changing its status and filling appropriate reports as in Figure 7-1. After the bug is resolved the customer or customer administrator inspects the solution of the bug. If the solution is good the bug resolution is rejected and the life cycle of the reported bug starts from the beginning, or it is accepted and the life cycle of the reported bug terminates.

The other important functionality is the ability to view statistical and analytical reports for all the reported bugs from a centralized place as described in section 7.7 - Reports.

6.2 Detail preview reported bug

Every user can view the bug details preview. For a detailed preview of a reported bug a user should click on it in the table of reported bugs. A new window will appear showing all the detail as in Figure 7-1. In the preview there are a lot of details such as:

- the information about the user that reported the bug is in the *Assigned by* bar,
- the nature of the bug (deficiency or functional) in the *Bug type* bar,
- for which project is the reported bug in *Project* bar,
- the module of that project in the *Module* bar,
- the subject of the bug (by which a user can search for it),
- description of the bug,
- the status of the bug (new, pending, in progress, resolved, closed and rejected),
- percentage and target version of the project,
- optional file that can be attached to the reported bug,
- the person who is monitoring the progress of the bug,
- the bug time spent in all the statuses during its lifecycle,
- history of the bug (who changed its status and when)
- time/stamp.

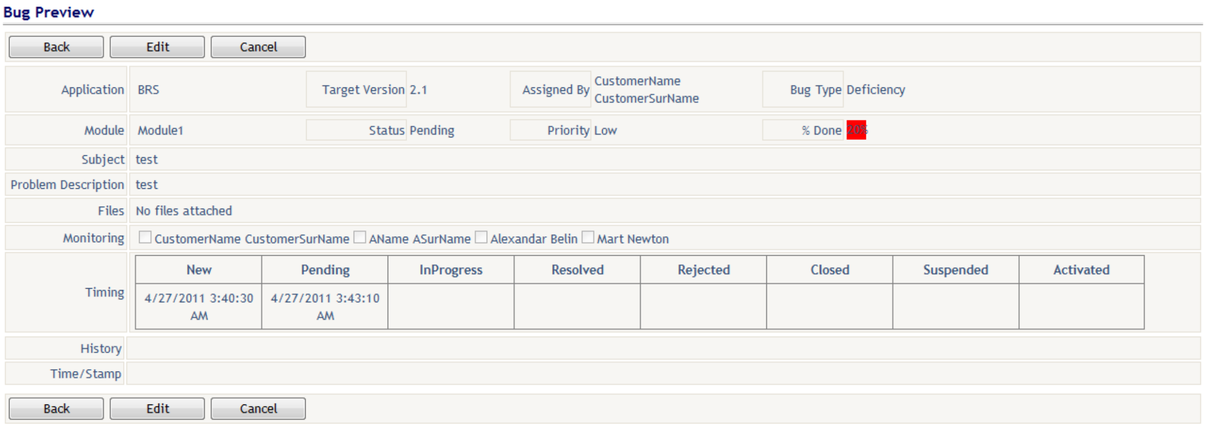


Figure 6-1 Bug preview

Depending of the type of the user and the status of the bug different types of users can edit different field which will be described in more detail in Figure 6-1.

6.3 Searching bugs

Reported bugs are represented in a tabular form in every default page no matter the user group. Searching and classifying the bugs can be done in many different ways. There are a number of filters that can be used independently or in combinations. These filters are presented in Figure 6-2.

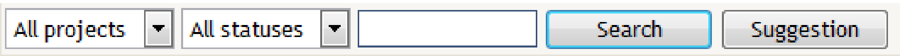


Figure 6-2 Search filters

If drop down list *All projects* is clicked a list of all possible projects will appear Figure 6-3.

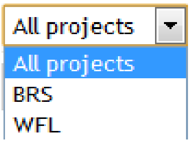


Figure 6-3 Available projects

The status filter is independent from the previously mentioned filters, but it can be combined with them. The possible choices for this filter are shown in Figure 7-4.

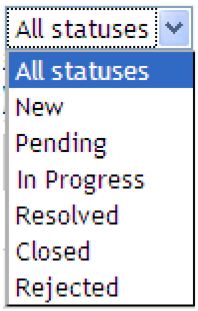


Figure 6-4 All status available choices

Searching for a reported bug by a key word or a phrase from his subject or description is also possible using the filter shown in Figure 7-5.

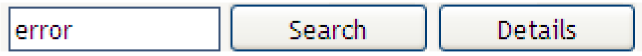


Figure 6-5 Filtering by key word

Bugs can be filtered solely in dependence of their status. There are a special filter buttons just for that purpose. They are positioned at the bottom right part of the table shown in Figure 7-6.

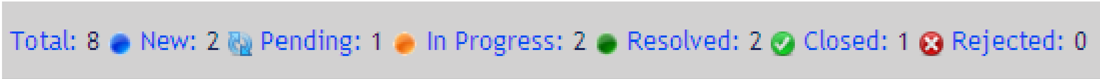


Figure 6-6 Buttons for filtering by status

The controls for navigating through the table are positioned in the bottom left of the table shown in Figure 6-7.

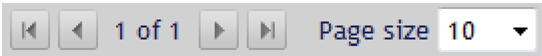


Figure 6-7 Navigation controls

The button is used to go to the first page of the table, button is used to go to the last page in the table. The button is used for going to the previous page and the button is used to go to the next page. The drop down list Page size 10 can be used to change the number of project per page in the table.

A combination of all filters is possible when searching for a reported bug.

6.4 Arranging bugs

As described in the previous section there are a number of controls that can be used for searching and filtering reported bugs. After the wanted bugs are selected they can be arranged in the table in ascending or descending order depending on the ordering button that is clicked. They are positioned at the top of the table and are shown in Figure 7-8.

Figure 6-8 Ordering buttons

6.5 Adding a new bug

The customer, customer administrator and developer user groups can add a new bug report. The manager user group cannot enter a new bug report. When someone wants to enter a new bug report first he/she has to select a project from the drop down list in the default page as shown in the Figure 7-9.

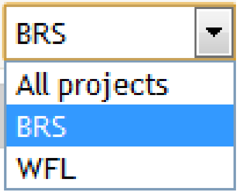


Figure 6-9 Selecting project

After that a *Report new* button appears on the screen shown in Figure 7-10.

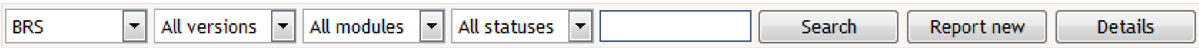


Figure 6-10 Report new button

By pressing the *Report new* button the user is redirected to the *new issue* page shown in Figure 6-11 from where a new bug can be reported.

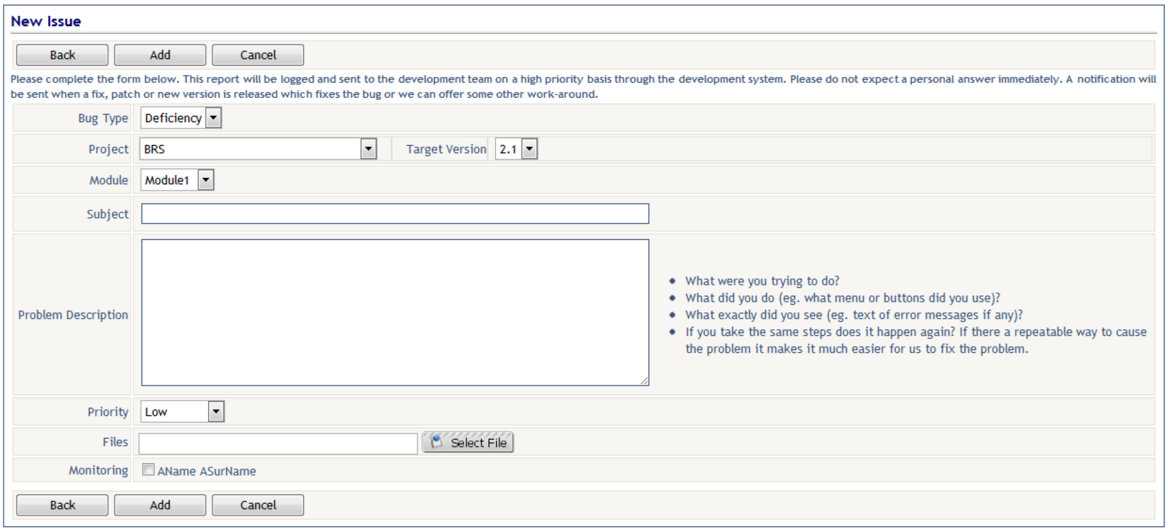


Figure 6-11 New issue page

A number of fields (such as *bug type*, *project*, *target version*, *module* and *priority*) have a default value selected, so it is important to inspect them before going further. The *subject* field is mandatory and it is very important for searching a reported bug by key value as described in Chapter 7.3 - Searching bugs. The second mandatory field is the *description* field. Here user enters the following descriptions:

- What were you trying to do?
- What did you do (eg. what menu or buttons did you use)?
- What exactly did you see (eg. text of error messages if any)?
- If you take the same steps does it happen again? If there a repeatable way to cause the problem it makes it much easier for us to fix the problem.

Next control is the *file upload* control with *input* field and a *Browse* button. This is used for attaching a file to the reported bug (such as print screen of the bug). The user can click the *browse* button to open the *file upload* window shown in Figure 7-12 and select the file he wants to attach to the report.

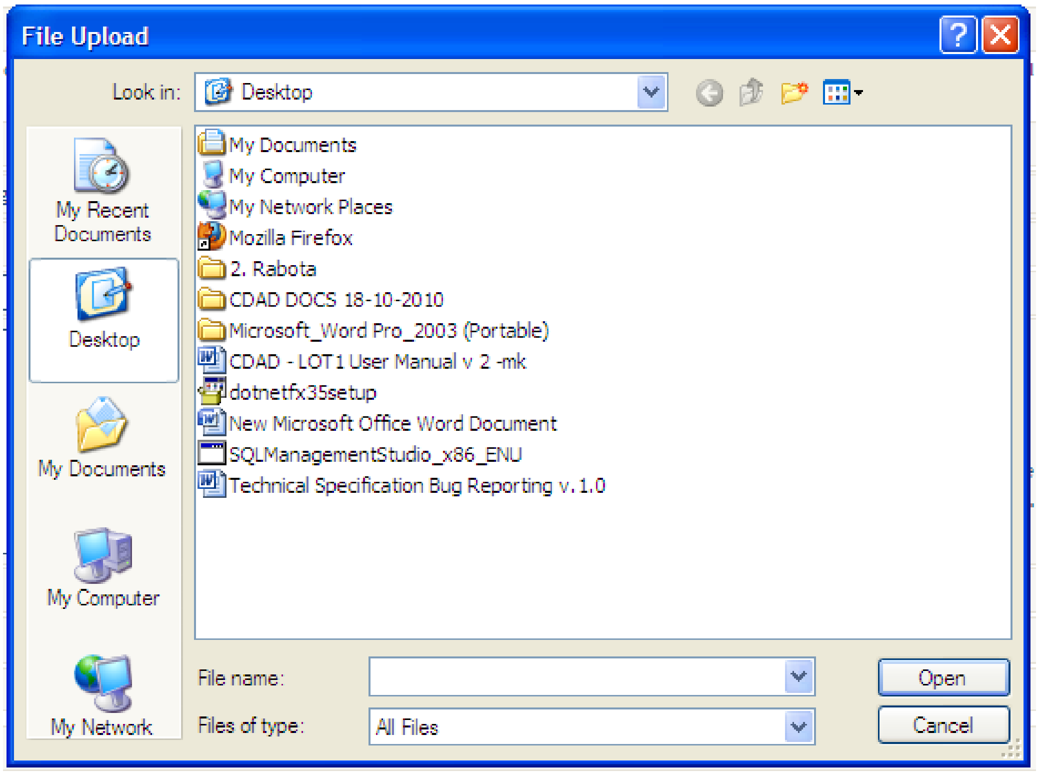


Figure 6-12 File upload window

Optionally the user can choose a customer administrator to monitor this report. At the end the report is submitted by clicking the *add* button. After that the new bug can be browsed as described in section 7.3 - Searching bugs.

6.6 Editing a reported bug

Section 7.3 - Searching bugs describes how to find a reported bug or how to arrange the reported bugs. After the desired bug report is found, by clicking on it, a user can be redirected to the *Bug preview* page Figure 7-1. Depending on the user type and bug status different actions can be performed.

6.6.1 Customer approval

When the customer logs in on the default page Figure 4-6, he/she can see all of his/her reported bugs in the table. In the first column in the table he/she can see the status of the each bug.

By clicking on a bug the customer will be redirected to Figure 6-2. From here depending on the status of the bug he/she can edit it or approve it.

If the status is *new*, he/she can edit the *bug type*, *project*, *module*, *subject*, *problem description*, *priority*, *target version*, *file* and *monitoring* fields. After the change is made it is saved by clicking the *update* button.

If the bug status is *pending*, *in progress*, *closed* or *rejected* no further approval or editing is possible.

If the status is resolved, *%Done* property will be 80% and that's the maximum percentage a developer can set up. From here the only change he/she can make is to change the status to *pending*. Only customers and customer administrators can change the *%Done* property to 100% by changing the status from resolved to closed.

6.6.2 Updating bug status by developer

If the status is *new* all fields accept the *status* and *%Done* can be modified.

The two fields *Timing* and *History* are automatically modified by the project with any change of the bug report. After the developer finishes all his work on a bug he changes its status to *Resolved*. At that point a customer or customer administrator can accept the solution and change the status to *closed*, or reject the solution and change the status to *Rejected*.

The developer primary responsibility here is to change the bug status with the progress on his/her work while working on a solution for the bug.

Once a developer opens a bug report with status *new*, he/she has to change the status to *pending*, *in progress* or *resolved*. If not the status is automatically changed to pending (it means that the report was seen but the work on the bug has not started yet). If the status is in progress he/she can change the *%Done* property and change the status from *in progress* to *resolved*. The developer can change the status field, %done field, file field and the response field. If he/she makes a change the *response* field will be mandatory.

To save the button *Save* shown in Figure 7-13 is used.

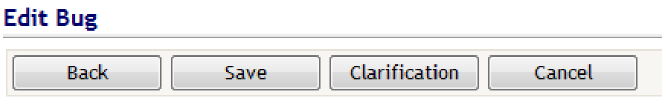


Figure 6-13 Update button

6.7 Add bug clarification

When previewing a bug, developer may not understand bugs meaning. Due that, the developer has ability to add clarification for certain bug, only when the bug has the new status. The button clarification appears on bug preview as shown on the following Figure 6-14.

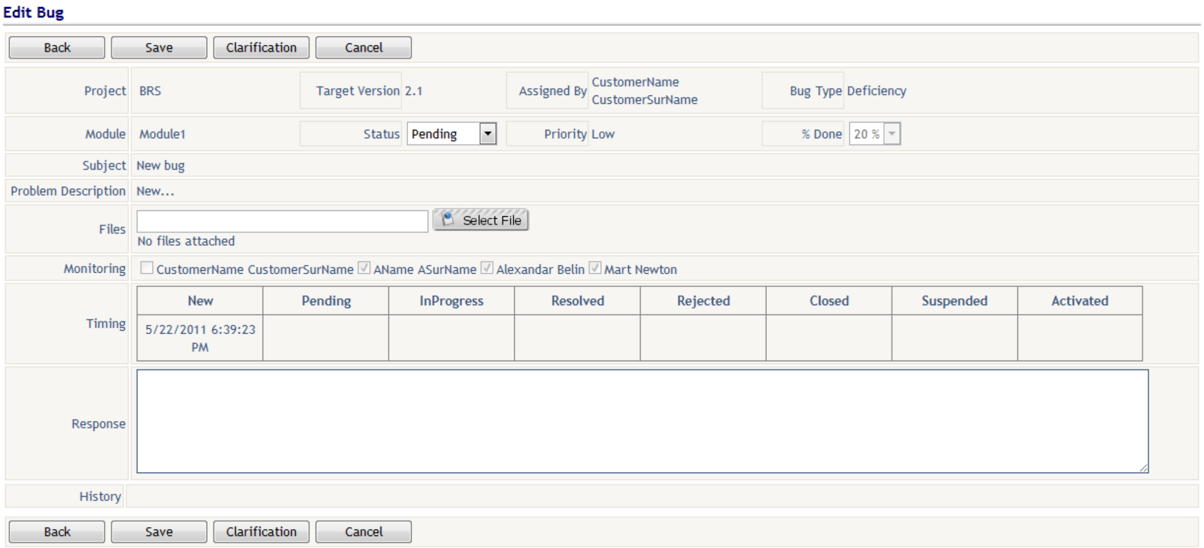


Figure 6-14 Clarification button on edit bug page

On click the clarification button, the developer is redirected to the add clarification page. The adding new clarification is almost the same as adding new bug, so the developer has to add subject of the clarification, problem description, optionally file and also who will be monitoring the clarification.

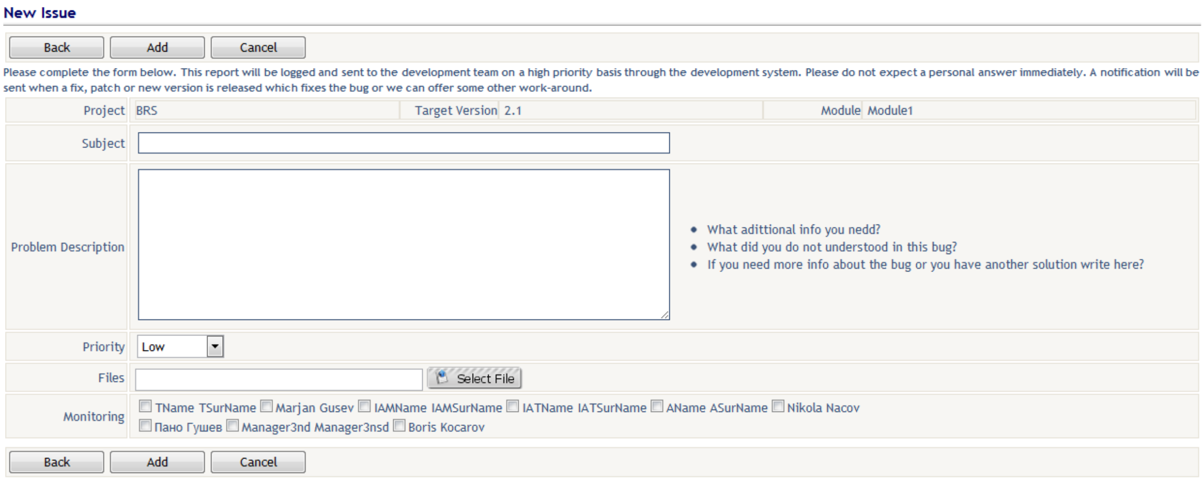


Figure 6-15 Add new clarification

All the added clarifications can be accessed by clicking the link *Clarifications* which is positioned on the default page. The all clarification page contains table of all the existing clarifications which can be filtered by project, versions, modules and status. All the clarifications have the same statuses as bug.

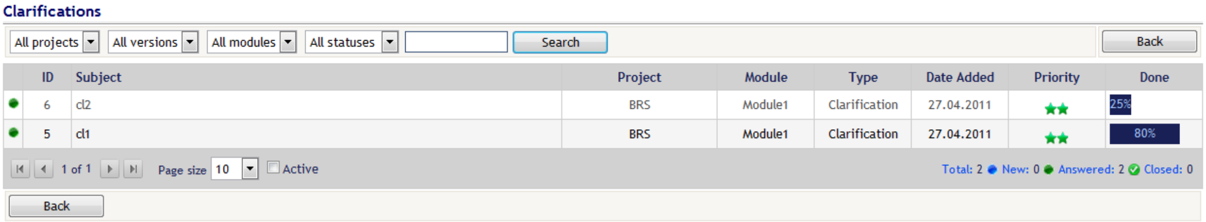


Figure 6-16 All clarifications page

6.8 Add bug suggestion

Sometimes, the developer has new idea for the project which needs somehow to be expressed to the customer or the manager of the project. That can be done by clicking the *Suggestion* button which is positioned on the default developer page and which leads to the add new suggestion page.

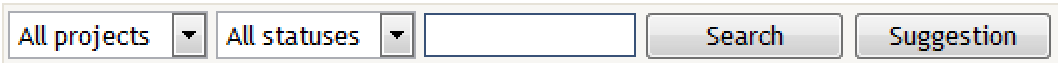


Figure 6-17 Suggestion button

The add new suggestion form contains input fields for the suggestion subject and the problem description and also assigned to and monitoring multiple choice lists of managers, customers and also developers. The form is shown in the following Figure 6-18.

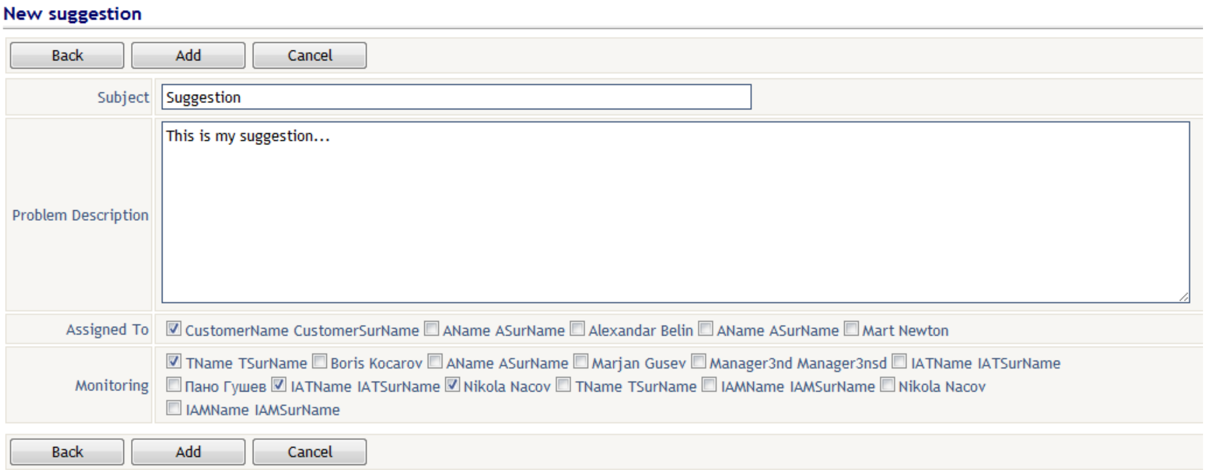


Figure 6-18 Add new suggestion

All the sent suggestions can be previewed by clicking on the *Suggestions* button which is positioned on the default page. Then a table of all suggestions is shown so that the developer can see the left suggestions and by click on each to see all the suggestion details.

Figure 6-19 All suggestions page

7. Reports

The manager and customer groups are able to see reports. The difference is that the customer can see only a details report for his reported bugs. The manager can see a wide variety of statistical graphical and tabular reports for all reported bugs.

7.1 Statistics

When manager clicks the *report* button he is redirected to the report page. The first seen report shown in Figure 7-14 is statistics by bug status report.

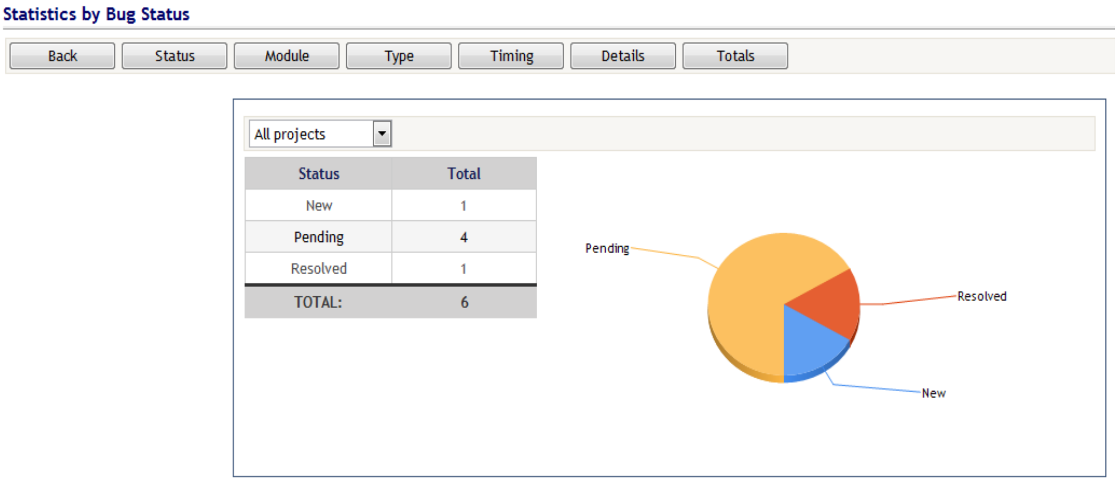


Figure 7-1 Statistics by bug status report

Here the statistics by bug status are represented in a graphical and tabular form. By clicking the *Module* button as in Figure 7-15 the report by bug module will be shown.

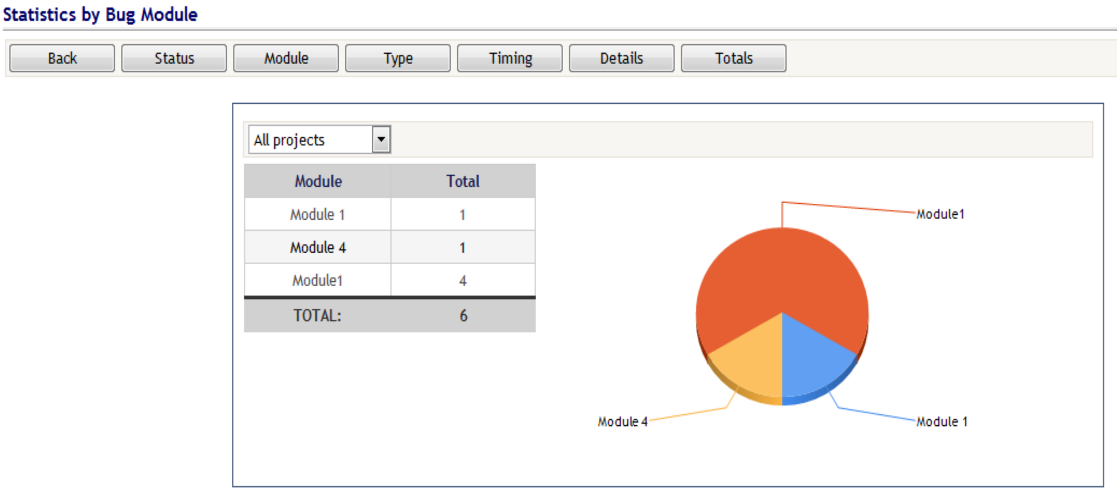


Figure 7-2 Report statistics by bug module

The wanted project can be selected from the *All projects* drop down list.

If manager wants to see the statistics depending of the type of the bugs that are occurring he will click the *type* button. The output is shown in Figure 7-16.

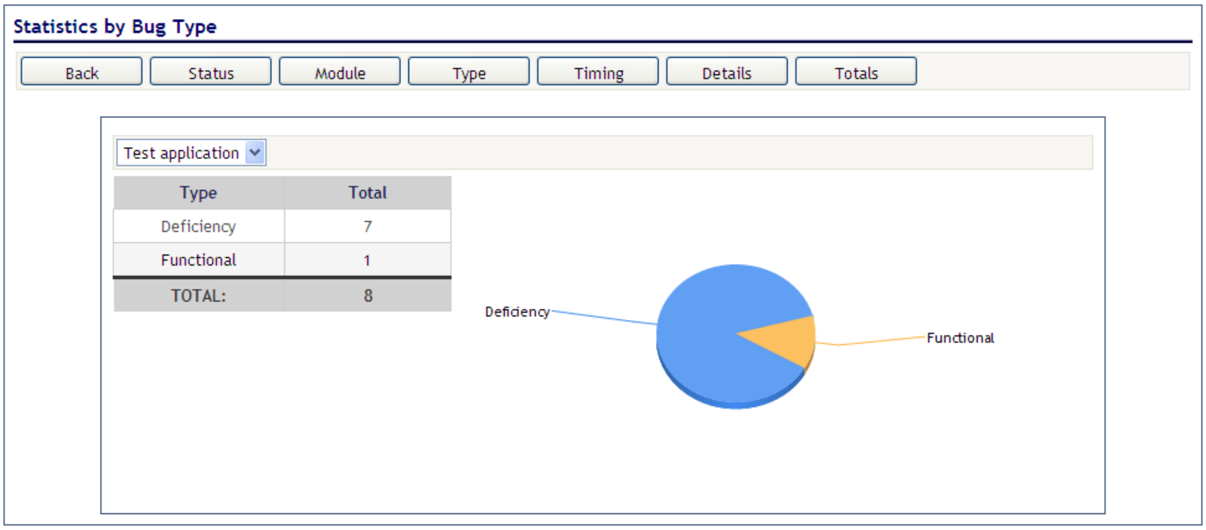


Figure 7-3 Statistics depending on the type of bugs

Click to choose the desired option from all the available options.

The statistical report about the time spend on the different types of bugs is shown in Figure 7-17.

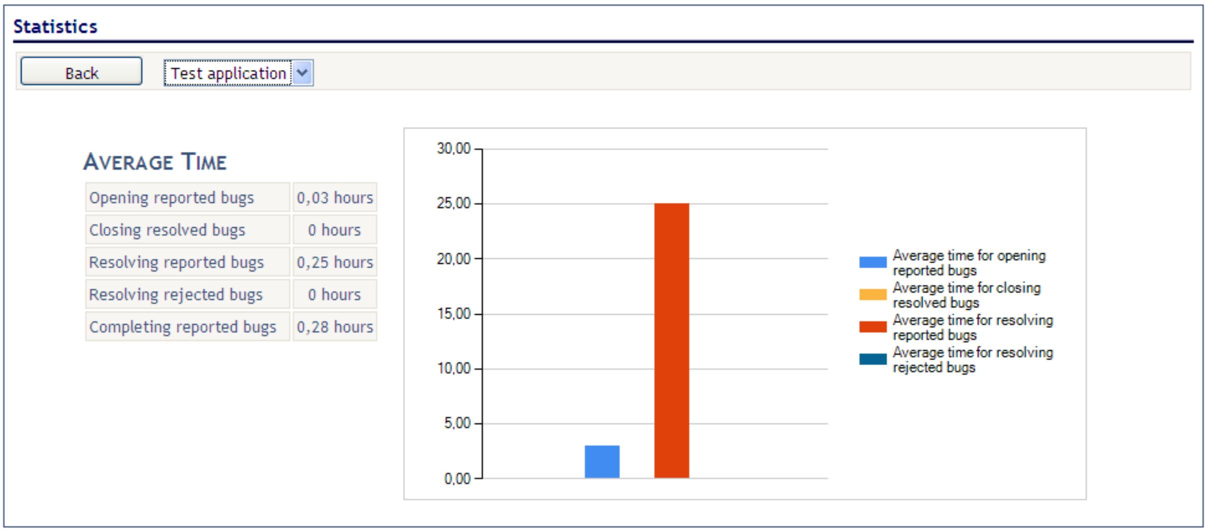


Figure 7-4 Time spend statistics

7.2 Analytical reports

By clicking the *details* button in the reports page manager can see the weekly analytical report in tabular and graphical form as shown in Figure 7-18. There is an option to choose a monthly report by clicking the *Monthly* button Figure 7-19 or annual report by clicking the Annual button Figure 7-20.

Weekly Report

Back | Weekly | Monthly | Annual | From | To | Search

Test application

<< Previous week | Current week | Next week >>

Days of week	Name of day	New	Pending	InProgress	Resolved	Closed	Rejected	TOTAL
13/12/2010	Monday	1	1	1	0	0	0	3
14/12/2010	Tuesday	2	1	0	0	0	0	3
15/12/2010	Wednesday	5	4	3	3	1	2	18
16/12/2010	Thursday	0	0	1	1	0	0	2
17/12/2010	Friday	0	0	0	0	0	0	0
18/12/2010	Saturday	0	0	0	0	0	0	0
19/12/2010	Sunday	0	0	0	0	0	0	0
TOTAL:		8	6	5	4	1	2	26

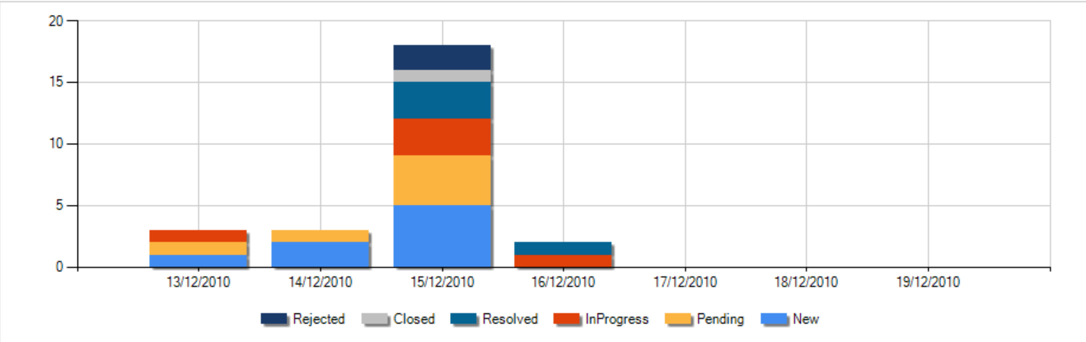


Figure 7-5 Weekly report

Monthly Report

Back | Weekly | Monthly | Annual | From | To | Search

Test application

<< Previous month | Current month | Next month >>

Week Range	New	Pending	InProgress	Resolved	Closed	Rejected	TOTAL
28/11/2010 - 04/12/2010	0	0	0	0	0	0	0
05/12/2010 - 11/12/2010	0	0	0	0	0	0	0
12/12/2010 - 18/12/2010	8	6	5	4	1	2	26
19/12/2010 - 25/12/2010	0	0	0	0	0	0	0
26/12/2010 - 01/01/2011	0	0	0	0	0	0	0
TOTAL:	8	6	5	4	1	2	26

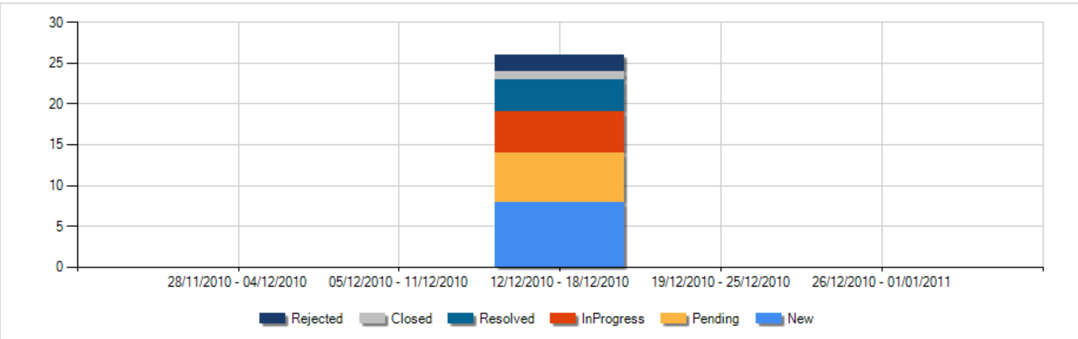


Figure 7-6 Monthly report

Test application

<< Previous year   Current year   Next year >>

Month Name	New	Pending	InProgress	Resolved	Closed	Rejected	TOTAL
January	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0
September	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0
December	8	6	5	4	1	2	26
TOTAL:	8	6	5	4	1	2	26

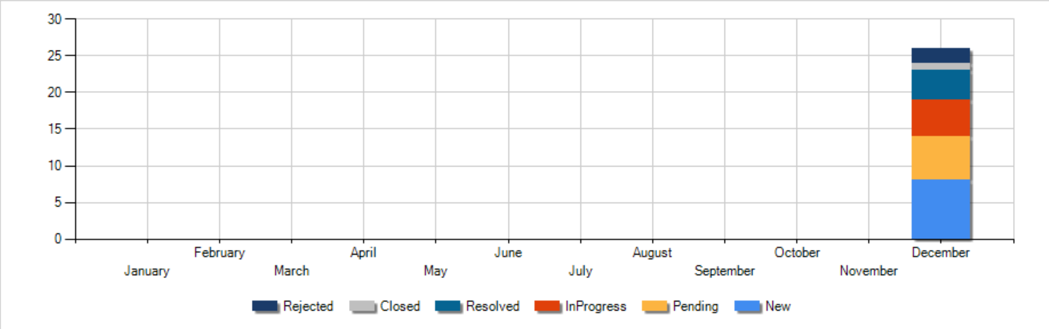


Figure 7-7 Annual report

In all of the reports on the top of the table there is a navigation bar for going to previous, current and next week/month/year accordingly.

In the control shown on Figure 7-21, a start and end date of interest for the report can be entered. Then with the click of the button search the report will be generated.

From 2010-10-05 To 2010-12-31 Search

Figure 7-8 Control for defining start and end date for report

The last type of the report is the totals statistics, shown in Figure 7-22. This report is a short table that gives the total bugs closed, total time and the working hours

Total closed bugs	1
Total Time	47,00 hours
Working Hours	17,00 hours

Figure 7-9 Totals table

Implementation procedure

1. General

1.1 Company registration

The company representative enters the Fancy Innovations link. There the application offer is shown as the following figure.

Figure 1-1 Applications

After choosing the Bug Reporting application by click on the logo, the following figure is shown. It shows the Bug Reporting application description.

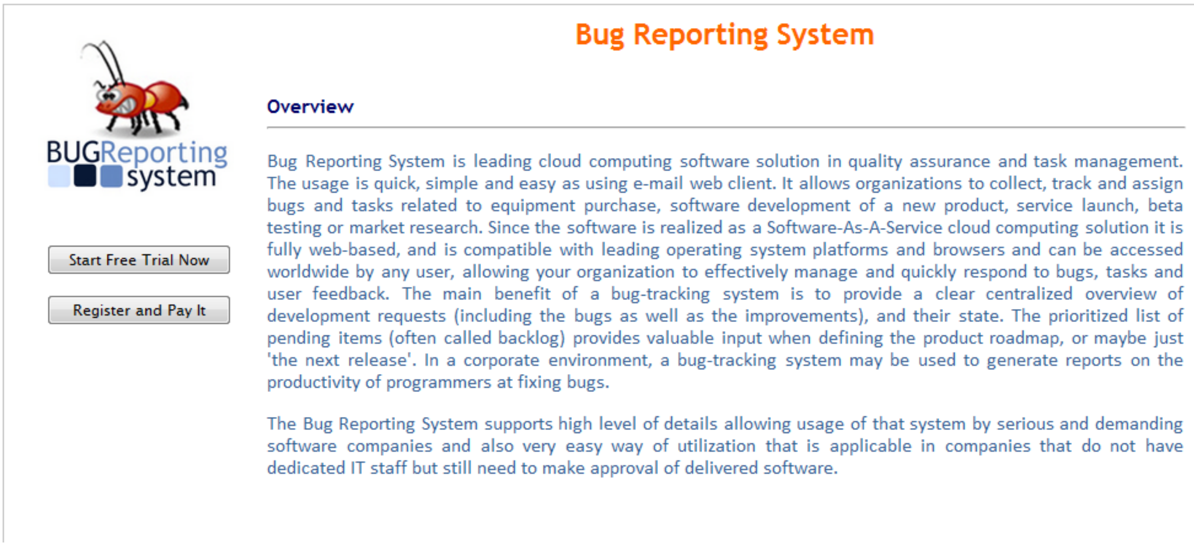


Figure 1-2 Bug Reporting overview

The user clicks on *Register and Pay it* button and continues.

Next, the step 1 of the company registrations follows. The user has to choose the application he/she registers his/her company for. Choose the application Bug Reporting as shown on the following figure and click the *Proceed to Step 2* button.

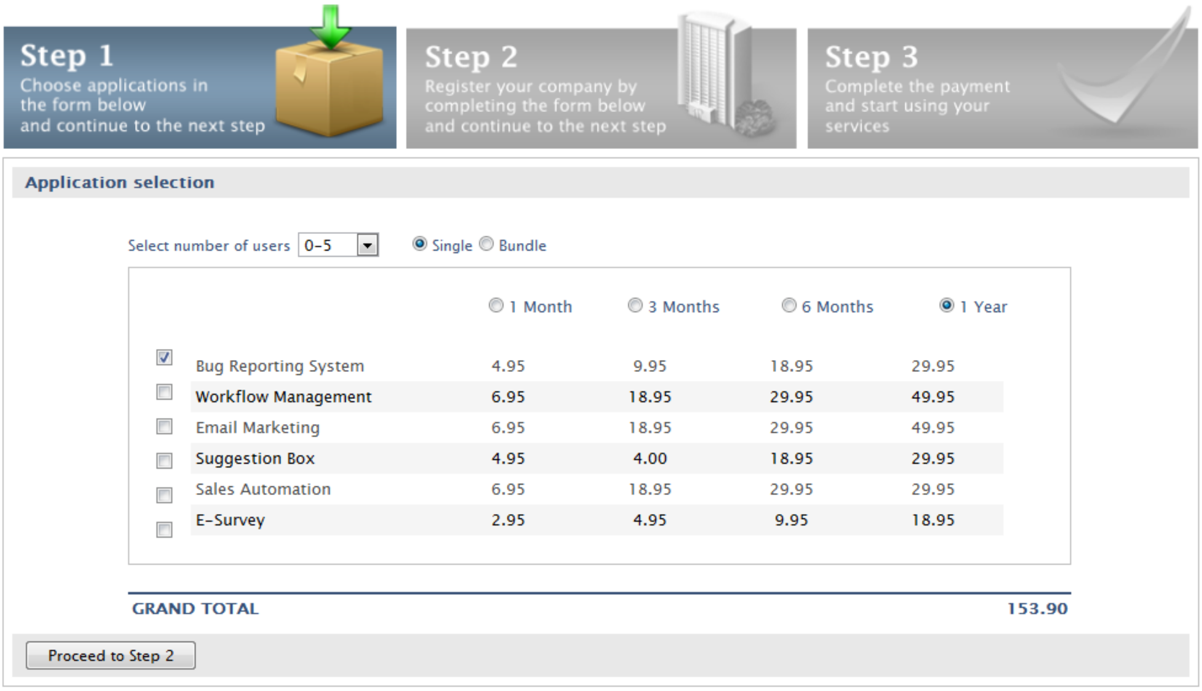


Figure 1-3 Choose application to register for

The step 2 of the registration is entering the basic company information (name, address, city, country, phone etc). The entered information is expected to be true, so that confirmation mail could be sent. Enter the information and click the *Proceed to Step 3* button.

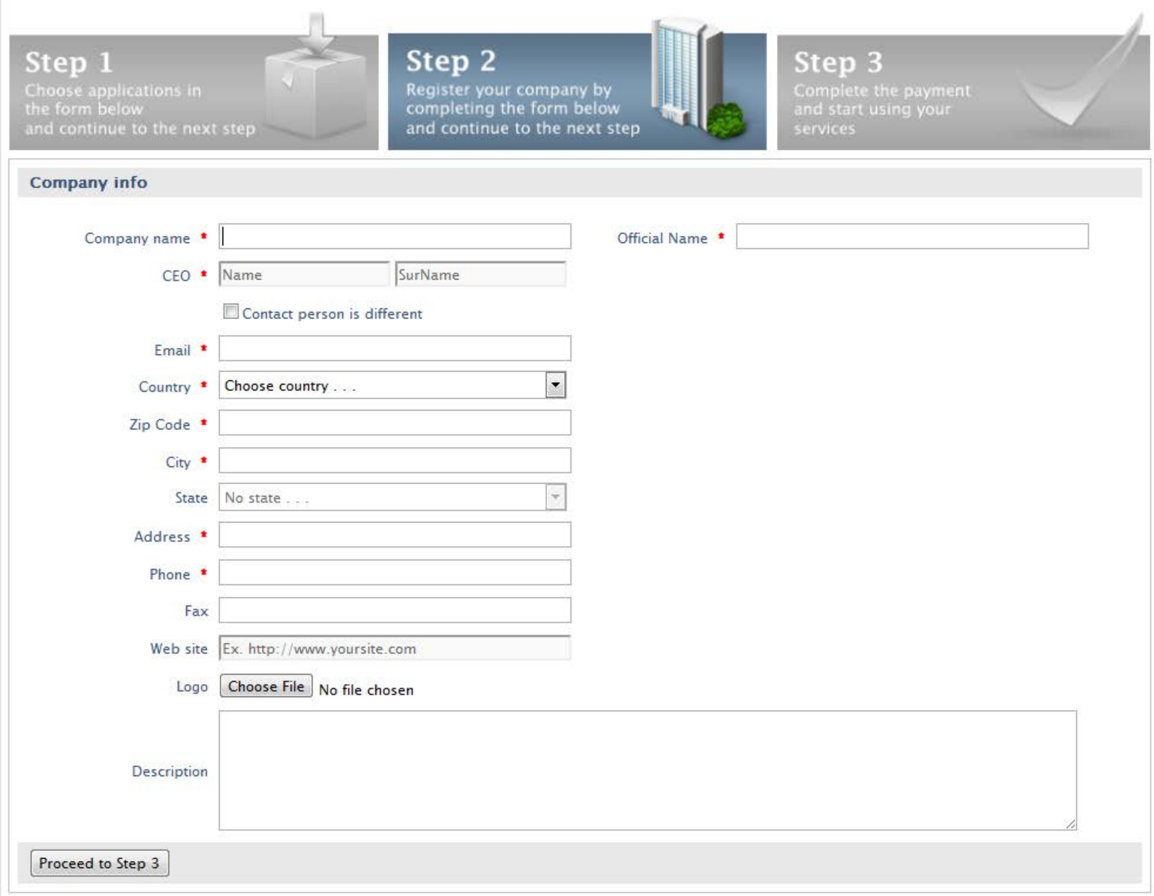


Figure 1-4 Company basic information input form

After clicking the button, the confirmation alert is shown which is questioning if you are sure that the email is valid CEO email or contact email. You confirm if you are sure or cancel if you are not sure.

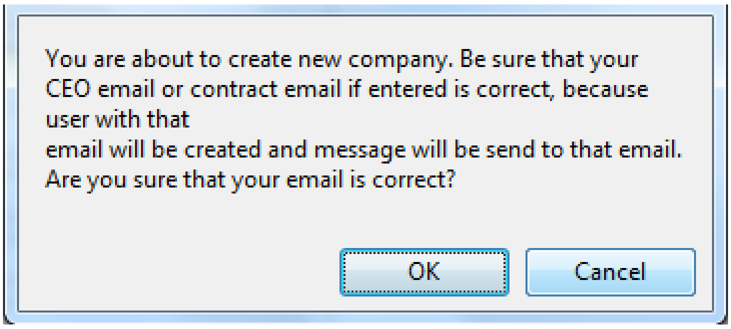


Figure 1-5 Confirmation alert

The next screen shows all the entered information and payment details which includes *Agree with the terms* section and also *Choose Payment Method* section.

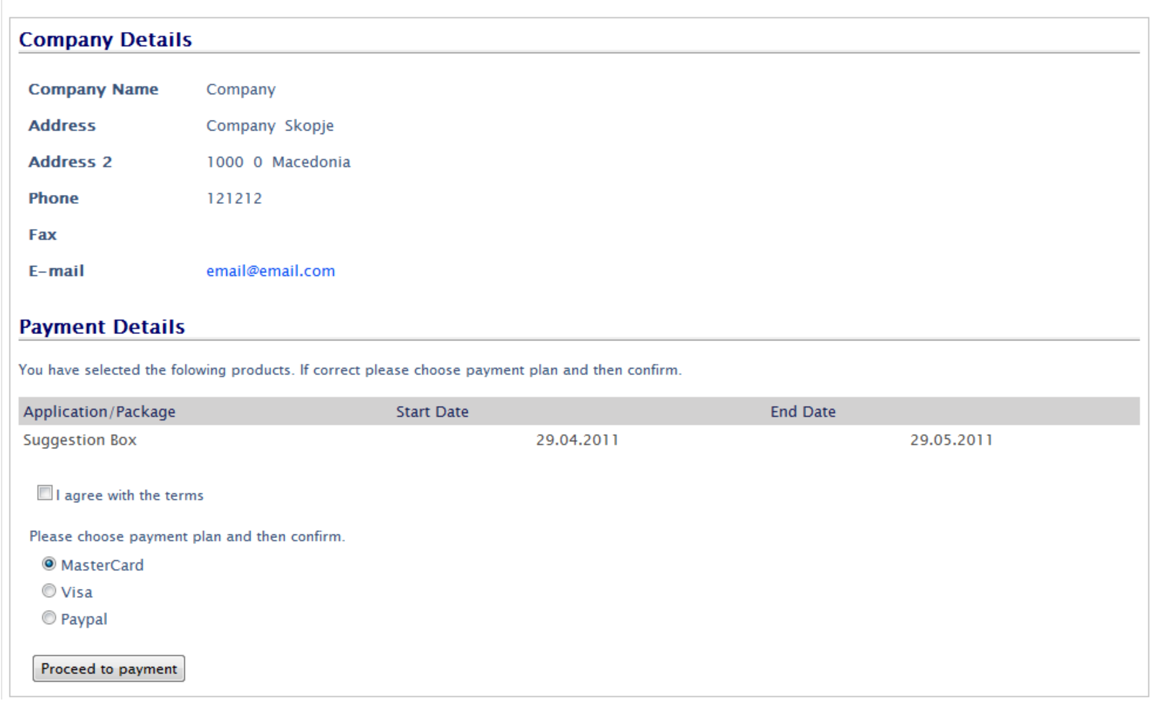


Figure 1-6 All entered information and payment details

Next, the order confirmation step follows. It is shown in the next figure. At this moment, the contract and the company administrator credentials are sent to the entered email.

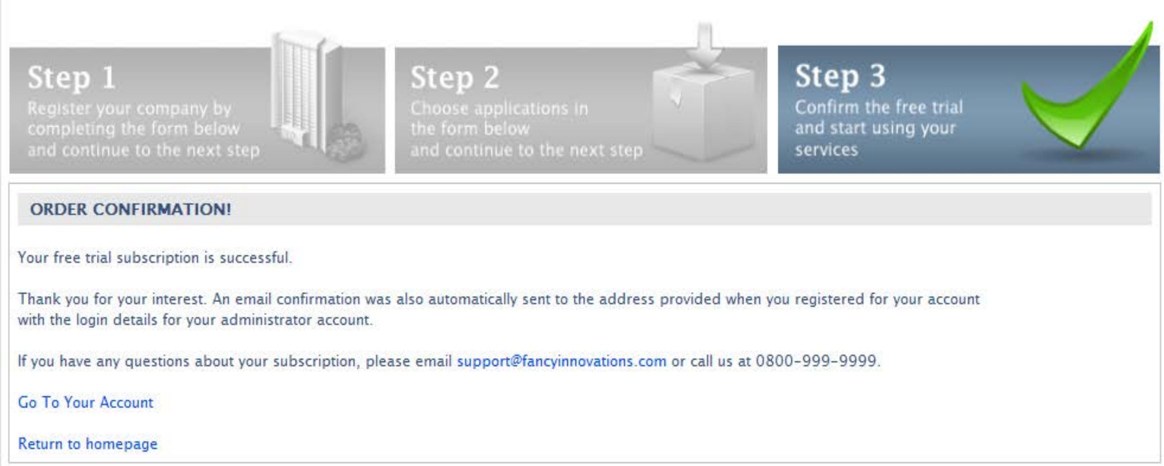


Figure 1-7 Confirmation step

1.2 User login

Enter the Fancy Innovations site and find on top right the *Login here* link as shown on the following figure.

Figure 1-8 Menu

The link redirects you to the login page as shown the following figure. Enter your credentials and log in the system.

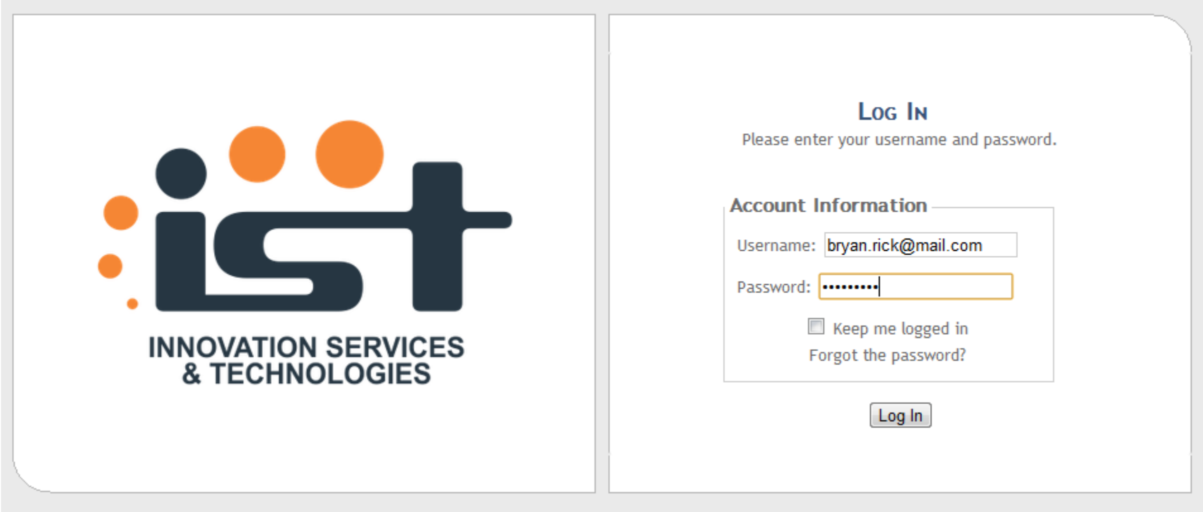


Figure 1-9 Login page

After the login, the system forwards you to the *Choose Application* screen. Then click on the Bug Reporting logo, to enter the system.

Figure 1-10 Choose application screen

1.3 Change user personal information

When the user is logged in, in the top right corner *My profile* link is shown next to the *Log out* button.

Figure 1-11 Welcome message and Log out and My profile link

Click the *My profile* link. The following form with your personal information is shown. It is the My profile page.

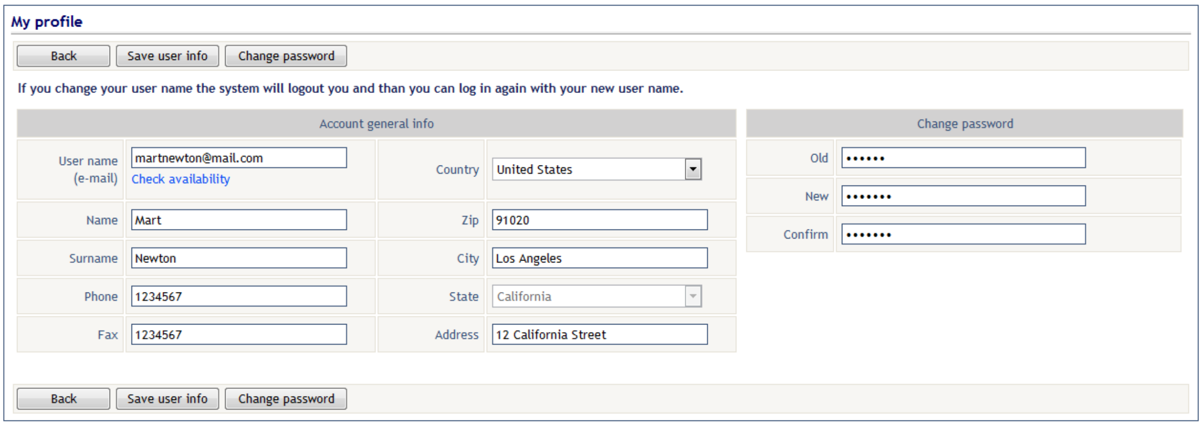


Figure 1-12 My profile page

Change any personal information and click *Save user info* button. Change the password and click the *Change password* button.

1.4 Password reset

The following figure shows the login page which contains the *Forgot the password?* link. Click on it.

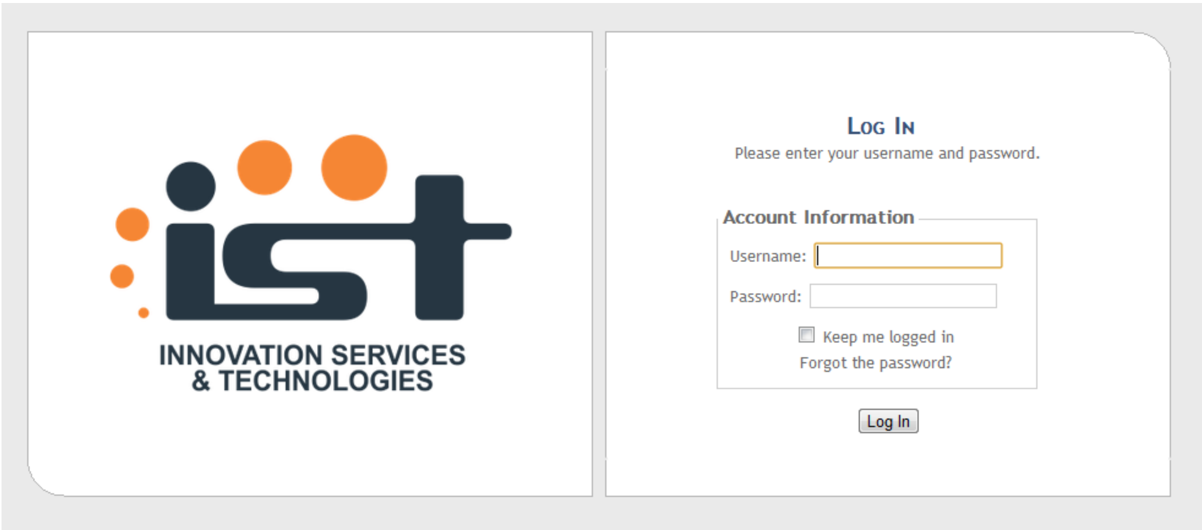


Figure 1-13 Login page

The following form opens for you. Enter your username (email) and click the *Send new password* button. The new generated password will be sent on your email address.

Figure 1-14 Forgot password page

2. Company administrator

This is the default company administrator page. This page contains the entered company information and also a list of applications that the company is registered for.

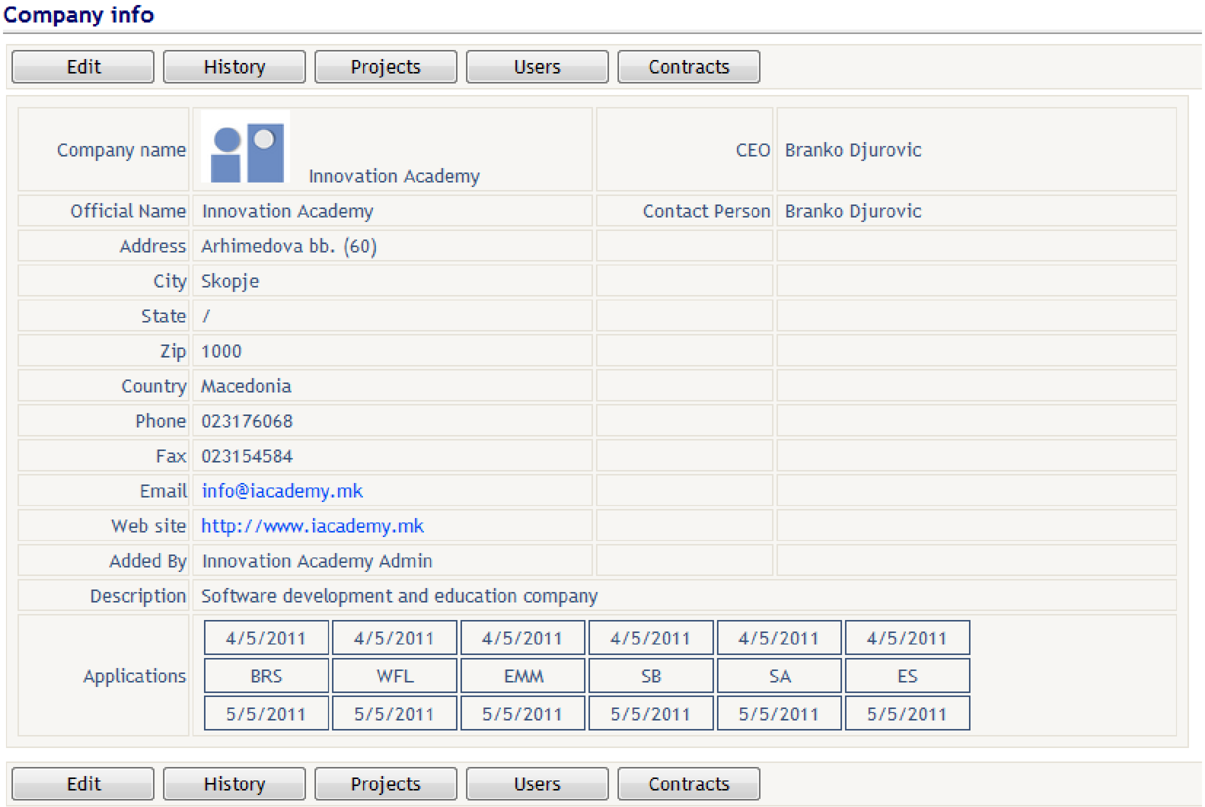


Figure 2-1 Company administrator default page

On this page, there is menu, which contains the following buttons: *Edit* (for editing and updating the company details), *History* (for previewing history of contracts), *Projects* (for previewing all company projects), *Users* (for previewing application users) and *Contracts* (for previewing all the company contracts).

2.1 Define project

Choose the *Projects* button from the menu on the default page. All the Bug Reporting projects are shown in a table as in the following figure. This table can be sorted and also filtered. The projects can be filtered by search keyword. The number of the items of the table can be chosen of the page size control at the bottom of the table.

My Projects

Back | New project | Search

	Name	Description	Managers	StartDate	EndDate	Date Added
	WWS	WWS	Marjan Gusev	5/18/2011	6/4/2011	5/5/2011 4:49:44 AM
	Test 11	test		5/3/2011	5/20/2011	5/5/2011 3:32:33 AM
	E-banking	test description 2		4/26/2011	6/1/2011	5/4/2011 1:08:15 AM
	Test project manager	Test project manager	CAIAcademyName CAIAcademySurName	5/27/2011	7/8/2011	5/3/2011 5:13:14 AM
	Test od manager2	Test od manager2	Marjan Gusev	4/12/2011	7/13/2012	4/13/2011 2:27:48 AM
	EMM	E-mail Marketing Module		2/28/2011	7/5/2012	3/25/2011 3:48:38 AM
	Sales Authomation	Sales Authomation Management		3/2/2011	7/22/2011	3/25/2011 3:36:39 AM
	E-Survey	E-Survey Management		3/2/2011	7/28/2011	3/25/2011 3:34:08 AM
	SB	Suggestion Box	IATName IATSurName; Marjan Gusev	3/10/2011	5/20/2011	3/25/2011 1:56:50 AM
	BRS	Bug Reporting System	IATName IATSurName; Manager3nd Manager3nsd; Marjan Gusev; TName TSurName	3/11/2011	10/10/2011	3/10/2011 6:22:34 AM

1 of 2 Page size 10 Total: 12 Active: 11

Back | New project

Figure 2-2 All projects table

The menu on the all projects table consists of 2 buttons: *Back* (which leads to the previous page) and *New Project* (which leads to add new project page). Click on the *New Project* button.

Add new project page opens. Enter the required information (project name, project description, developer logo, developer link, customer name, customer logo, customer link, start date and end date and also priority levels of the project) and click on the *Add project* button. If you change your mind, that click either *Back* or *Cancel*.

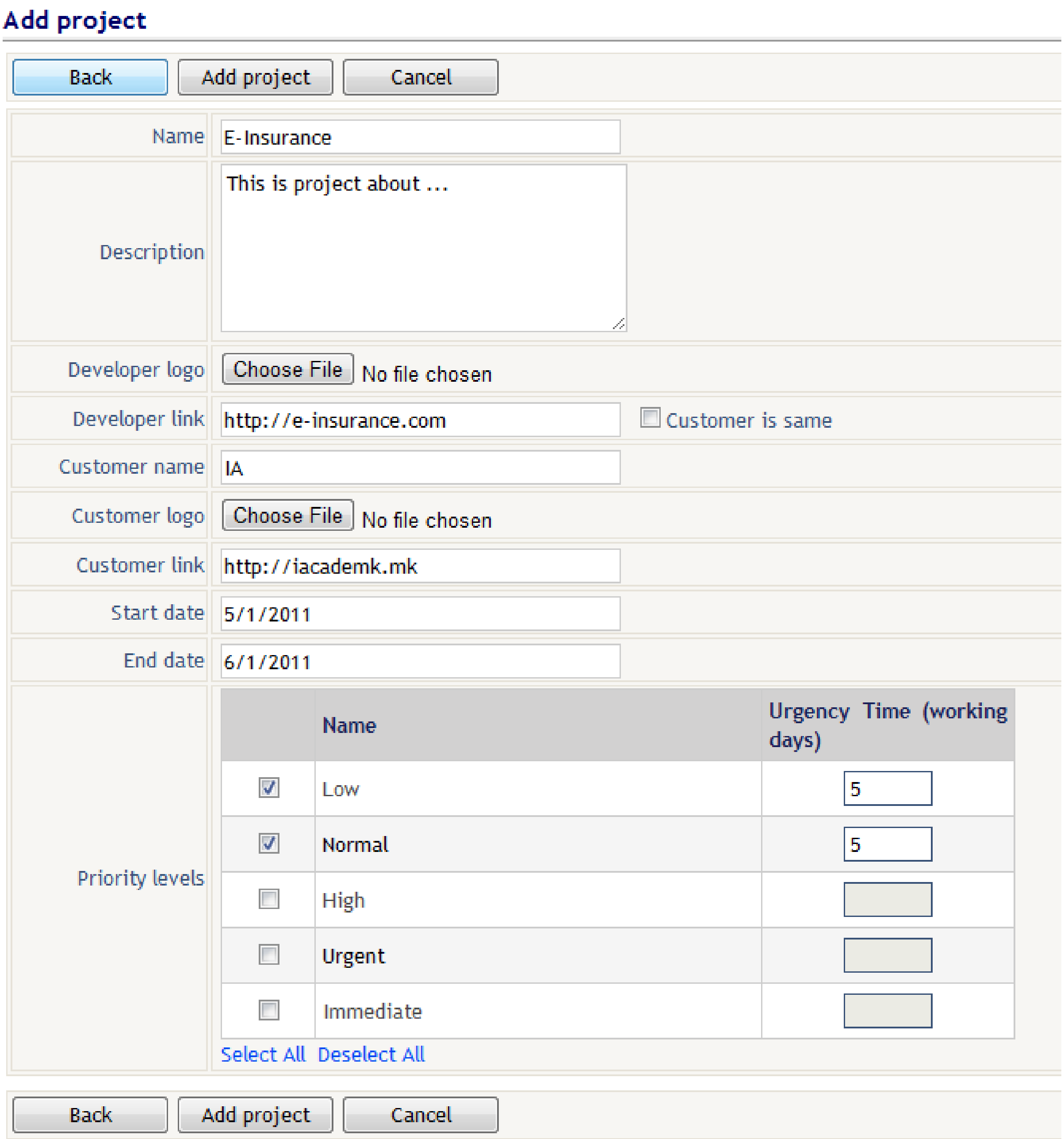
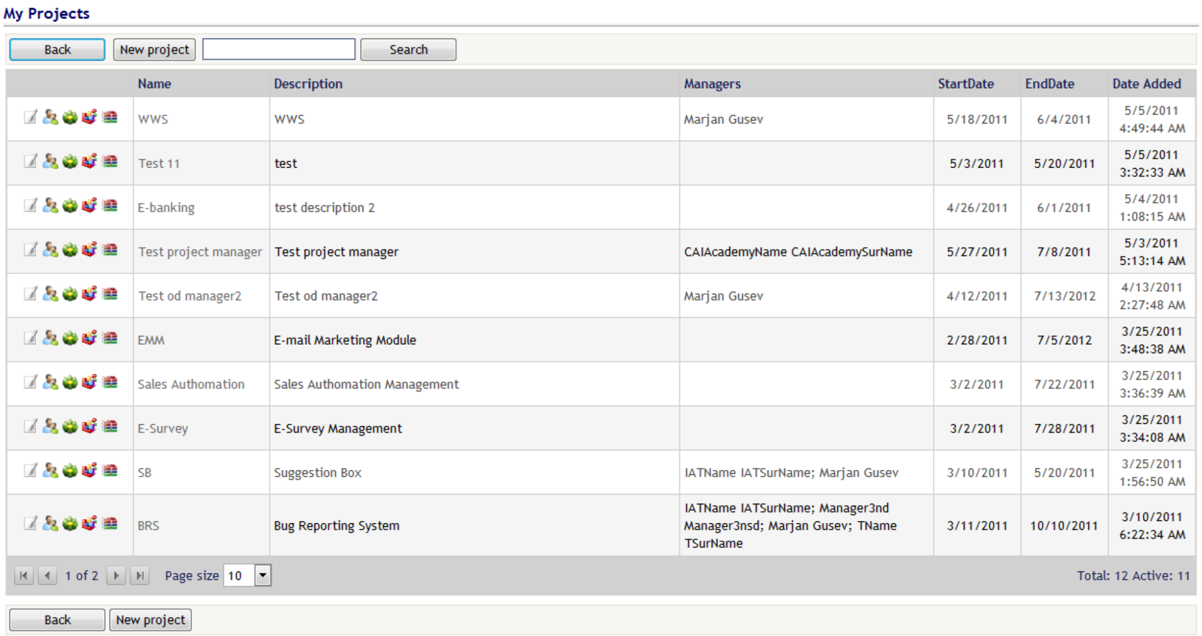


Figure 2-3 Add new project page

2.2 Define project version

Each project can have versions. You can define new project version this way.

You click on the *Projects* button from the menu of the default company administrator page. The all projects table is shows as in the following figure.



My Projects

Back | New project | Search

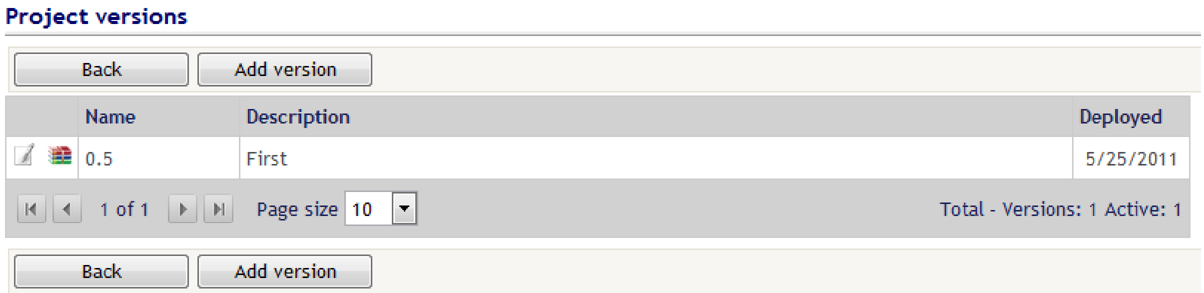
	Name	Description	Managers	StartDate	EndDate	Date Added
	WWS	WWS	Marjan Gusev	5/18/2011	6/4/2011	5/5/2011 4:49:44 AM
	Test 11	test		5/3/2011	5/20/2011	5/5/2011 3:32:33 AM
	E-banking	test description 2		4/26/2011	6/1/2011	5/4/2011 1:08:15 AM
	Test project manager	Test project manager	CAIAcademyName CAIAcademySurName	5/27/2011	7/8/2011	5/3/2011 5:13:14 AM
	Test od manager2	Test od manager2	Marjan Gusev	4/12/2011	7/13/2012	4/13/2011 2:27:48 AM
	EMM	E-mail Marketing Module		2/28/2011	7/5/2012	3/25/2011 3:48:38 AM
	Sales Authomation	Sales Authomation Management		3/2/2011	7/22/2011	3/25/2011 3:36:39 AM
	E-Survey	E-Survey Management		3/2/2011	7/28/2011	3/25/2011 3:34:08 AM
	SB	Suggestion Box	IATName IATSurName; Marjan Gusev	3/10/2011	5/20/2011	3/25/2011 1:56:50 AM
	BRS	Bug Reporting System	IATName IATSurName; Manager3nd Manager3nsd; Marjan Gusev; TName TSurName	3/11/2011	10/10/2011	3/10/2011 6:22:34 AM

1 of 2 Page size 10 Total: 12 Active: 11

Back | New project

Figure 2-4 All projects

In each project row is positioned the versions icon . Click on it and you will be directed to the all project versions page as shown on the following figure.



Project versions

Back | Add version

	Name	Description	Deployed
	0.5	First	5/25/2011

1 of 1 Page size 10 Total - Versions: 1 Active: 1

Back | Add version

Figure 2-5 All project versions

On this page, all the versions are shown and also at the menu bar are positioned the *Back* button and the *Add Version* button. Click on the *Add Version* button to add new project version. The required fields for the new version are version name, version description and version deployment date. The following figure presents add new version form.

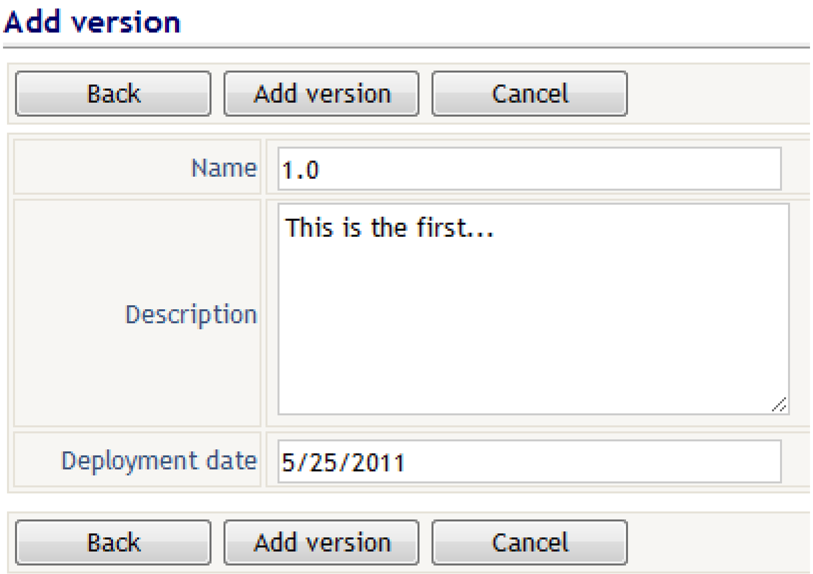


Figure 2-6 Add new project version

Click the *Add version* button to save the new version or otherwise click either on *Back* or *Cancel* button.

2.3 Define module

You choose the *Projects* button from the menu on the default page, and then all the projects table is shown as in Figure 2-2. Then choose the following icon positioned in the row of the project you want define module for. This icon leads to all project modules page which is shown in the following figure.

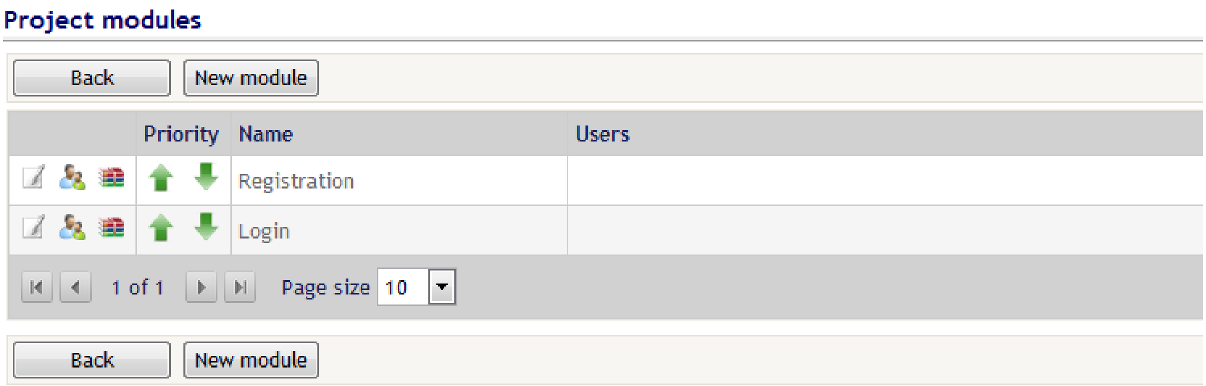


Figure 2-7 All modules

The menu of the page is consisted of these buttons: *Back* (which leads to the previous page) and *Add module* (which leads to the add module page). The only required field is the module name. Click on the *Add module* button after entering the name. If you change your mind, then click the *Back* button.

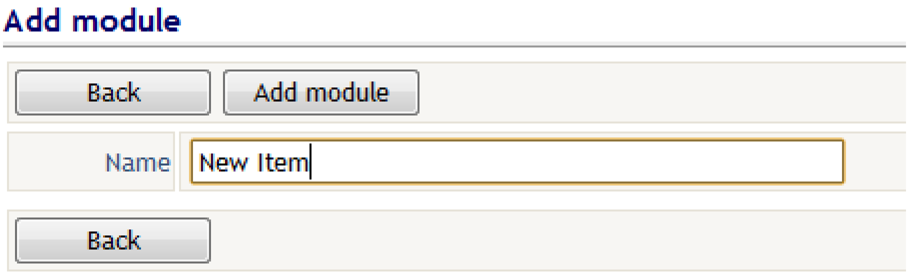


Figure 2-8 Add module

2.4 Change module priority

You choose the *Projects* button from the menu on the default page, and then all the projects table is shown as in Figure 2-2. Then choose the following icon positioned in the row of the project you want define module for. This icon leads to all project modules page which is shown in the following figure.

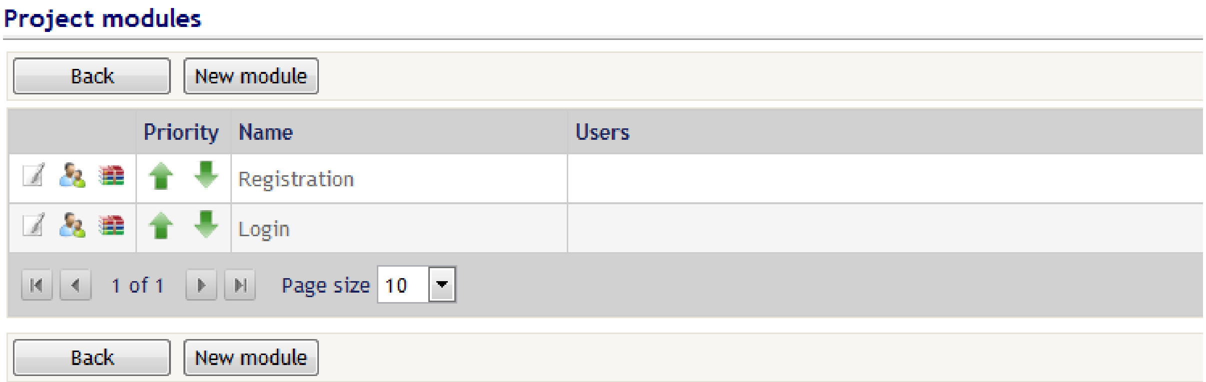
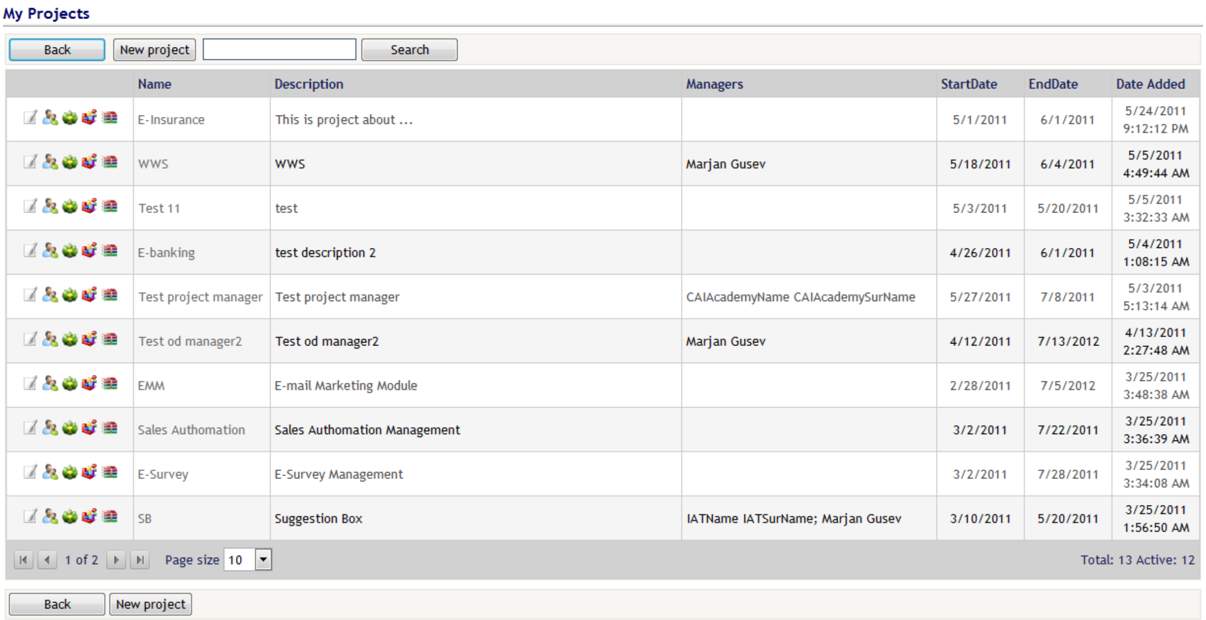


Figure 2-9 All modules

There are the following icons on each module row. The click on the first one, i.e. the arrow with direction from down to up changes the module priority to higher level and the reversed one changes the module priority to lower level.

2.5 View project details

You choose the *Projects* button from the menu on the default page, and then all the projects table is shown as in the following figure.



My Projects

Back | New project | Search

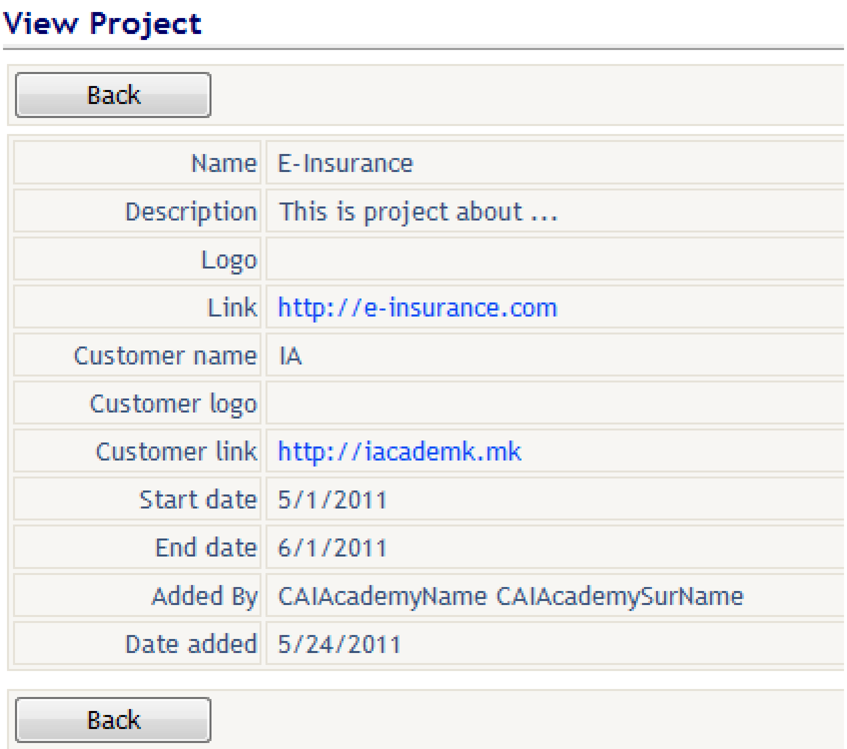
	Name	Description	Managers	StartDate	EndDate	Date Added
	E-Insurance	This is project about ...		5/1/2011	6/1/2011	5/24/2011 9:12:12 PM
	WWS	WWS	Marjan Gusev	5/18/2011	6/4/2011	5/5/2011 4:49:44 AM
	Test 11	test		5/3/2011	5/20/2011	5/5/2011 3:32:33 AM
	E-banking	test description 2		4/26/2011	6/1/2011	5/4/2011 1:08:15 AM
	Test project manager	Test project manager	CAIAcademyName CAIAcademySurName	5/27/2011	7/8/2011	5/3/2011 5:13:14 AM
	Test od manager2	Test od manager2	Marjan Gusev	4/12/2011	7/13/2012	4/13/2011 2:27:48 AM
	EMM	E-mail Marketing Module		2/28/2011	7/5/2012	3/25/2011 3:48:38 AM
	Sales Authomation	Sales Authomation Management		3/2/2011	7/22/2011	3/25/2011 3:36:39 AM
	E-Survey	E-Survey Management		3/2/2011	7/28/2011	3/25/2011 3:34:08 AM
	SB	Suggestion Box	IATName IATSurName; Marjan Gusev	3/10/2011	5/20/2011	3/25/2011 1:56:50 AM

1 of 2 Page size 10 Total: 13 Active: 12

Back | New project

Figure 2-10 All projects

All the project names are clickable and the click on the name leads to the view project details. Click on any of the project name. Then the following page is shown. The view project details page contains only output fields and they are: the project name, the project description, developer logo, developer link, customer name, customer logo, customer link, project link, start date, end date, user who added the project and the date time of adding.



View Project

Back

Name	E-Insurance
Description	This is project about ...
Logo	
Link	http://e-insurance.com
Customer name	IA
Customer logo	
Customer link	http://iacademk.mk
Start date	5/1/2011
End date	6/1/2011
Added By	CAIAcademyName CAIAcademySurName
Date added	5/24/2011

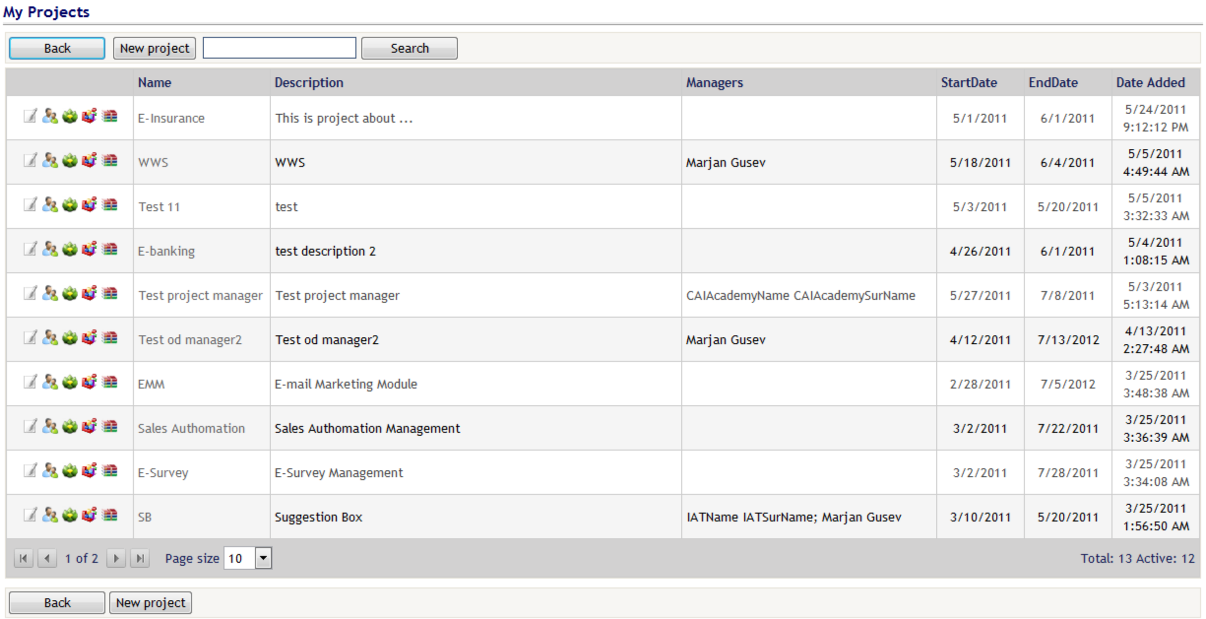
Back

Figure 2-11 View project details

2.6 Edit project details

You choose the *Projects* button from the menu on the default page, and then all the projects table is shown as in the following figure.

To edit any project details, click on the icon edit which is positioned in each project row.



My Projects

Back | New project | Search

	Name	Description	Managers	StartDate	EndDate	Date Added
	E-Insurance	This is project about ...		5/1/2011	6/1/2011	5/24/2011 9:12:12 PM
	WWS	WWS	Marjan Gusev	5/18/2011	6/4/2011	5/5/2011 4:49:44 AM
	Test 11	test		5/3/2011	5/20/2011	5/5/2011 3:32:33 AM
	E-banking	test description 2		4/26/2011	6/1/2011	5/4/2011 1:08:15 AM
	Test project manager	Test project manager	CAIAcademyName CAIAcademySurName	5/27/2011	7/8/2011	5/3/2011 5:13:14 AM
	Test od manager2	Test od manager2	Marjan Gusev	4/12/2011	7/13/2012	4/13/2011 2:27:48 AM
	EMM	E-mail Marketing Module		2/28/2011	7/5/2012	3/25/2011 3:48:38 AM
	Sales Authomation	Sales Authomation Management		3/2/2011	7/22/2011	3/25/2011 3:36:39 AM
	E-Survey	E-Survey Management		3/2/2011	7/28/2011	3/25/2011 3:34:08 AM
	SB	Suggestion Box	IATName IATSurName; Marjan Gusev	3/10/2011	5/20/2011	3/25/2011 1:56:50 AM

1 of 2 Page size 10 Total: 13 Active: 12

Back | New project

Figure 2-12 All projects

The next, edit project details page is open as shown in the next figure. All the fields present the project details (name, description, logo, link, start and end date) and they are editable. If you want to save the made changes, then click on *Save* button. Otherwise click either on *Back* or *Cancel* button.

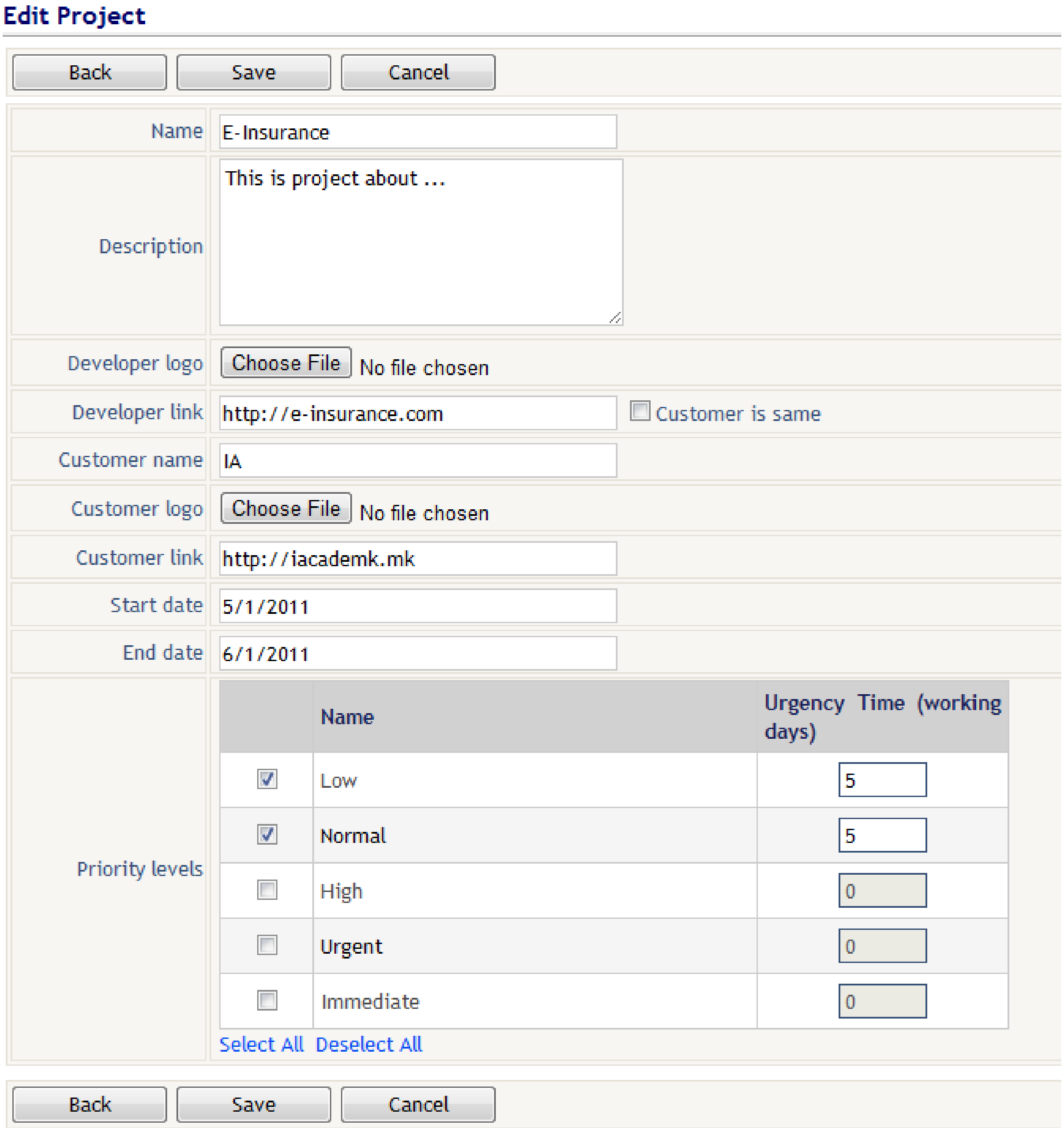


Figure 2-13 Edit project details

2.7 Define user

You choose the *Users* button from the menu on the default page, and then all the company users table is shown as in the following figure.

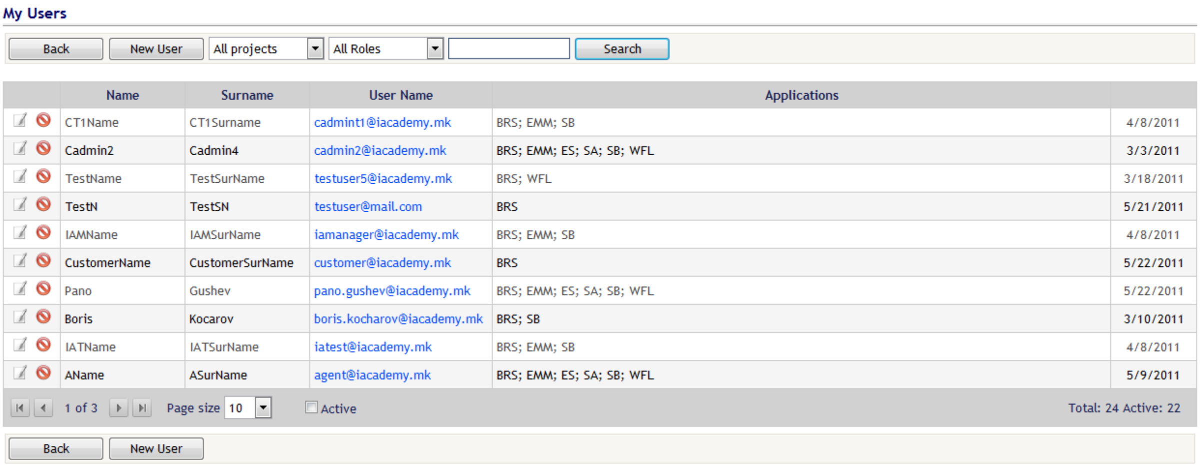


Figure 2-14 All users

The table on this page can be sorted and also filtered. You can search the users by their email or their name and surname.

The menu contains the *Back* button, which leads to the previous page, and the *New User* button, which leads to add new user page which is described in the following sections.

2.7.1 Define personal information

This is the first step of defining new user of the system. The personal information consists of: user name (email), password, name, surname, phone, country, zip, city, state, address and fax. After entering them click on the *Create User* button, or otherwise click on the *Back* button.

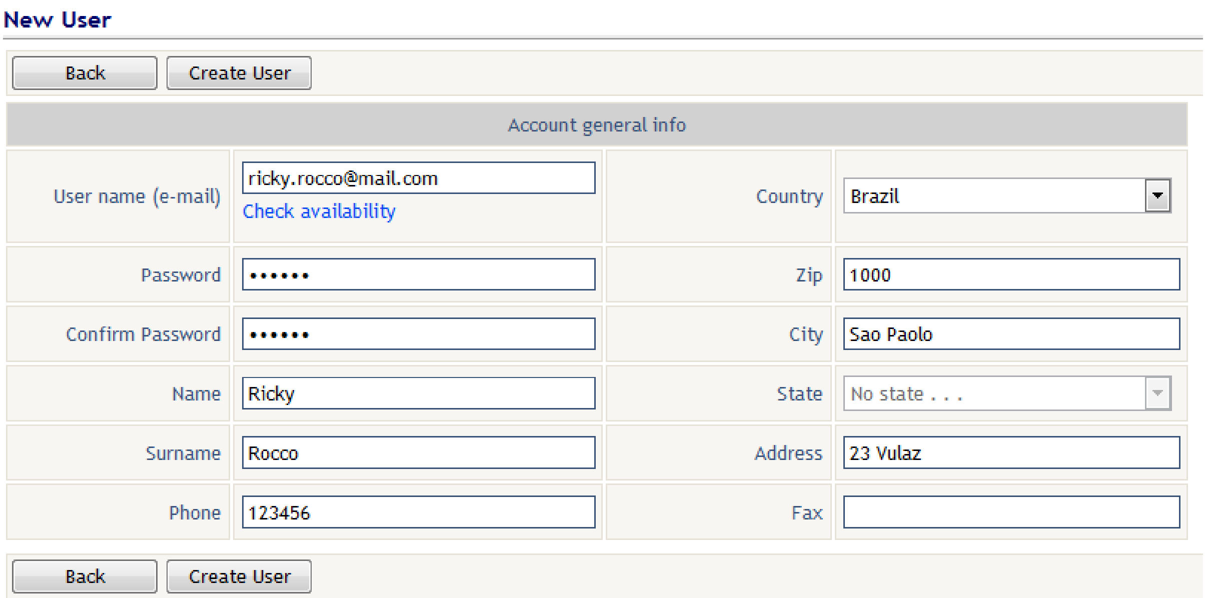


Figure 2-15 Define user personal information

2.7.2 Define user application roles

Next, you have to define the roles the user will have in the Bug Reporting application. You choose the application Bug Reporting and then the application roles are enabled for choosing. Choose the roles and click the *Next* button.

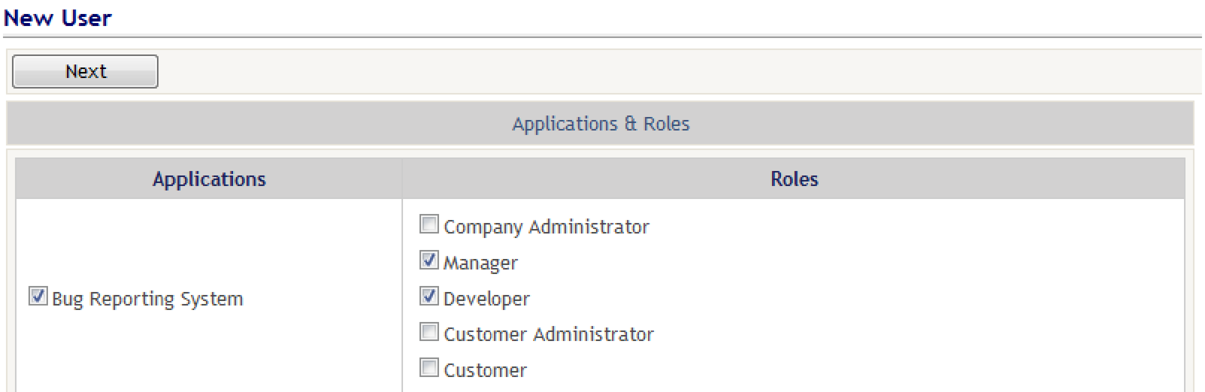


Figure 2-16 Application roles

2.7.3 Define user project roles

This is the next step of the new user definition. At this point, you have to choose project roles. The available roles are the roles selected at the previous step. If the role includes working with the project modules, then choose the modules that the user will be responsible for. This step is shown in the next figure.

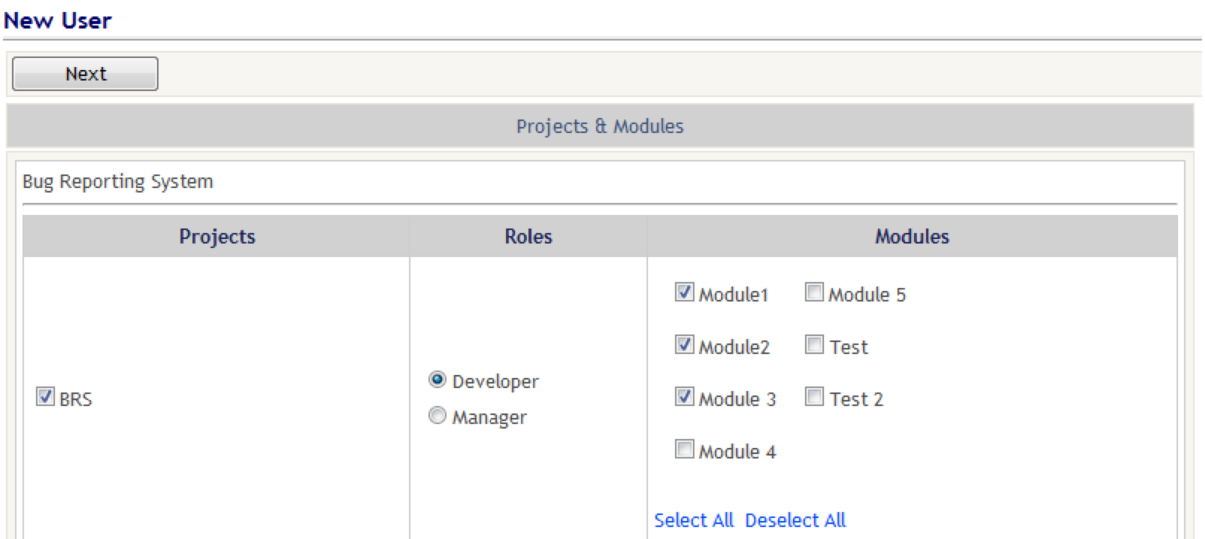


Figure 2-17 Project roles

2.8 Edit user

The edit user functionality is similar to add new user.

Firstly you choose the *Users* button from the menu on the default page, and then all the company users table is shown as in the following figure. Each row has the edit icon. On click on it, you are redirected to the edit user page.

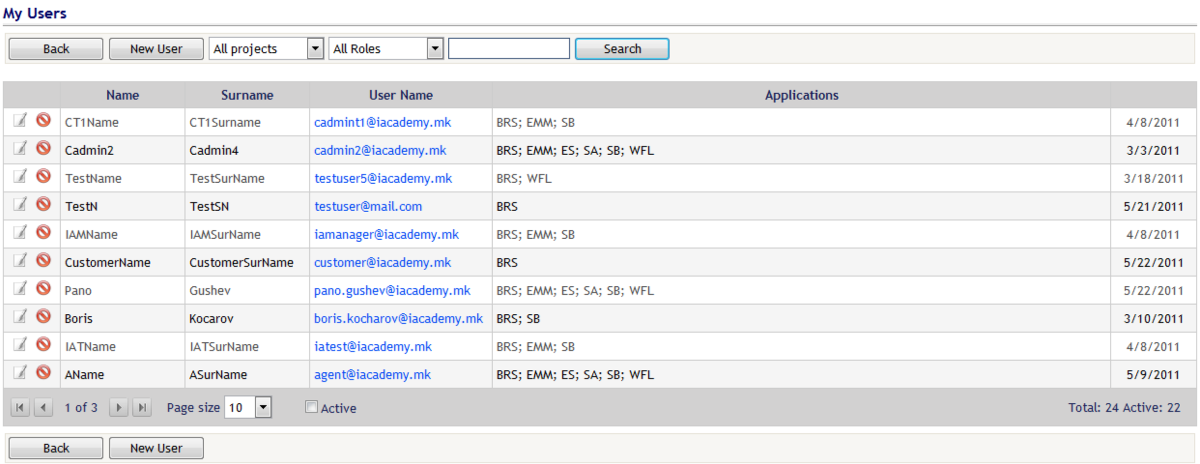


Figure 2-18 All users

The edit user page shows the personal user information with the ability to edit it. The page also has menu with these buttons: *Back* (always returns to the previous page), *Save* (saves the made changes), *Applications Roles* (leads to the user application roles) and *Project Roles* (leads to the user project roles). The edit general user information is shown in the following figure.

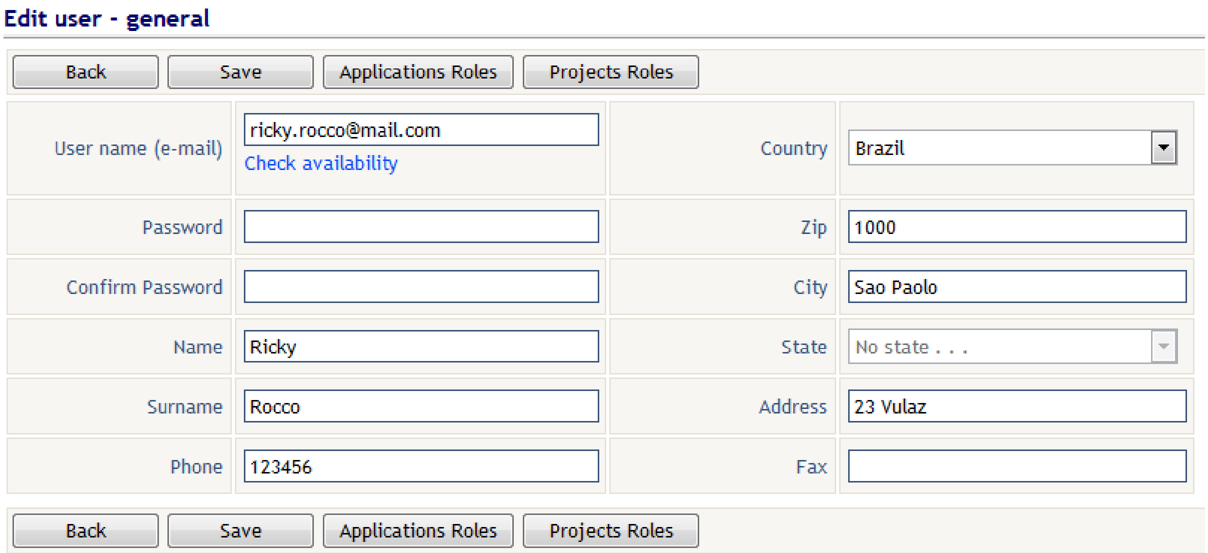


Figure 2-19 Edit user general information

If you click on *Application Roles* button, then you will be redirected to the application roles page where you can edit the roles given to the user per Bug Reporting system. To save the changes click *Save*, or otherwise click *Back* or *Cancel*. The screen is shown in the following figure.

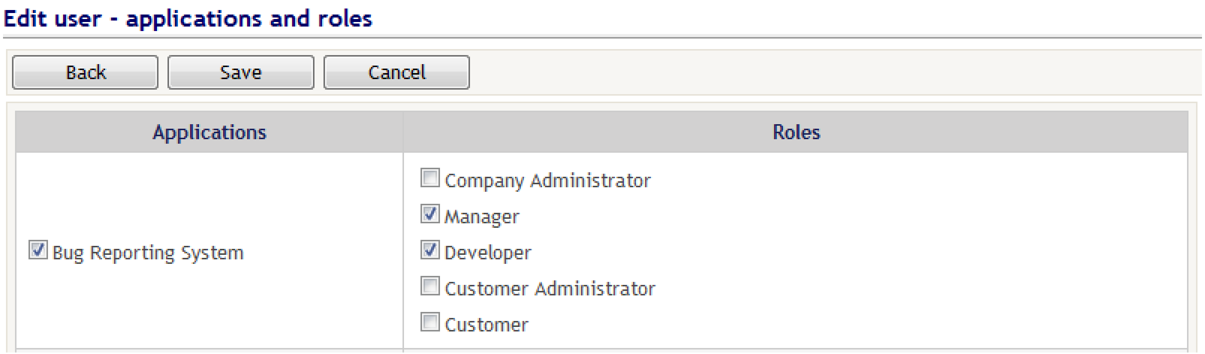


Figure 2-20 Application roles

If you click the *Project Roles* button, then you are redirected to the step for editing the roles given to the user per Bug Reporting project. To save the changes click *Save*, or otherwise click *Back* or *Cancel*. The screen is shown in the following figure.

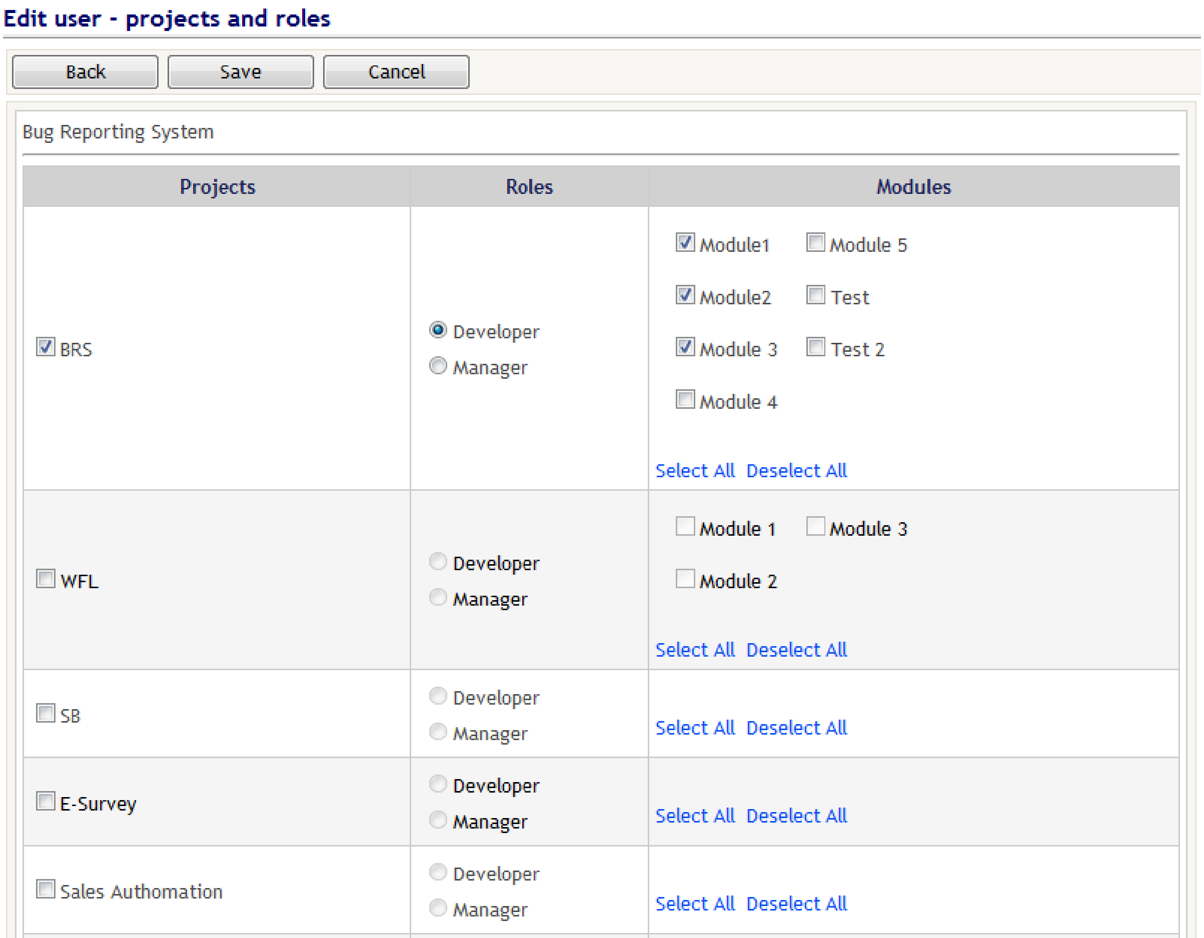
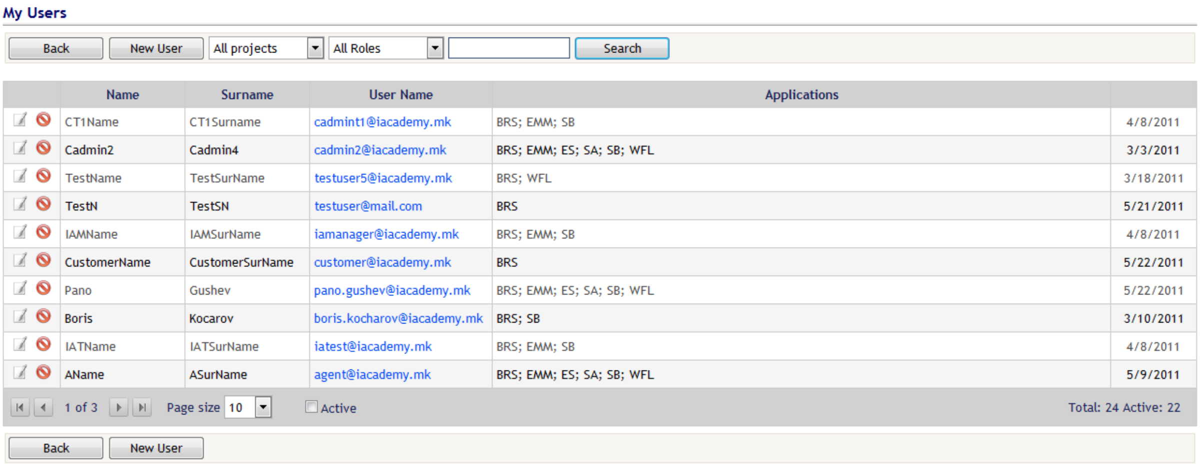


Figure 2-21 Edit project roles

2.9 Deactivate user

You choose the *Users* button from the menu on the default page, and then all the company users table is shown as in the following figure.

Each row in the all users table contains the deactivate icon . This icon is used for user deactivation. Then the user cannot login.



My Users

Back | New User | All projects | All Roles | Search

Name	Surname	User Name	Applications	
CT1Name	CT1Surname	cadmint1@iacademy.mk	BRS; EMM; SB	4/8/2011
Cadmin2	Cadmin4	cadmin2@iacademy.mk	BRS; EMM; ES; SA; SB; WFL	3/3/2011
TestName	TestSurName	testuser5@iacademy.mk	BRS; WFL	3/18/2011
TestN	TestSN	testuser@mail.com	BRS	5/21/2011
IAMName	IAMSurName	iamanager@iacademy.mk	BRS; EMM; SB	4/8/2011
CustomerName	CustomerSurName	customer@iacademy.mk	BRS	5/22/2011
Pano	Gushev	pano.gushev@iacademy.mk	BRS; EMM; ES; SA; SB; WFL	5/22/2011
Boris	Kocarov	boris.kocharov@iacademy.mk	BRS; SB	3/10/2011
IATName	IATSurName	iatest@iacademy.mk	BRS; EMM; SB	4/8/2011
AName	ASurName	agent@iacademy.mk	BRS; EMM; ES; SA; SB; WFL	5/9/2011

1 of 3 | Page size 10 | Active | Total: 24 Active: 22

Back | New User

Figure 2-22 All users

After clicking the icon, the confirmation alert is shown asking if you are sure that you want to deactivate the user.

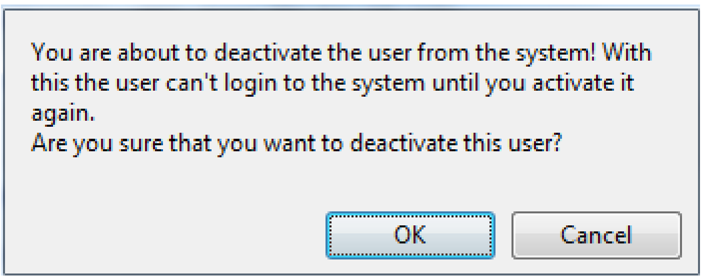
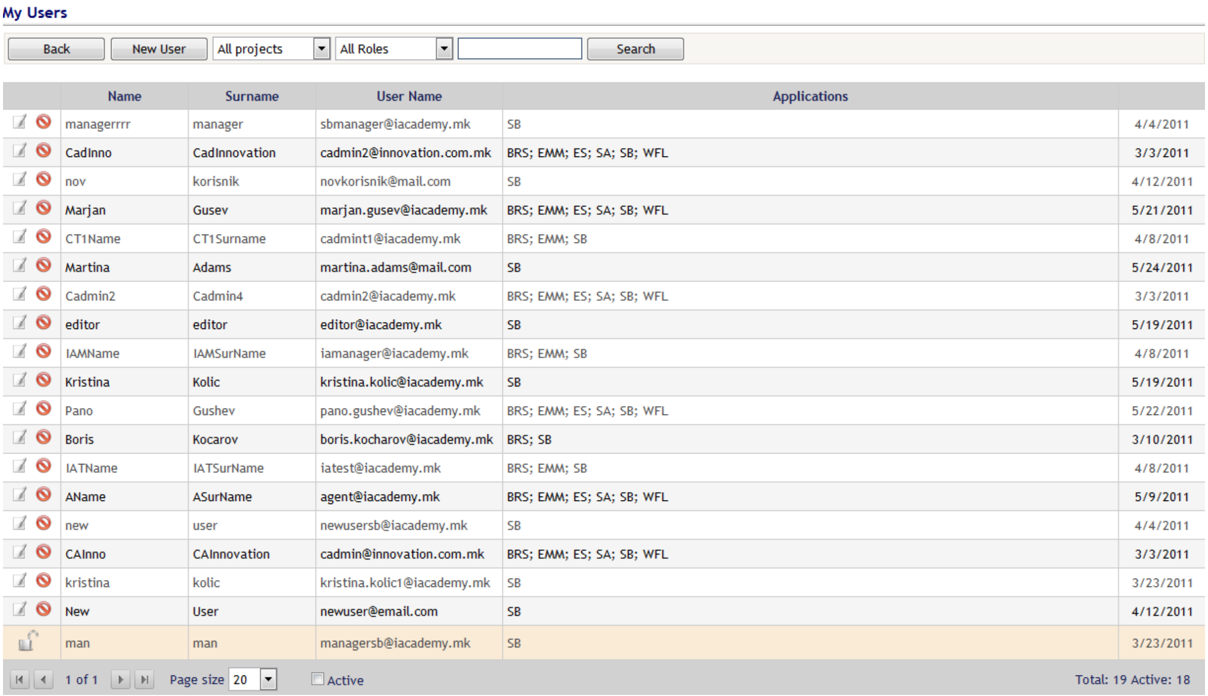


Figure 2-23 Confirmation alert

If you confirm, then the user is deactivated and it is shown in the bottom of the all users table.



My Users

Back | New User | All projects | All Roles | Search

Name	Surname	User Name	Applications	
managerrrr	manager	sbmanager@iacademy.mk	SB	4/4/2011
CadInno	CadInnovation	cadmin2@innovation.com.mk	BRS; EMM; ES; SA; SB; WFL	3/3/2011
nov	korisnik	novkorisnik@mail.com	SB	4/12/2011
Marjan	Gusev	marjan.gusev@iacademy.mk	BRS; EMM; ES; SA; SB; WFL	5/21/2011
CT1Name	CT1Surname	cadmint1@iacademy.mk	BRS; EMM; SB	4/8/2011
Martina	Adams	martina.adams@mail.com	SB	5/24/2011
Cadmin2	Cadmin4	cadmin2@iacademy.mk	BRS; EMM; ES; SA; SB; WFL	3/3/2011
editor	editor	editor@iacademy.mk	SB	5/19/2011
IAMName	IAMSurName	iamanager@iacademy.mk	BRS; EMM; SB	4/8/2011
Kristina	Kolic	kristina.kolic@iacademy.mk	SB	5/19/2011
Pano	Gushev	pano.gushev@iacademy.mk	BRS; EMM; ES; SA; SB; WFL	5/22/2011
Boris	Kocarov	boris.kocharov@iacademy.mk	BRS; SB	3/10/2011
IATName	IATSurName	iatest@iacademy.mk	BRS; EMM; SB	4/8/2011
AName	ASurName	agent@iacademy.mk	BRS; EMM; ES; SA; SB; WFL	5/9/2011
new	user	newusersb@iacademy.mk	SB	4/4/2011
CAInno	CAInnovation	cadmin@innovation.com.mk	BRS; EMM; ES; SA; SB; WFL	3/3/2011
kristina	kolic	kristina.kolic1@iacademy.mk	SB	3/23/2011
New	User	newuser@email.com	SB	4/12/2011
man	man	managersb@iacademy.mk	SB	3/23/2011

1 of 1 Page size 20 Active Total: 19 Active: 18

Figure 2-24 All user table with deactivated user

2.10 Update company details

You choose the *Edit* button from the menu on the default page, and then all the company details are shown as in the following figure.

Each of the company information can be edited. To save the changes click on *Save* button, or otherwise click on either *Back* or *Cancel*.

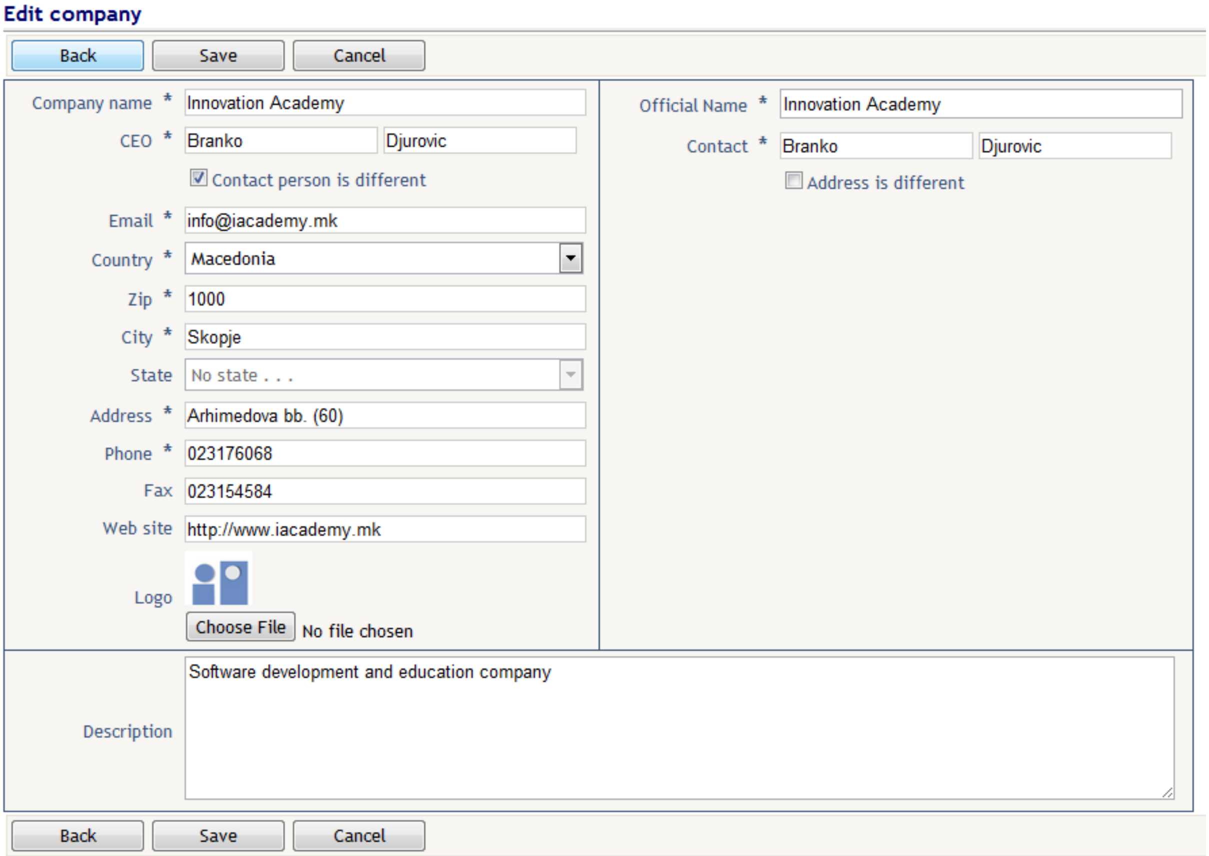


Figure 2-25 Edit company details