Cantiga Documentation

Release 0

Cantiga Team

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Cantiga Project is an open-source membership management software targeting non-profit organizations and their projects. In this documentation, you will learn how to configure and use it.

CHAPTER 1

Getting started

Thank you for choosing Cantiga! It is a membership management platform for non-profit organizations that helps them running their projects. Cantiga allows the organizations to track the project progress, organize volunteers and provide services for them, such as on-line courses, or a place for discussions. A special area of interest are geographically distributed projects, where the volunteers work in multiple cities, provinces or countries, and the role of the organization is supervising them.

Cantiga started as a membership management system for one of the projects held by WIO and WIOSNA Associations, that gathers more than 30 000 people every year in Poland and neighbor countries. It allowed gaining experience with creating a management platform for such organizations, and test many concepts and approaches in practice. Since the beginning, the system was designed to be available for public to everyone who wants to run such projects and needs a management solution for them.

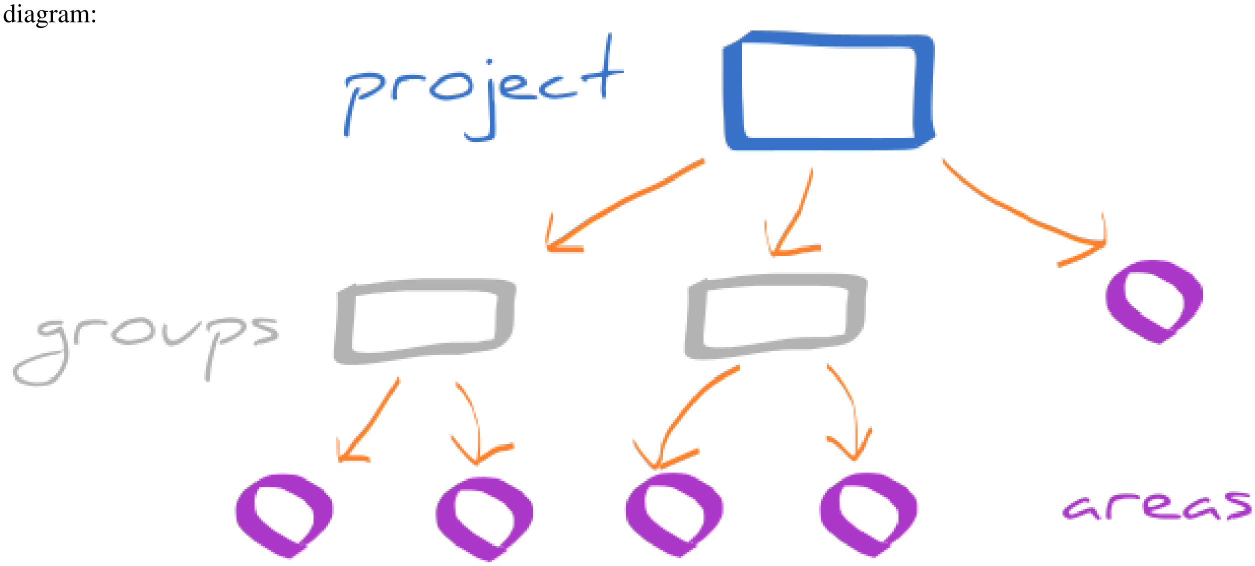
Before we start using Cantiga, we'll first get familiar with some concepts behind it.

CHAPTER 2

Projects, groups and areas

The way the non-profit organizations follow their mission are projects. Projects are collaborative enterprises, with well-defined goals, and dedicated team of people behind them. Each project has also some management structure that defines the organizational units, their relationships, responsibilities and roles. For smaller projects, the structure is very simple, but as they grow, there is an increasing need to make it more formal. Many projects also start as events for a local community. The success of the project often inspires other people to create similar events in another area, with the help of the original leaders who offer their guidance and experience.

In Cantiga, almost everything happens within *places* which represent different projects and organizational units within them. The users are members of one or more places and each place has its own *workspace*, where they users can work, e.g. by taking part in the discussions, tracking the progress, taking online courses, etc. There are three types of places in Cantiga that form a hierarchy: projects, groups and areas. The relationship between them is shown in the following diagram:



Project is always a top-level place that further divides into groups and areas. Project workspace offers tools for managing the projects from a central perspective. The members are usually main leaders and people who coordinate the project on a central level. For each project, the organization may decide to use a different set of modules offered by Cantiga to match its needs. In Cantiga, projects are isolated: members of project A do not see what is going on in project B, unless they are members of project B, too.

Group is an organizational unit inside the project. It can be adapted for many different purposes. Groups are defined by project managers. Currently, they can form only a flat hierarchy (the group cannot be a part of another group), but this is going to change in future versions of Cantiga.

Area represents a single geographical area, where the project is held (hence the name), e.g. single city. Area members are usually local leaders who are responsible for the project in their place of living. Areas can be directly associated with the project, or assigned to groups. Areas can be defined in to ways:

- created explicitly by project managers,
- created by local leaders.

In the second case, Cantiga offers a workflow for requesting the area by the local leader, and verifying the requests by project members.

CHAPTER 3

Membership

Each user of Cantiga has its own account and profile. He or she can be a member of multiple places, and get access to their workspaces. Everyone who wants to get access to Cantiga, must create an account. However, to be able to do anything useful except customizing their profile, the user must be *invited* to some place. Invitations are sent by the managers of the given place.

Working on a project is about good communication, and usually, the members of the same place must have contact one to another. Hence, accepting the invitation requires providing some contact information for other members (e-mail, and telephone). The visibility of the contact data is limited. Although everyone who is a member of some place associated with certain project, can see your profile, he or she will not see your contact data. The detailed visibility rules are described in the later part of this manual.

CHAPTER 4

Installation

Here you will learn how to install Cantiga.

4.1 Requirements

To install Cantiga you need:

- any web server,
- PHP 7.0 or newer,
- MariaDB or MySQL database,
- any mail server with mail account,
- composer tool.

Required PHP extensions:

- calendar
- gd
- intl
- PDO
- openssl

4.2 Installation

Download Cantiga from the project website or clone the Git repository:

```
git clone https://github.com/zyxist/cantiga.git .
```

The `web/` directory must be the root directory for your webserver. Do not make accessible any other directories via the web browser.

The rest of the installation is done by Composer:

```
composer install
```

Composer will download the necessary dependencies and ask you several questions about the configuration of the system, such as database and mail configuration.

The final step is installing the database structure:

```
php bin/console cantiga:install:db --env=prod -i --type=mysql
```

Now you can run the web application in your browser. The login screen should appear. The default credentials are:

- login: **administrator**
- password: **Admin56789**

Configuration

After the installation, Cantiga is operational. However, you would likely want to provide a custom branding and change some settings.

5.1 Branding

To change the branding information, edit `app/Branding.php` file.

- `APP_NAME` - application name, shown in the top-left corner,
- `APP_LOGO` - path to a custom logo image, relative to `web/` directory,
- `COPYRIGHT_NOTE` - copyright note shown in the footer,
- `PERSONAL_INFORMATION_OWNER` - in some legal systems, it is mandatory to provide the detailed information about the owner of the personal information data stored in the system. This text will appear in the footer.

5.2 Cron jobs

The following command shall be scheduled in Cron to execute every 30 minutes to 1 hour:

```
php bin/console cantiga:milestone:update-status
```

If you want to periodically export the data to an external web service, schedule the following command as well:

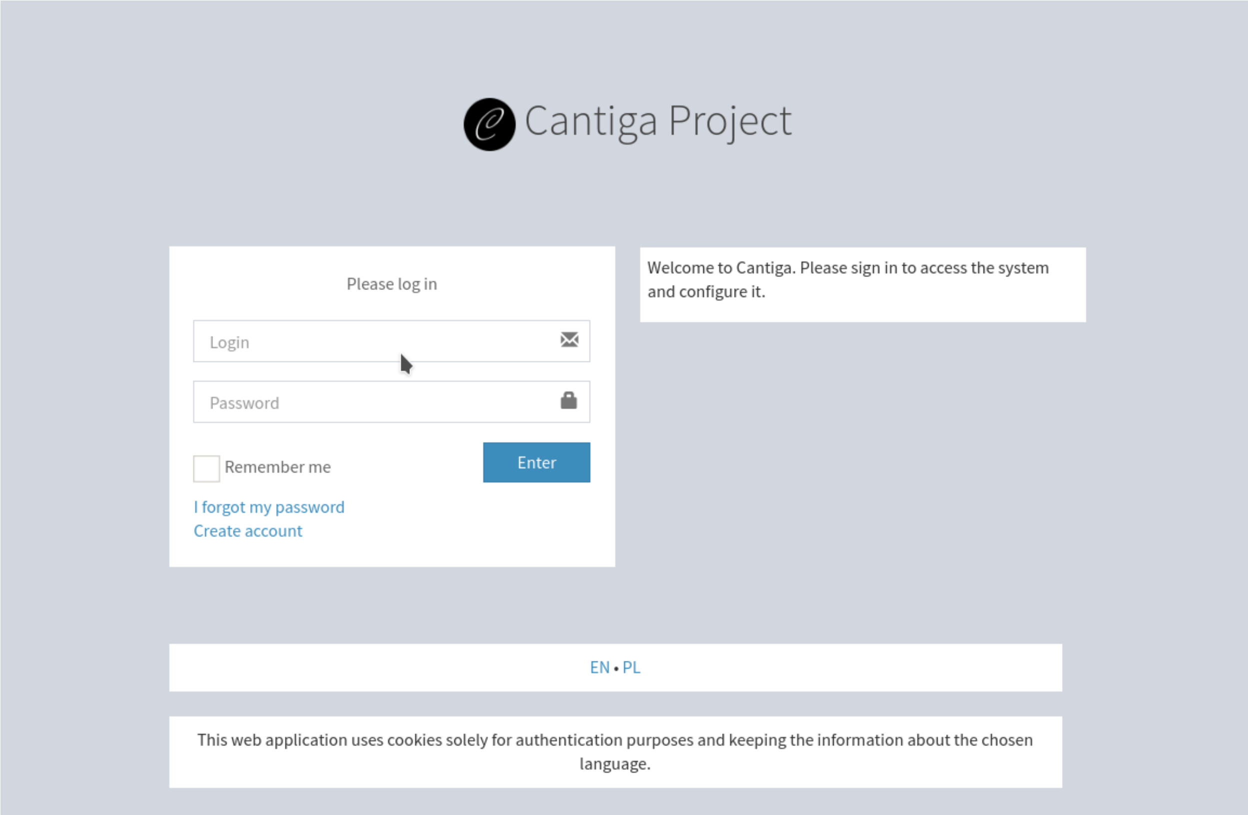
```
php bin/console cantiga:export-data
```

You can read more about periodic data export in the following page: *Data export*.

CHAPTER 6

Getting around

In order to use Cantiga, you need to have an account. The welcome screen to the system shows nothing more than just a login screen:

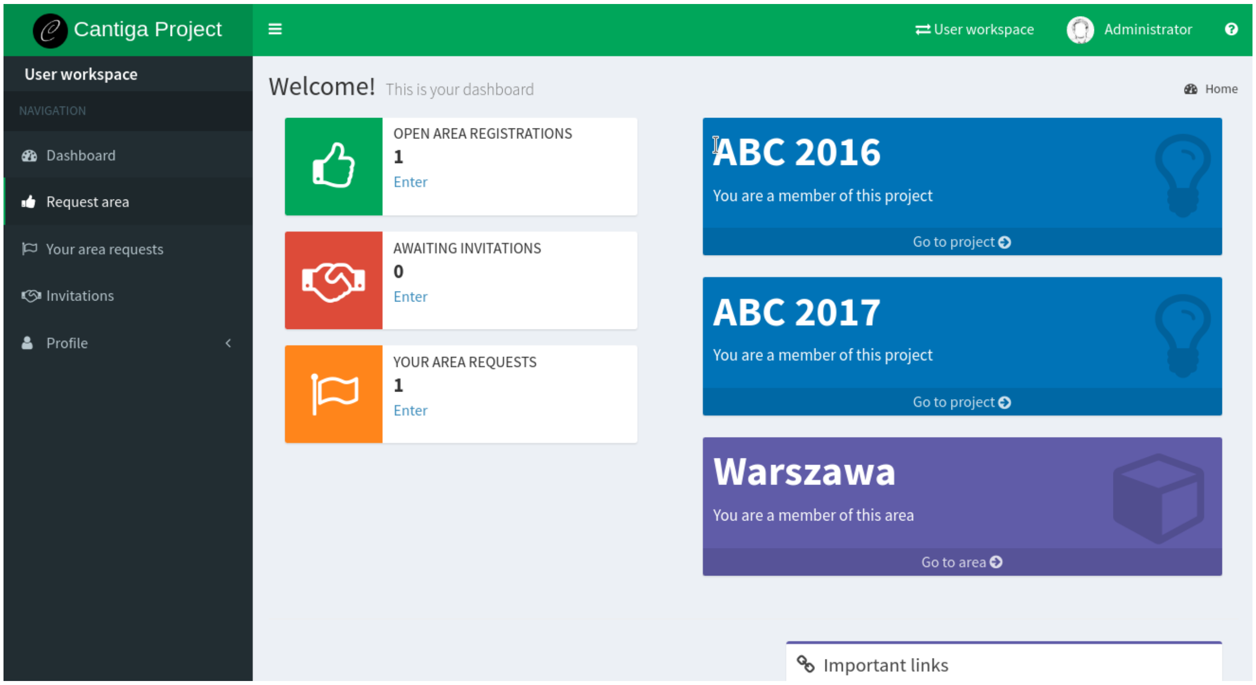


The bottom bar allows choosing the current language. Under the form, there are two links for creating a new account and recovering the lost password. The default credentials available after the installation are:

- login: **administrator**
- password: **Admin56789**

6.1 Navigation

After logging in, the user can see a dashboard:



Let's take a look at the user interface of Cantiga.

- To the left, there is a **workspace menu**. You can use it to access workspace-specific pages.
- In the top-left corner, you see the logo and the application name. The icon next to it shows and hides the menu.
- At the top, you can see the **top bar**, with the workspace selector, profile information and help icon.
- At the bottom, you can see the footer.
- The central part of the screen displays the content.

In Cantiga, everything happens within a workspace. As we know from the introduction chapters, each place has its own workspace. There are also two special workspaces:

- *User workspace* allows the users to manage their profiles,
- *Admin workspace* allows the administrators to configure and manage Cantiga system.

After logging in, everyone lands in their user workspace. The name of the workspace is shown under the logo, and its type is marked by the color of the top bar:

- green color: user workspace,
- red color: admin workspace,
- blue color: project workspace,
- white color: group workspace,
- purple color: area workspace.

Useful terms:

top bar the narrow bar at the top of the page, whose color describes the type of the current workspace.

workspace menu menu with links to different workspace pages.

6.2 Customizing the profile

In the user workspace menu, click on the **Profile** option to expand it. You can see the following options for managing the profile:

- **Contact data** - manage your contact data visible by other users,
- **Settings** - change the account settings, such as system language, and the timezone,
- **Manage photo** - upload your photo or avatar,
- **Change password** - change the password,
- **Change e-mail** - change the account e-mail used for sending notifications, and recovering password. It is not visible by other users.

6.3 Switching between workspaces

To switch between workspaces, use the *workspace selector*. It can be found on the *top bar* and it is represented by an icon of two opposing arrows and the name of the current workspace. Click on it to expand the list of available workspaces and places. You can use it to navigate between places, and your user workspace. In addition, the links to the places you are a member of are shown on the user dashboard.

Useful terms:

workspace selector the icon on the top bar that allows switching between workspaces.

6.4 Signing out

To leave Cantiga, click on your avatar and user name on the top bar. A small dialog box appears. Click on the **Sign out** button to leave the system. The dialog box also offers a quick access to some of the profile options.

6.5 Accessing help

The question mark icon in the top right corner opens the help pages. Each workspace has a a predefined set of pages that can be edited by administrators, and available in different languages. Note that in the clean installation, all of the help pages are empty.

CHAPTER 7

Creating projects

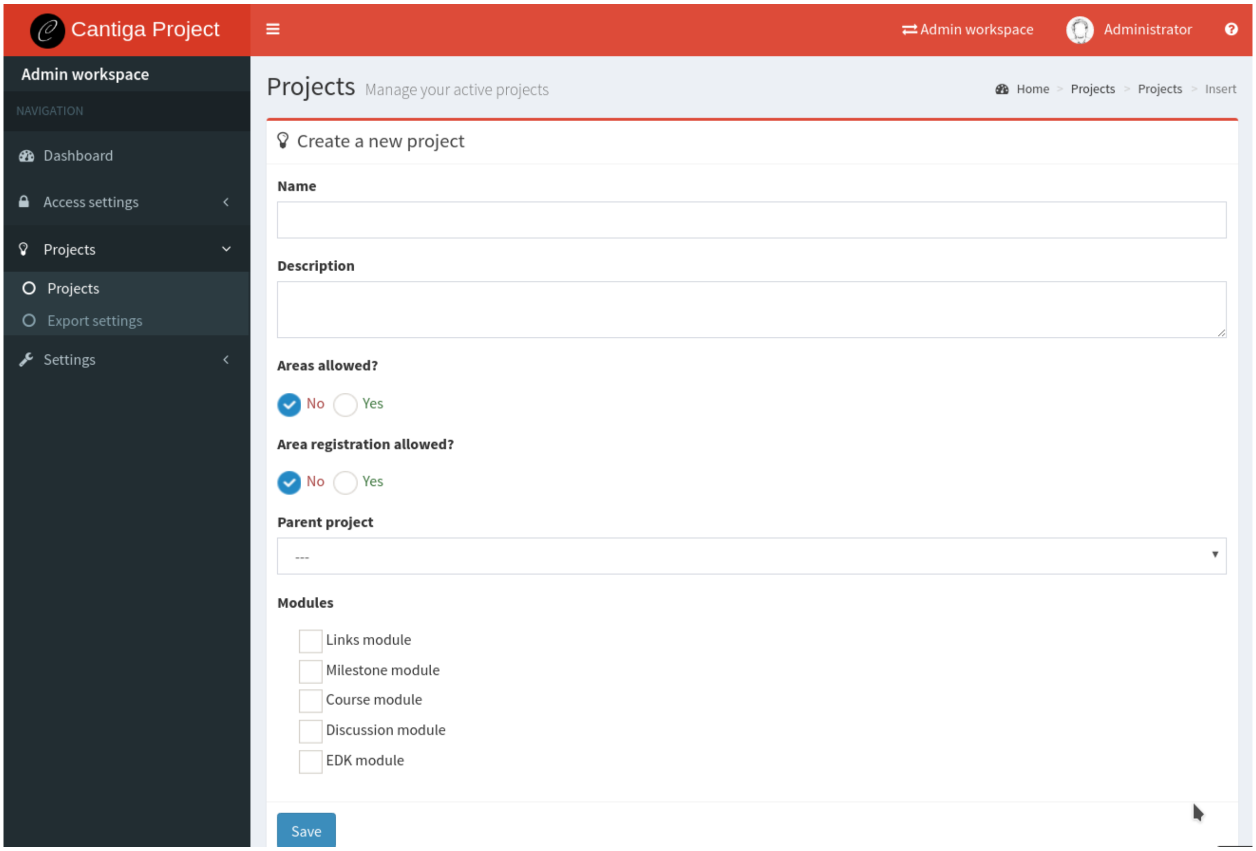
To do anything useful in Cantiga, you need a project. Projects can be created by administrators in the *Admin workspace*.

7.1 Create the first project

To open the project management panel, perform the following actions:

1. click on the *workspace selector*,
2. select *Admin workspace*,
3. in the *workspace menu*, expand **Projects** section and click on the **Projects** link.

Initially, the list of the projects is empty. Click on the **Insert** button below the list to open the project creation form:



Explanation of the options:

- **Name** - name of the project. Try to keep it short (e.g. by using abbreviations), because it appears in some places with very little space,
- **Description** - longer description of the project,
- **Areas allowed?** - set to *Yes* to enable the support for *areas* in this project,
- **Area registration allowed?** - set to *Yes* to allow anyone with an account to request creating an area in this project. Otherwise, areas must be created manually by project managers,
- **Parent project** - currently, this list will be empty. It allows importing certain settings from an older, archived project.
- **Modules** - select the modules available in this project. Modules provide access to certain functionality and services.

Click on **Save** to finish the project creation.

7.2 Add project manager

Your project is now created and ready to use, however, it has no members. You must invite at least the project manager to the project. To do this, open the project details, and click **Members** button. You will see a page with the empty list of members and the **Invite** button. Click on it and fill in the invitation form.

To read more about inviting people to places, see *Inviting people*.

Note: each project must have at least one manager. Otherwise, it won't be possible to modify project settings, and create certain objects, such as milestones, discussion channels and courses.

7.3 Review project settings

After accepting the invitation, you will see that the *workspace selector* contains a new option, and the user dashboard shows you the direct link to the workspace of the newly created project. When you enter the project workspace, the color of the *top bar* changes to blue. Take some time to look around. The **Manage** section contains the panels available only for the project managers. One of the links, **Settings** allows you customizing the behavior of the modules enabled for the project.

Some of the important settings are:

- **Area form** - the structure of the area profile can be customized. By default, Cantiga offers two basic types of area forms, and you can create your own form, too. Information about customizing the area forms can be found in *Customizing area requests and areas*.
- **Area request form** - the structure of the area request can be customized. By default, Cantiga offers two basic types of area request forms, and you can create your own form, too. Information about customizing the area forms can be found in *Customizing area requests and areas*.

To invite more people to the project, go to **Project members** page.

CHAPTER 8

Requesting areas

New areas can be created in two ways:

1. they can be created directly by project members,
2. they can be requested by local leaders who created an account in the system.

8.1 Configuration

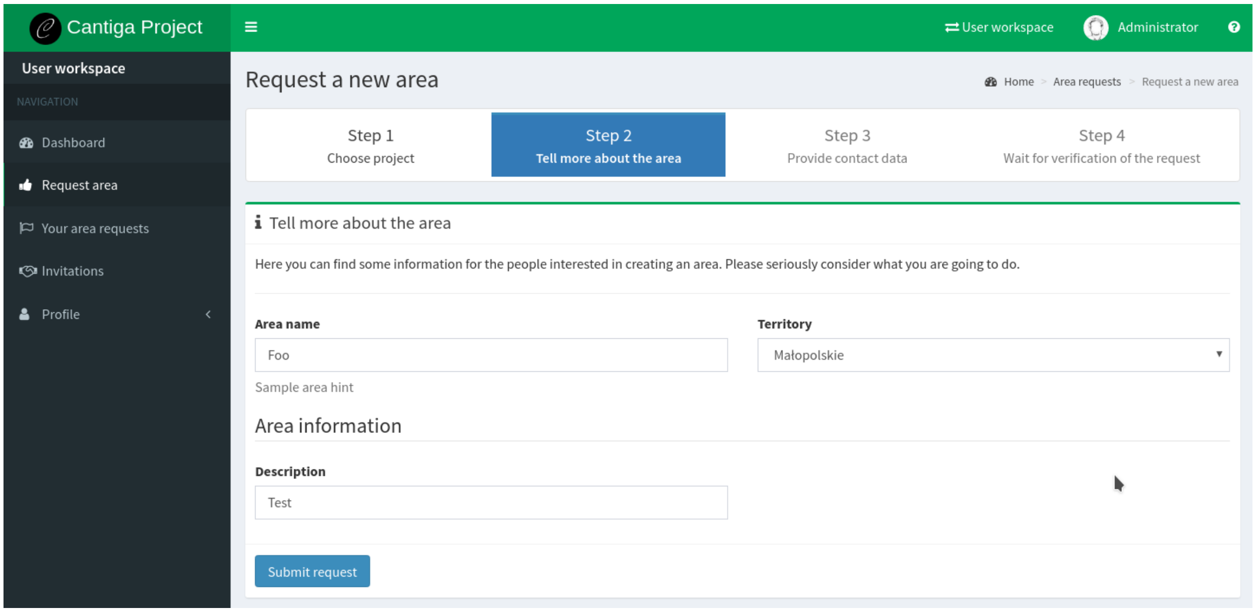
In order to enable area registration, some initial configuration must be done:

1. the administrator must set **Area registration allowed** option to `Yes` for the given project,
2. the project manager must define at least one territory for the project.

The list of territories usually contains the list of provinces (or other units of the administrative division) in the country, and the leaders pick one of them during the area registration. As a project manager, go to **Project workspace > Manage > Territories** to define the list of territories for the project.

8.2 Requesting areas

Anyone who is interested in creating an area for our project, shall create an account in the system. Once logged in, the user can see the list of the projects, where the area registration is currently open. After selecting a project, the user is taken to the area request wizard:



The wizard consists of four steps:

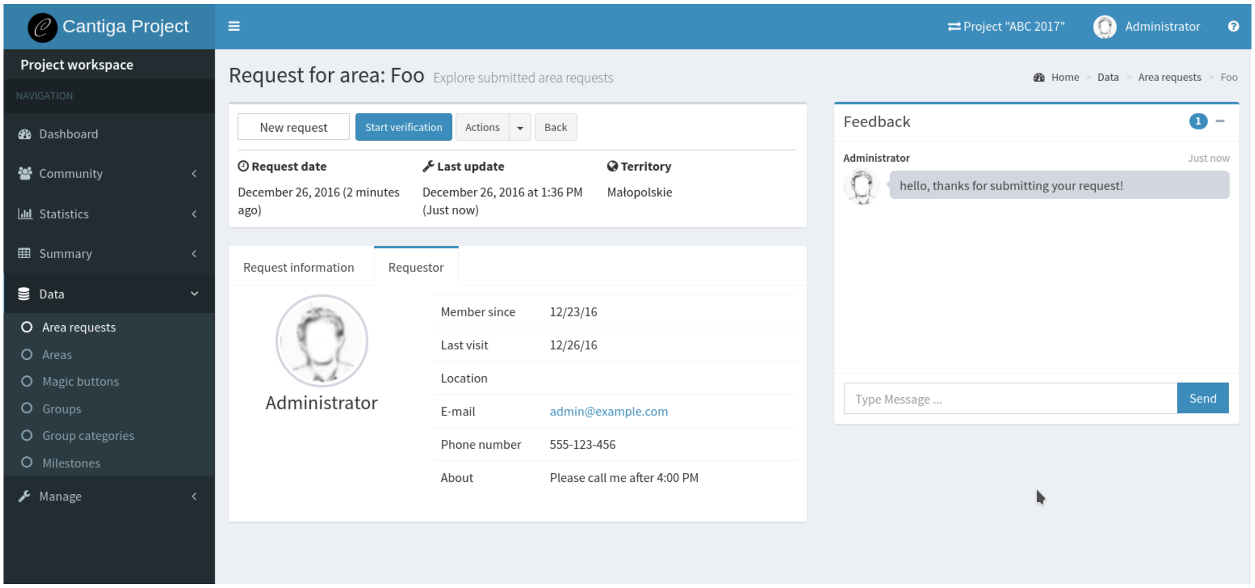
1. choosing a project,
2. providing the information about the area,
3. providing the contact data,
4. waiting for the area request verification.

Hint: the area request form and area profiles can be customized with little programming skills. See: *Customizing area requests and areas*.

The user can see his or her area requests in the user workspace. Each request contains a feedback window which can be used to communicate with the project leaders.

8.3 Verifying the requests

Each request must be verified by the project members before creating an area. Below you can see a sample request, as seen by project members in *project workspace*:



The request goes through a simple workflow: *New* > *Verification* > *Approved or rejected*. To start the verification, click on the **Start verification** button at the top of the request details.

The detail page contains some other useful information:

- preview of all the information provided by the requestor,
- contact data of the requestor,
- feedback chat which can be used for communication with the requestor.

After approving the request, the area is created immediately and the requestor is added as the manager.

Cantiga sends e-mail notifications for each change of the state of the request.

Hint: there are some useful charts related to the area requests in **Statistics > Area requests** panel.

CHAPTER 9

Creating groups

Project members can define new groups in the project. To access the group management panel:

1. go to the *project workspace*,
2. expand **Data** section from the *workspace menu*,
3. select **Groups**.

After creating a group, it is possible to invite group leaders by opening the group details, clicking **Manage** button at the top of the page, and selecting **Members**. To read more about inviting people to places, see *Inviting people*.

9.1 Group categories

To ease the management of the big number of groups, you can define group categories. Each group can belong to a single category, and the category can be used in some list filters: for example, you can find the areas assigned to all the groups in the specified category.

CHAPTER 10

Managing areas

The project and group members can manage the areas in their respective workspaces. Group members can access only the areas that are assigned to their group, whereas project members see all the areas in the project. The area management panel can be found under **Data > Areas** in the *workspace menu*.

10.1 Area status

Each area can have some status, which can be defined by project managers in **Manage > Area status** page. Cantiga allows customizing the name of the status and the color of their labels. The names of the colors are specified below:

- `primary` - blue label,
- `success` - green label,
- `warning` - yellow label,
- `danger` - red label,
- `default` - grey label.

The status can be used for multiple purposes. An example workflow suggestion is presented below:

1. new areas have the *New* status,
2. when the area leaders take part in trainings and courses, their areas can have the status *Training*,
3. when the training is done, the area status can be changed to *Active*,
4. if the given area fails to start, the status can be set to *Inactive*.

10.2 Automatic status change

Setting the status manually for a big number of areas may be time-consuming and frustrating. Fortunately, Cantiga can set the area status automatically, depending on reaching certain milestones in the project. To read more about milestones, see :ref:^creating_milestones^ page.

The rules for automatic status change are defined by project managers in **Manage > Status rules** panel. Each rule has the following form:

1. initial status,
2. new status,
3. list of milestones that must be completed to perform the transition,

4. activation order, if there are multiple rules applying to the same initial status. Generally, the rules which require *fewer* milestones, shall have the lower activation order.

Warning: the area status does not change immediately once all milestones are completed. The change is done by calling `cantiga:milestone:update-status` console command:

```
php bin/console cantiga:milestone:update-status
```

We recommend to schedule this command to be executed every 30 minutes to 1 hour on the web server.

Inviting people

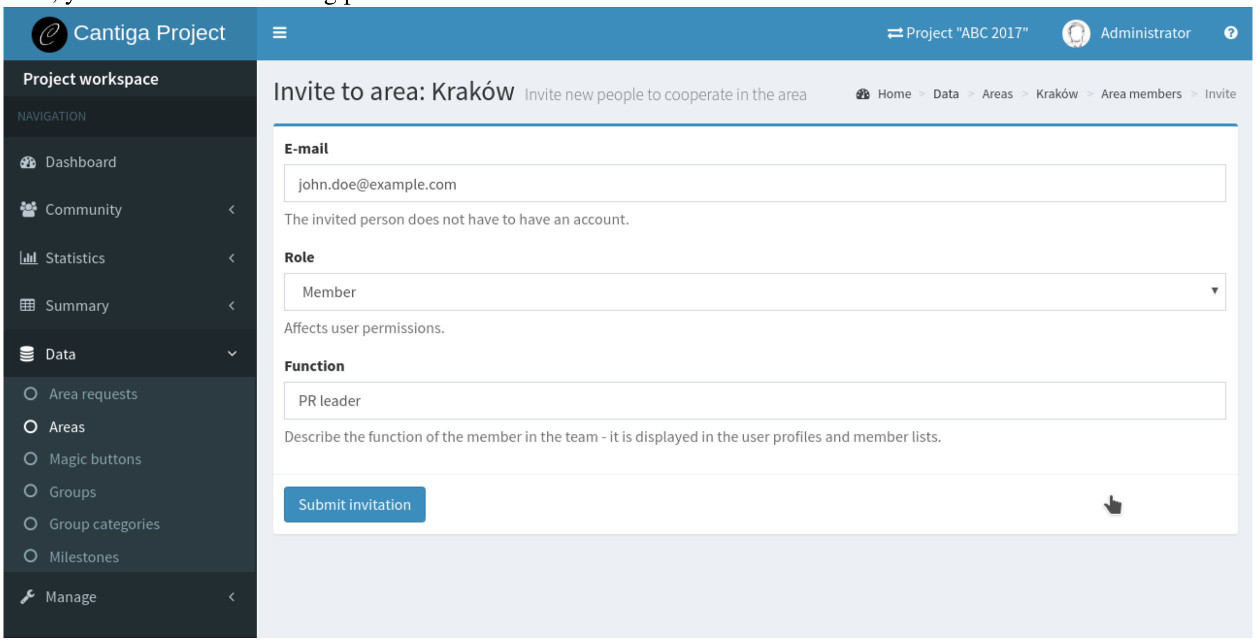
New members join the places through invitations from place managers. You can invite both users who already have an accoun in Cantiga, and users who first need to register one. If the invited user does not have an account, he or she will receive an e-mail with the information about the invitation and the instructions how to create account. The registered user sees new invitations immediately in his/her profile.

11.1 Inviting a new member

Invitations can be sent by many users:

- project managers and administrators can invite others to projects,
- project members can invite others to groups and areas,
- group managers can invite others to their group,
- group members can invite others to the assigned areas,
- area managers can invite others to their area.

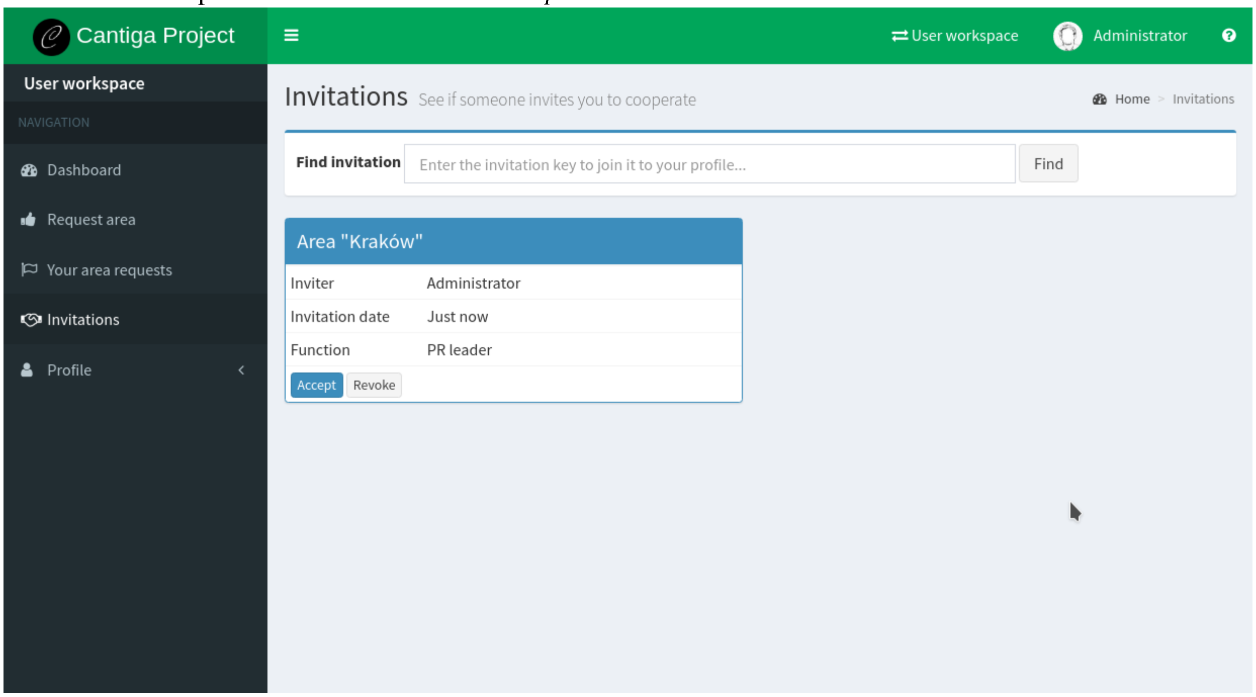
The membership management panel shows all the members of the given place, and the **Invite** button. After clicking on it, you can see the following panel:



To invite someone, you need to know his or her e-mail address. It does not matter whether the invited person has an account in the system or not. You must also specify the role which describes the user permissions, and the function. The function is displayed in user profiles and provides a hint for the others what the given person is responsible for.

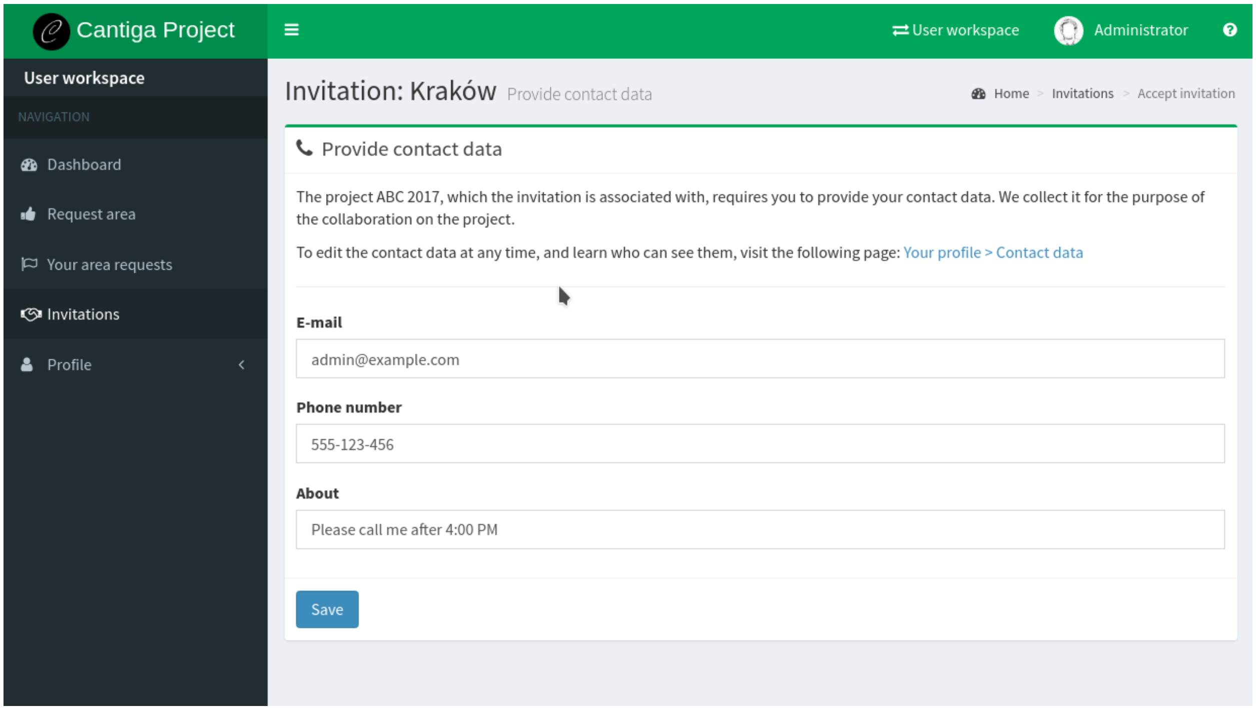
11.2 Viewing and accepting invitations

The notification about incoming invitation is received via e-mail. If the user does not have an account, the e-mail provides a guide and a link to create it. After creating an account. After creating an account, the invitation can be seen in the **Invitations** panel available in the *user workspace*:



Click on **Revoke**, if you decide not to join the given place. Otherwise, click **Accept**.

A successful cooperation on a project requires the members to know the contact data to the others. Cantiga can serve as a address book for the members of the same place. If you accept the invitation, the system asks you to review your contact data for the given project. They must be filled in, if this is the first place in the given project you join. Otherwise, the form will be already filled with the previously entered data.



11.3 Dealing with incorrect e-mails

Sometimes it may happen that the invitation was sent to e-mail A, but the invited person used a different e-mail address to create his or her account. In this case, Cantiga is not able to recognize that the account already exists and treats the invitation as sent to an unregistered person. However, such an invitation is not lost.

Each invitation message sent to an unknown e-mail address contains a special invitation key. This invitation key can be copy-pasted to the **Find invitation** text field at the **Invitations** page, to bind it to the user account. After binding, the invitation can be answered in a normal way.

CHAPTER 12

Managing application texts

Many texts displayed by Cantiga in various panels can be customized at the system- and project-level. We found this feature very useful in practice. You can use application texts to:

1. display important announcements for the users of the system in visible places,
2. display guidelines for new users of the system,
3. if project members do the same mistake over and over again, it is possible to show a warning for them directly in the problematic panel,
4. edit help pages.

Administrators can define system-level texts in the *admin workspace*, in **Manage > Application texts** panel. Project managers can define project-level texts in the *project workspace*, in a similarly located panel.

If the project-level text is not defined in the given project, Cantiga uses the default system-level text.

Application texts can be internationalized: create multiple application texts for the same display place, but with different locales (language codes, such as *en*, *de*, *fr*, *pl*, etc.).

CHAPTER 13

Managing mail templates

E-mail notifications sent by Cantiga can be customized by system administrators:

1. go to *admin workspace*,
2. expand **Settings** section from the *workspace menu*,
3. select **Mail templates** link.

When you create a new mail template, you must select the place where the e-mail is sent (not to be confused with *projects*, *groups* and *areas*), from the predefined list. The e-mails can be internationalized by creating multiple templates for the same place, but with different locales (language codes, such as *en*, *de*, *fr*, *pl*).

The mail template content is written in Twig template engine syntax, the same as used by Cantiga for rendering the HTML pages. Twig offers a rich language for rendering the message, but the basic usage is really simple. You write the template as a regular HTML page, with embedded placeholders, where custom content shall be displayed. You can take a look at the default mail templates to learn what placeholders are available in each place.

The Twig documentation for template designers can be found here: http://twig.sensiolabs.org/doc/templates.html

Note: mail templates are shared by all the projects in the system. It is not possible to create a mail template specific for a single project.

Hint: if the template contains a syntax error, Cantiga is not able to generate a mail template, and the user sees an error message. Do the modifications carefully and always test your templates before applying them to the production system.

CHAPTER 14

Creating milestones

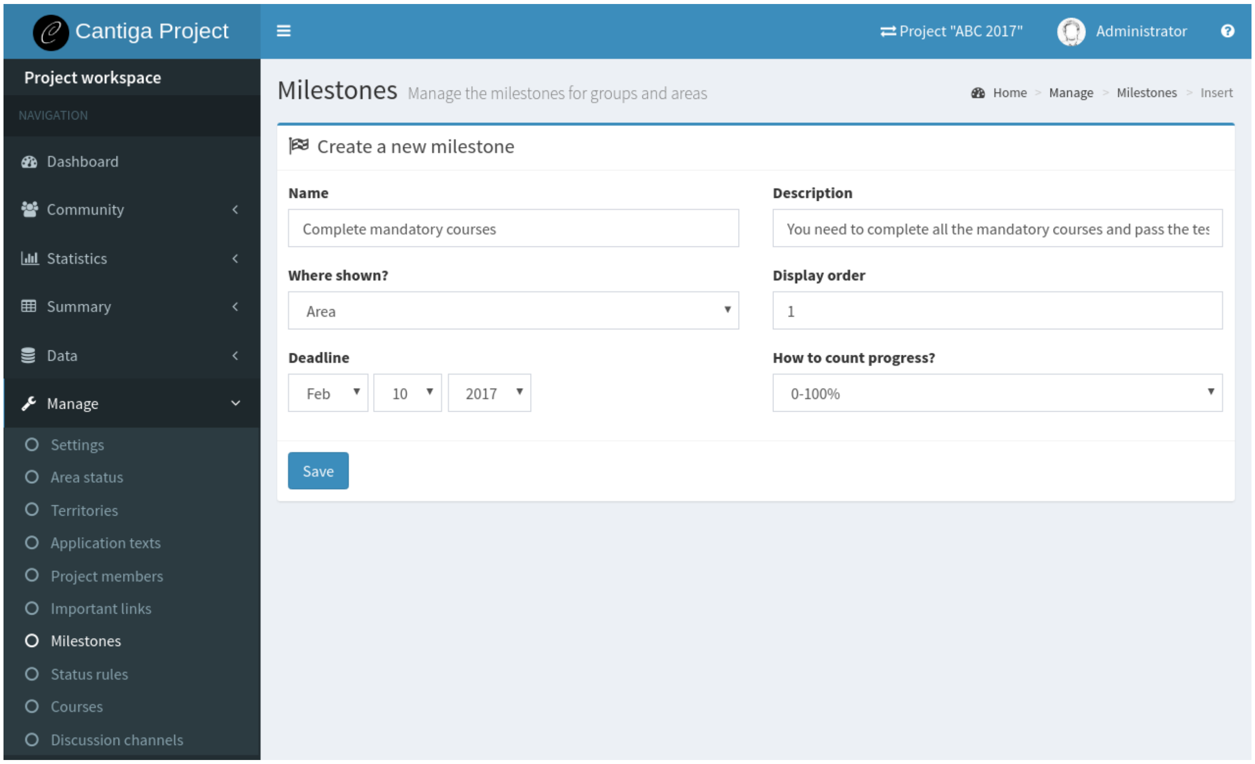
Milestones allow tracking the progress of the project. Project managers can define milestones for the project, groups and areas. The milestones for each place type are distinct. Area leaders see other milestones than group leaders, and project leaders. All the places of the same type aim to complete the same set of milestones, and the project members can compare the overall progress between them.

14.1 Managing milestones

To create milestones in the project, you have to be a *project manager*. It is recommended to define the set of the milestones at the very beginning of the project, so that everybody is aware of the important deadlines and things that need to be done. To access the milestone management panel:

1. go to the *project workspace*,
2. expand **Manage** section from the *workspace menu*,
3. select **Milestones**.

The list shows the defined milestones for all the types of places. Click **Insert** button to create a new milestone:



The milestone has the following properties:

- **Name** - name of the milestone (keep it short, e.g. "Complete on-line courses"),
- **Description** - detailed description what needs to be done,
- **Where shown** - specify the type of the place (project, group or area), where this milestone applies to,
- **Display order** - the milestones are displayed in the order defined by the numbers specified by this field; the range of numbers does not have to be continuous, and the numbers can be duplicated,
- **Deadline** - deadline for the milestone completion,
- **How to count progress? - there are two types of milestones:**
  - *binary*: completed or not completed,
  - *0-100%*: allows specifying the completion in percents.

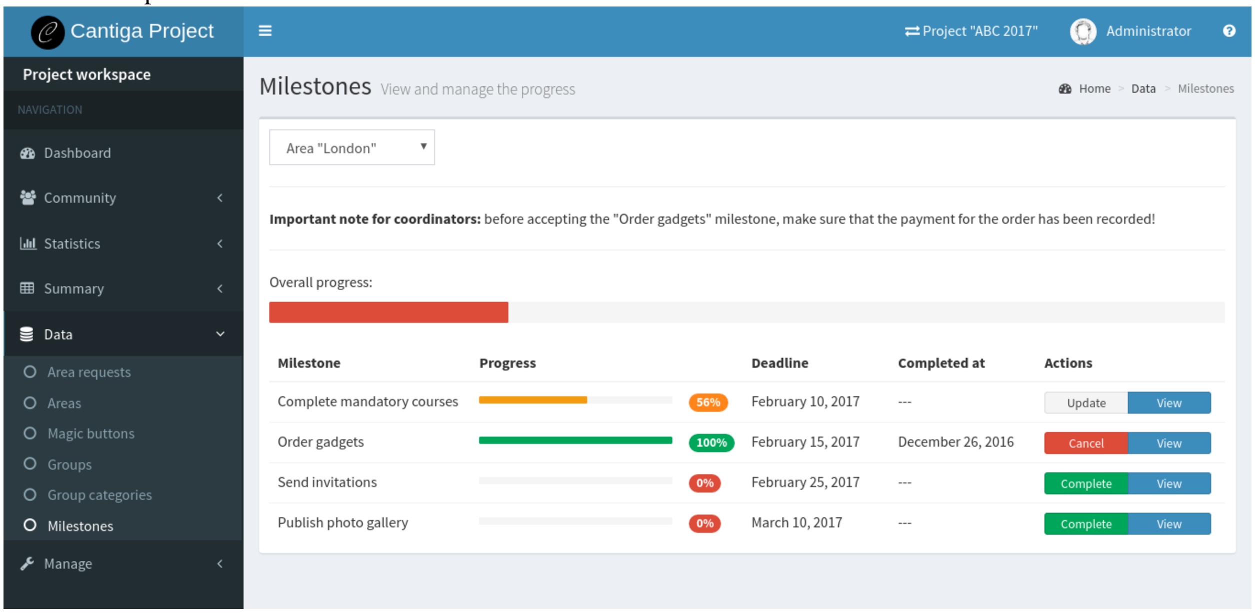
Note that the **Where shown** and **How to count progress?** properties cannot be changed once the milestone is created.

14.2 Updating progress

To update the milestone progress, you have to be a project or a group member. Project members can manage the progress of all the areas, groups and the project itself. Group members can manage the progress of the associated areas only. To access the milestone progress editor:

1. go to the project or group workspace,
2. expand **Data** section from the *workspace menu*,
3. select **Milestones**.

The editor is presented below:



The select box in the top-left corner allows switching between available places. After selecting the place, the list of the milestones appears with the progress bar showing the completion of each of them. Click **View** to read a detailed description for each milestone.

Binary milestones have the **Complete** or **Cancel** buttons which allow switching between the completion status. Percent-based milestones have the **Update** button. Click on it to open a modal dialog where you can enter the current progress value in percent. The value of 100% is marks the milestone as completed.

Note: area leaders can view their progress on a similar page in their workspace, but without the ability to edit the progress.

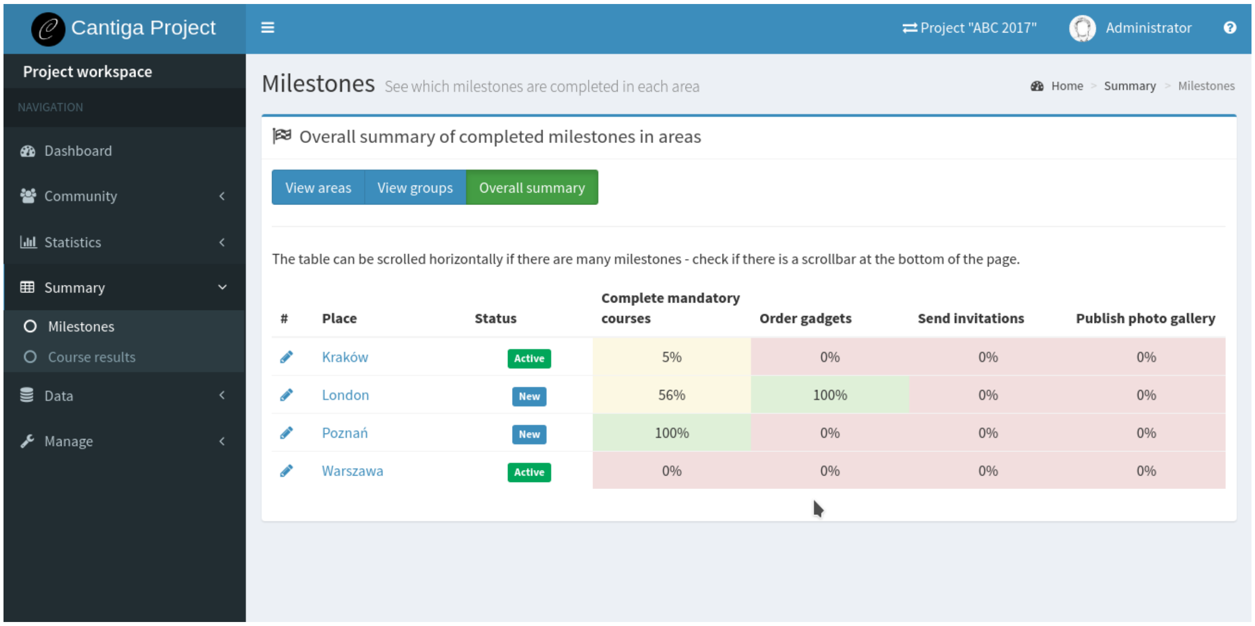
Hint: the text above the table can be customized by project managers in **Manage > Application texts** panel, by creating an application text `milestone:editor:project`, `milestone:editor:group` or `milestone:editor:area`.

14.3 Milestone summary

The overall summary of the areas and groups can be tracked in a milestone summary panel:

1. go to project or group workspace,
2. expand **Summary** section from the *workspace menu*,
3. select **Milestones**.

The summary is presented below:



There are three types of tables available:

1. **View areas** shows all the areas with their overall progress and the number of completed milestones; the areas are sorted from the most to the least advanced,
2. **View groups** shows a similar view, but for the groups,
3. **Overall summary** shows all the areas and all the area milestones in a single table, like on the screenshot.

CHAPTER 15

Creating courses

The course module provides the on-line course and training service for area leaders. You can deliver the training materials as Google Slides or Prezi prezentations, optionally with test questions. The area leaders can watch the presentation, and then take the test to certify that they read and understood the material. The project and group managers can track the course progress within the areas.

Currently, it is not possible to create courses for group and project members. This limitation is going to be removed in the future releases of Cantiga.

To access the course management panel, perform the following steps:

1. click on the *workspace selector*,
2. select the project,
3. in the *workspace menu*, expand **Manage** section and click on **Courses**.

15.1 Creating a course

In the course management panel, click on the **Insert** button. The course creation form will appear. The course presentation needs to be published on the Internet in Google Slides or Prezi. Copy the URL to the presentation and paste it into **Presentation URL** field.

Note that the presentation is not visible to the area leaders unless you select **Is published?**

15.2 Preparing the test

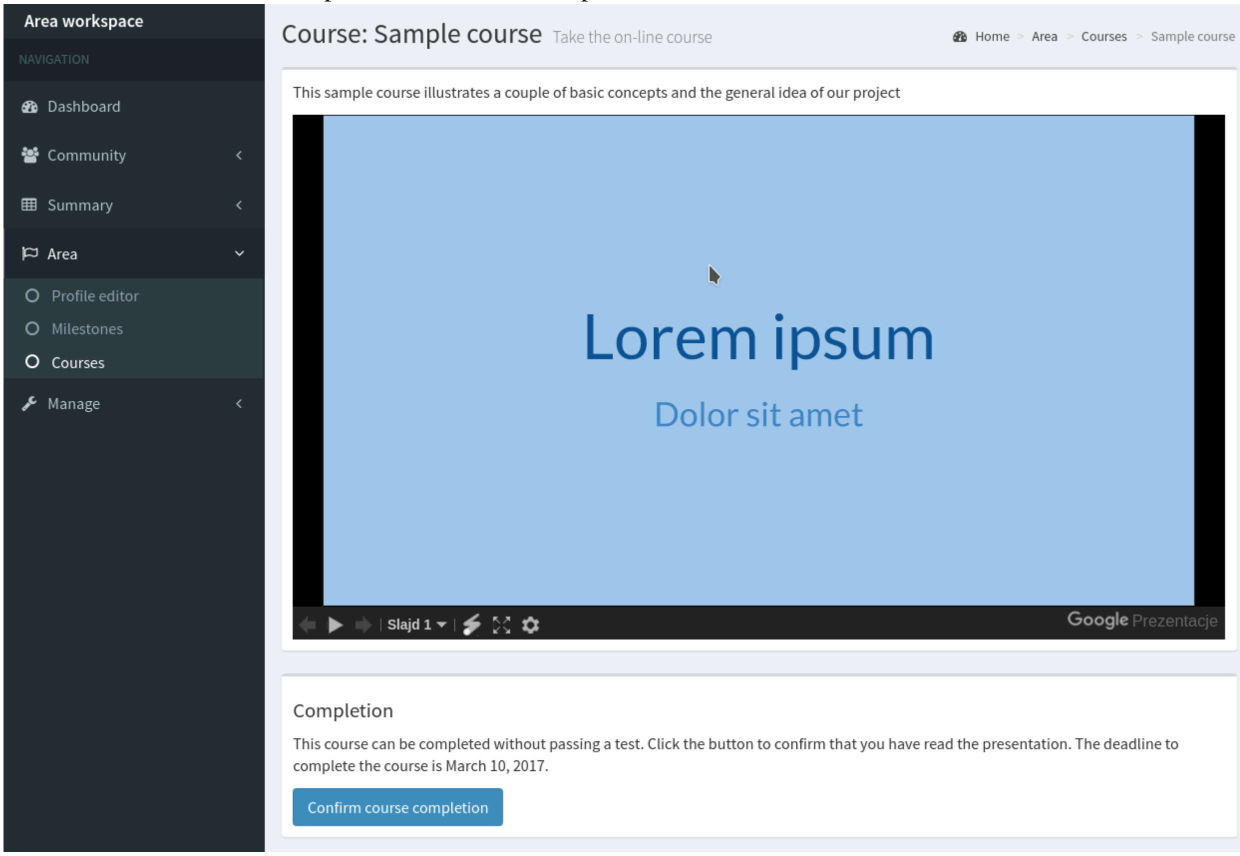
To create a test, you need to create an XML file with the list of questions, available answers and information, which answers are correct. Both single- and multi-choice questions are supported. To upload a test, perform the following steps:

1. go to the course management panel,
2. select the course from the list,
3. expand the **Manage** list, and select **Upload test** option,
4. select the XML file with the test questions on a disk,
5. click **Upload**.

The number of questions the participants need to answer, can be configured in the project settings by project managers (**Project workspace > Manage > Settings**).

15.3 Taking the test

The area leaders can view the presentations for all the published courses:



If the course has a test, the area leader can see **Start the test!** button which takes him or her to the test page. The system displays the questions in the random order. If the number of questions in the test file is bigger than the number of questions the participant needs to answer, the questions are chosen randomly. The test is time-limited; the system assumes 1 minute per single question.

The participant shall complete the test within the specified time limit, and avoid closing the browser or using *Back* button in the browser. Such actions may result in the inability to complete the test. If the time passes or the participant does not score at least 80% of correct answers, the test is failed, and the next attempt may be taken after 24 hours.

The test can be taken independently by all the area leaders within the given area, and the individual progress can be tracked in the area page. However, to mark the course as completed within the given area, it is enough for a single leader to pass the test.

If the course does not have a test, the leader marks the completion of the course by clicking **Confirm course completion** button. Note that this is only a good faith certification. There is no technical way to verify that the leader actually read the presentation.

Creating discussion channels

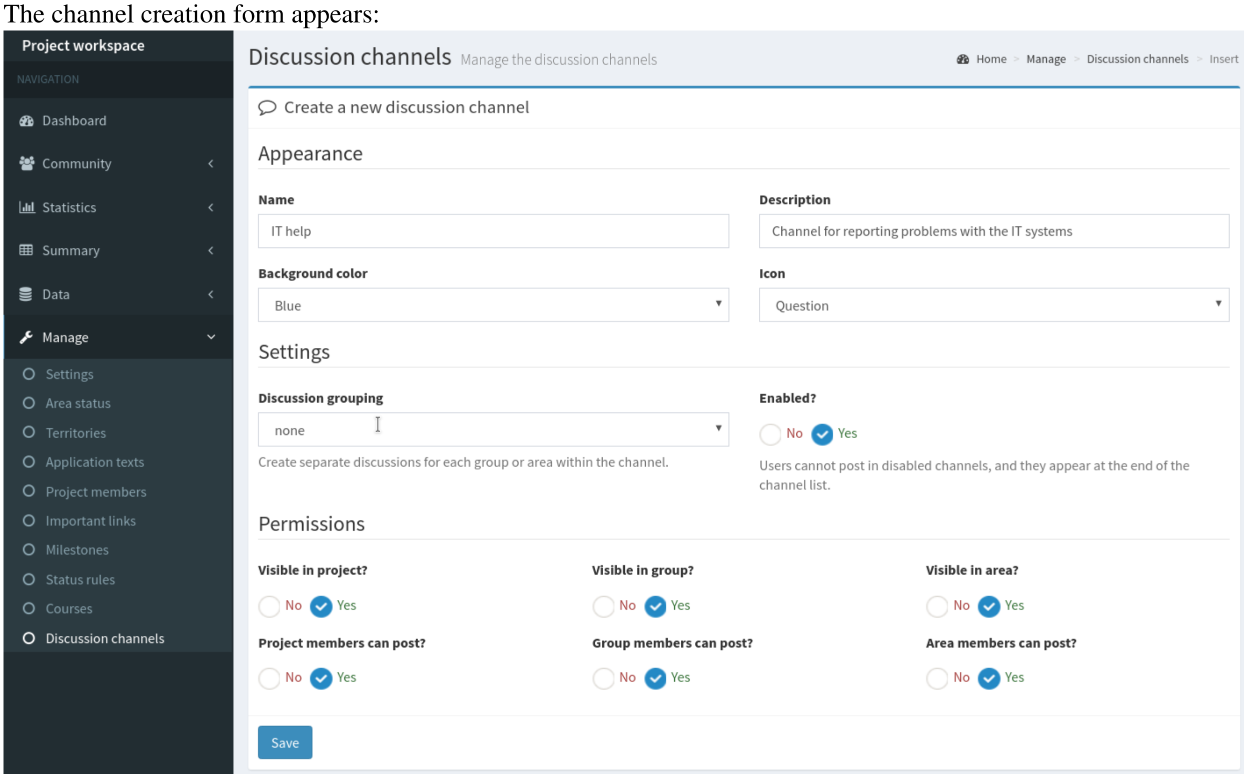
Discussion channels allow the volunteers communicating one with another. The discussions are organized into channels, and the archive is always available for everyone who can see the given channel. Cantiga offers rich options to control the permissions to view and post messages.

16.1 Creating channels

Channels can be created by *project managers*. To create a channel:

1. go to the *project workspace*,
2. expand **Manage** section from the *workspace menu*,
3. select **Discussion channels**,
4. click **Insert**.

The channel creation form appears:



Here you can set the name and description for the channel, as well as some appearance options. In the discussion panel, the channels appear as color boxes (see screenshot below), and you can choose the color and icon for the channel box. It is also possible to mark the channel as *Disabled*. It is not possible to post in disabled channels, however, they are still visible and the discussion archive can be still accessed. To distinguish the disabled channels, they appear at the end of the channel list, and their box is grey.

Let's take a look at the permissions and other settings. A very important setting is **Discussion grouping**. By default, the channel hosts a single discussion for all the places. With this setting, it is possible to create separate discussions for each group or area. Take a look at some of the example channel configurations presented below to learn more, what you can do with this setting. Permissions allow you controlling who can post and view the channel.

Note: if you use the discussion grouping *by group* or *by area*, it makes no sense to set the channel visibility for upstream places (e.g. projects). If the channel hosts or area discussions, there is no global project discussion, so the project members won't be able to see the channel regardless of the **Visible in projects** property.

Note: channels are not shared between projects. A channel created for project A is not accessible by the members of project B, unless they are also members of project A.

16.2 Example configurations

Here you can find some practical, example channel configuration.

16.2.1 Public channel

A channel, where all the project, group and area members can post. For big projects with hundreds of volunteers, managing such a channel can be challenging. It is recommended to use them only for discussions with a well-defined topic (e.g. *IT help*), where fast response time is critical.

To create a public channel, set:

- **Discussion grouping** = none
- **Visible in projects** = Yes
- **Visible in groups** = Yes
- **Visible in areas** = Yes
- **Project members can post** = Yes
- **Group members can post** = Yes
- **Area members can post** = Yes

16.2.2 Announcement list

A channel for posting important announcements by the project leaders.

To create an announcement list:

- **Discussion grouping** = none
- **Visible in projects** = Yes
- **Visible in groups** = Yes
- **Visible in areas** = Yes
- **Project members can post** = Yes

- **Group members can post** = No
- **Area members can post** = No

16.2.3 Private area discussion

Each area can have a private discussion for its members. Different areas see their own discussions.

To create a private area discussion:

- **Discussion grouping** = by area
- **Visible in projects** = No
- **Visible in groups** = No
- **Visible in areas** = Yes
- **Project members can post** = No
- **Group members can post** = No
- **Area members can post** = Yes

16.2.4 Private group discussion

Each group can have a private discussion for its members, which is not visible by the associated areas. Different groups see their own discussions.

To create a private group discussion:

- **Discussion grouping** = by group
- **Visible in projects** = No
- **Visible in groups** = Yes
- **Visible in areas** = No
- **Project members can post** = No
- **Group members can post** = Yes
- **Area members can post** = No

16.2.5 Private project discussion

Private discussion for the project members, which is not visible by group and area leaders.

To create a private project discussion:

- **Discussion grouping** = none
- **Visible in projects** = Yes
- **Visible in groups** = No
- **Visible in areas** = No
- **Project members can post** = Yes
- **Group members can post** = No
- **Area members can post** = No

16.2.6 Communication between group and area leaders

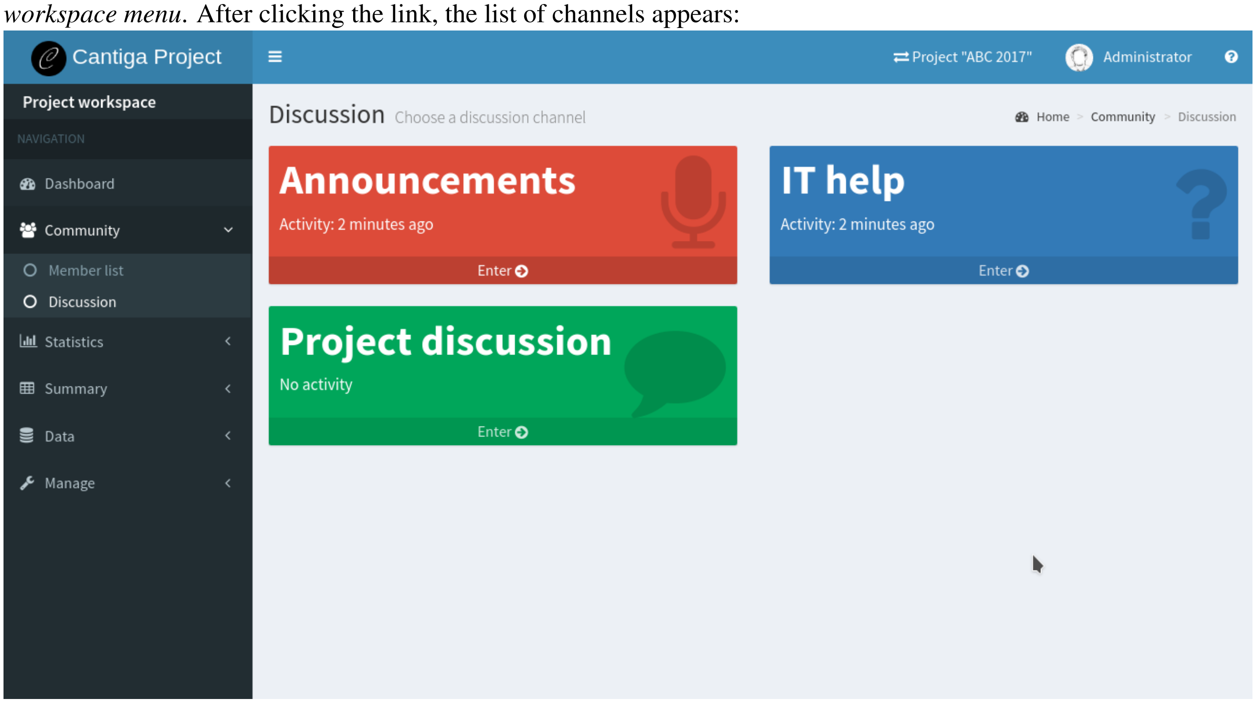
Channel where the group leaders can talk to the leaders of the associated areas. Each group has its own separate discussion.

To create a channel for communication between group and area leaders:

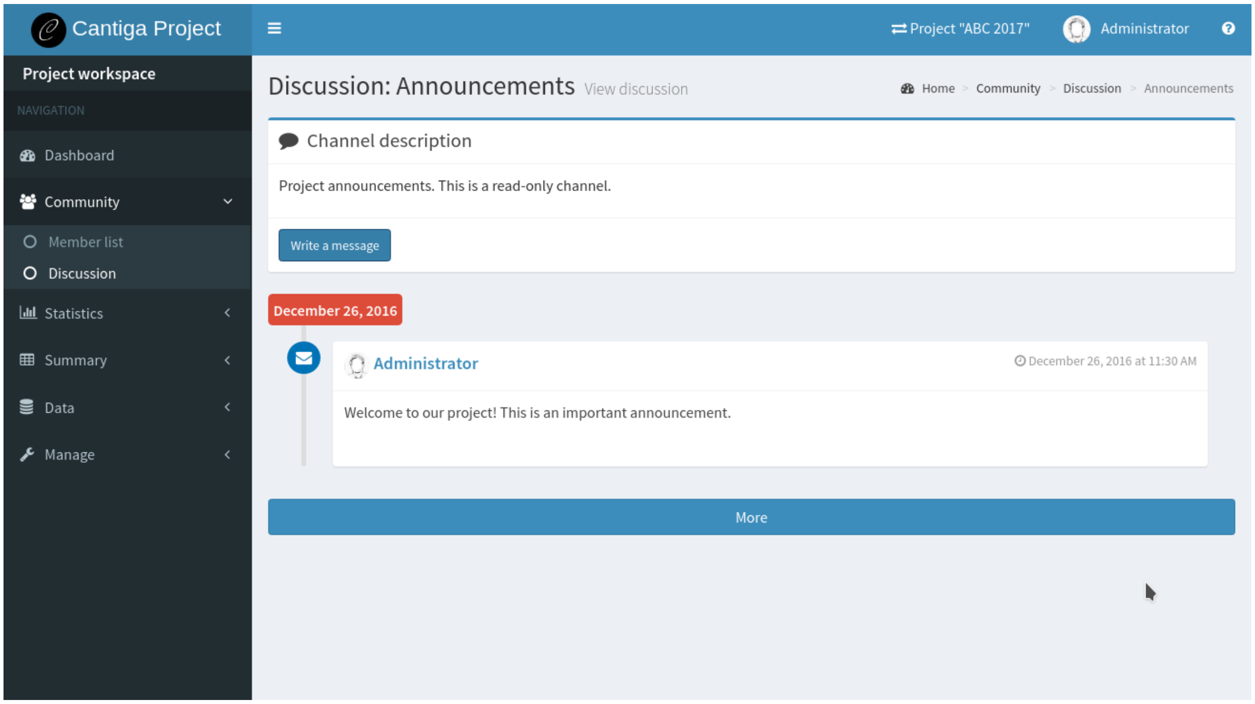
- **Discussion grouping** = by group
- **Visible in projects** = No
- **Visible in groups** = Yes
- **Visible in areas** = Yes
- **Project members can post** = No
- **Group members can post** = Yes
- **Area members can post** = Yes

16.3 Discussions

In project, group and area workspaces, the discussion panel can be found in **Community > Discussion** link in the *workspace menu*. After clicking the link, the list of channels appears:

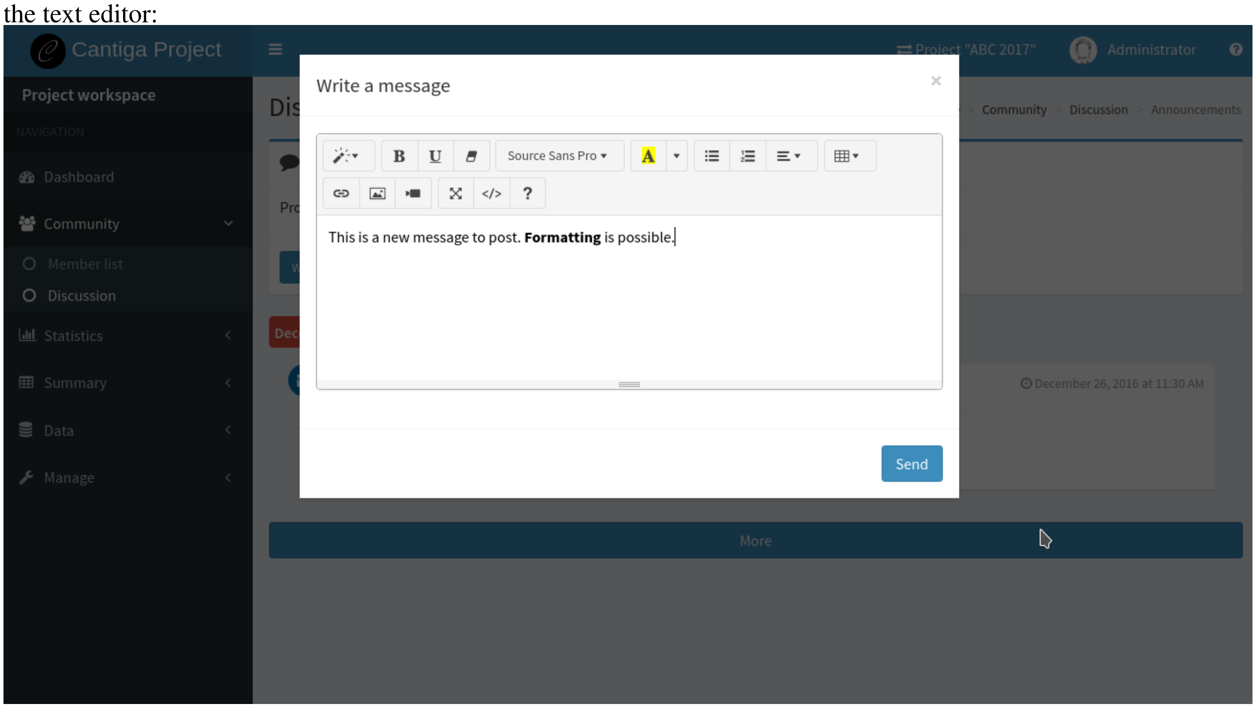


Click on the channel to open the discussion:



The discussion shows last 20 messages grouped by date. To read more posts, click the **More** button. If there are no more posts to show, the button becomes disabled.

To post a new message, click **Write a message** button below the channel description. A modal dialog appears with the text editor:



The editor allows formatting the entered message. Currently, it is not possible to post attachments, images or videos into the discussion, however, such a feature is planned to be added in future releases of Cantiga.

CHAPTER 17

Getting started

With some programming skills, Cantiga can be extended with new functionality. The system is written using Symfony Framework 3.1. If you are familiar with it, you will find it extremely easy to customize the system.

17.1 Versioning the source code

Cantiga is developed as a standalone Symfony application. Unfortunately, the way the dependency management works in PHP, makes it hard to keep the source code of your bundled in a version control system.

The best solution for this issue is keeping entire customized Cantiga application in your private repository. Start by cloning the vanilla Cantiga repository from Github, add some modifications, commit them and publish the repository as your own. At any time, you can upgrade to the newer version of Cantiga by pulling the changes from the original, vanilla repository, and merging them into your code.

Below you can find some guidelines for developing your customizations in this way:

1. never modify the original source code in `src/Cantiga` directory, and other default files, or you risk merge conflicts during the upgrade to the newer version,
2. remember that we **DO NOT** accept pull requests from customized repositories. Any changes that you wish to add to the core, must be made on a vanilla Cantiga repository,
3. we do periodically update the framework version. To keep your codebase clean, follow the Symfony updates and remove deprecated features as soon as they become deprecated, to avoid migration problems in the future,

17.2 Bundles

To extend Cantiga, create a regular Symfony bundle with your customizations. If you are not familiar with Symfony Framework, please take some time to learn the basics of it at Symfony website.

Please note that Cantiga **does not** use Doctrine ORM for database schema management. You can read more about Cantiga API-s in the project wiki on Github.

Usually, your bundle will register an additional module for Cantiga, which can be enabled for the project. To define a module, edit the bundle class and add a `boot()` method:

```
public function boot()
{
   Modules::registerModule('mymodule', 'My custom module');
}
```

Customizing area requests and areas

The structure of the area profile and area requests can be programatically customized. These customizations do not require the database schema change, and different projects can use different form structures. This article assumes that you have already created a custom Symfony bundle.

18.1 Modifying the area requests

Area request form can be customized by implementing a new Symfony service that implements `CustomFormModelInterface`. The interface has four methods:

- `constructForm()` - defines the Symfony form structure,
- `validateForm()` - defines the custom validation rules,
- `createFormRenderer()` - creates the form renderer which is responsible for the final layout of the form,
- `createSummary()` - creates the summary renderer which is responsible for displaying the entered data in the area request detail page.

As a starting point, you can use the following class: `Cantiga\CoreBundle\CustomForm\DefaultAreaRequestModel`.

The custom form shall be registered in Cantiga in the service configuration:

```
mybundle.form.area_request:
    class:     MyBundle\CustomForm\AreaRequestModel
    tags:
        - { name: cantiga.extension, point: core.form.area-request, module: mymodule, description: "N
```

Finally, modify the `boot()` method in your bundle class:

> CustomForms::registerService('mymodule:area-request-form', 'mybundle.form.area_request');

18.2 Modifying area profiles

Area profiles can be modified in a similar way, by creating a new Symfony service that implements `CustomFormModelInterface`. The service shall be registered in `core.form.area` extension point, instead of `core.form.area-request`, and similarly added in `boot()` method.

The area profile custom form may optionally implement `CompletenessCalculatorInterface` which adds one method: `calculateCompleteness()`. This method takes an array of all the form fields, with their values, and shall return a number from range [0, 100] that describes the completeness of the area profile in percents. Cantiga draws a nice progress bar in the area profile editor and in the area management panels.

Once you created your custom forms, you can use them in your project. As a project manager:

1. go to the *project workspace*,
2. expand **Manage** section from the *workspace menu*,
3. select **Settings**,
4. modify **Area form** and **Area request form** properties: select the custom forms you have created.

Data export

Cantiga offers a way to export certain data periodically to external systems via REST interface.

19.1 Specifying the data to export

The exported data is defined programatically. By default, all the area information is exported, and you can add additional data blocks. You need two things:

1. some code to extract the necessary data from the database,
2. a listener for `ExportEvent`.

Below, you can find a sample implementation of the event listener:

```
public function onProjectExported(ExportEvent $event)
{
   $territoryBlock = $this->repo->exportTerritories($event->getProjectId());
   $event->addBlock('territory', $territoryBlock);
}
```

The event is pre-populated with the list of areas modified since the previous data export. All the data to export shall be added as new instances of *ExportBlock* class in the event. The class provides a way to store the information about the ID-s of the rows that are still present in the database (to detect removed rows), and the detailed information of all the rows modified or inserted since the last export.

Registering the listener in the framework:

```
mybundle.export_listener:
     class: MyBundle\EventListener\ExportListener
     arguments: ["@some_custom_repository"]
     tags:
        - { name: kernel.event_listener, event: cantiga.export.ongoing, method: onProjectExported }
```

19.2 Export configuration

Data export configuration can be done by system administrators:

1. go to the *admin workspace*,
2. expand **Manage** section from the *workspace menu*,
3. select **Export settings**,

4. click **Insert** button,
5. specify the export settings.

The exporter is defined for the specified project and areas with certain status. You must provide the destination URL and the encryption key. The payload is encrypted with AES-256-CBC algorithm, and the destination URL must be able to decrypt it using the same key. The key must be encoded in Base64.

To run the actual export, you must call the following console command which shall be scheduled in Cron:

```
php bin/console cantiga:export-data
```

19.3 Output format

The destination URL shall accept POST requests with `text/plain` payload. The actual payload is a string encoded with Base64, and then encrypted with AES-256-CBC algorithm using the specified encryption key. The encoded content is a JSON with the following structure:

```
{
   'block1': {
      'ids': [ ids of present rows ],
      'update': [ modified or inserted rows ],
   },
   'block2': {
      'ids': [ ids of present rows ],
      'update': [ modified or inserted rows ],
   }
   ...
}
```

CHAPTER 20

Indices and tables

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