

UNIVERSITY OF TWENTE

DESIGN PROJECT

DEPARTMENT OF COMPUTER SCIENCE

Seth User Manual

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1 Introduction

This document is the user manual for the first release of Seth, a system which aims to provide easy communication within modules at the University of Twente. The system is designed as part of the Design Project at this university as well.

The manual is meant to give users of Seth a frame of reference, without digressing about the technical design considerations that went into the system. Those can be found in the Design Report, that is provided with the first release of the system, as well as this manual.

The way this manual aims to aid users in using the system is by providing several chapters in which the system is approached from different angles, so that the information one needs can be found easily.

First of all, an overview of the database model on which Seth is based is given. This is the most technical part of this manual and aims to provide some background information to the internals, which may be found useful by regular users.

Next, installation instructions are provided that can be used to deploy this system on a web server.

After this, the common actions of the system are provided, divided for the different kind of users of the system, thus module coordinators, teachers (and teaching assistants), study advisers and admins. This presents the functionality of Seth in a practical way: the most common tasks for users are listed, together with an explanation of how to do these in the web application.

Lastly, all different domains that are present in the web application, as they can be found in the navigation bar are all segregated in all different views that are available. This means that if a user accesses a view and does not know what it does, it can be found in these sections.

For issues with this system, one can refer to the github page of this project <https://github.com/Inf1nite/Seth>, or send a descriptive email to seth-bugs@mverkleij.nl

2 Sitemap

All domains and purposes of those domains that are available for a module coordinator are listed below:

- **Dashboard**
The Dashboard is the domain that is accessed when logged into Seth. It shows relevant information about modules and provides quick access to other domains, where functionality regarding modules is present.
- **Grades**
The Grades domain is used to access the grades and assignments that are relevant to the module coordinator. All grades can be provided through modules and individual students, and can also be distributed, edited and removed through this domain.
- **Importer**
The Importer domain is used to feed the system larger bulks of data, that can be obtained by exporting from Blackboard or offline `.xls` files. Data that can be imported includes grades, students and module structures.
- **Module Management**
The Module Management domain provides an overview of module specifics, like module parts, teachers and participating students. The domain also allows these specifics to be updated, replaced and added.
- **Human Resources Management**
The Human Resources Management is used to access all persons that are of relevance to the module coordinator. It also provides functionality to add, remove and edit these users.
- **Admin**
The Admin domain provides functionality for an admin to update, remove and insert data structures by accessing the database in a more direct way. Also, this is the domain in which higher level actions, like creating a completely new model, can be performed.

3 Model Overview

In order to give any user some insight in how Seth’s internals work, this section provides some basic insights in the way data is structured inside Seth. Note, however, that this information is structured in the way they are most likely to be accessed by an average user, instead of an exact representation of the database; it is meant to clarify the way Seth works, not as technical guidelines.

3.1 Educational Structure

The way the data concerning the educational structure is handled by Seth is, mostly, according to the way this is done by the University of Twente. The University as a whole is divided into different studies. These studies are then subdivided into modules, which are then, in turn, built up by module parts. As the database is a technical invention, it is possible to create studies without modules and modules without studies, as users must be able to create them in any way they desire. Also, as in reality, it is possible for a module to belong to multiple studies.

Two things should be noted, however, as they are different than in reality. Firstly, it is not possible for a module part to be connected to multiple modules. This is a possibility in reality, but should be modelled as two different module parts in this case. Secondly, there is a technical difference between a module, being a generalised model containing the outlay of that module, and an edition (or instance) of a module, that has the specifics of one appearance of that module, such as the year, which students are participating etc.; this distinction is vital for Seth, as it makes that the database contains historic information: when a module coordinator is assigned to a module, it does not forget who the module coordinator was in the last year. This allows for users to access modules that finished already. However, when interacting with the system, this is a key design decision to keep in mind.

3.2 Connections with Persons

To this educational structure, persons can be connected in a multitude of ways. The database handles each person with one model, the Person model. Such a Person can be connected to any part of the educational structure to indicate the role that that person is performing. For example, a person can be coupled to a study to indicate that that person is the study adviser of that study. In some cases, like the teacher, who is coupled to a module part, additional information is stored about the nature of the connection: is this person a teacher or teaching assistant? Naturally, a person performing multiple roles with respect to multiple educational parts is a possibility. For example, a person might be a teacher, as well as a module coordinator, as well as a study adviser and these roles will only be applicable for the specific educational model that it is coupled with.

3.3 Grading

Lastly, it is, obviously, essential to have a way to store grades in Seth. This works in the following manner: every module part is allowed to have a multitude of tests. These tests can be of three natures, namely exams, assignments and projects. The Test model also saves some additional information, including the maximum and minimum grade, is saved. The grading for these tests can be done by teachers or teaching assistants, leading to a model Grade, connecting the actual grade with an exam, a teacher and a student. Furthermore, some additional information regarding the grade, including the time of submitting, is kept track of. After this, the module coordinator can verify the grades and make them accessible for the relevant students.

4 Deployment

Hereafter follow deployment instructions that should be followed to set up a new instance of Seth. These instructions assume you have the following information and files on hand:

- The code: <https://github.com/Infinite/Seth>
 - A working ubuntu install or other linux operating system, with the following software installed:
 - Through APT:
 - * python3
 - * python3-pip
 - * apache2
 - * libapache2-mod-wsgi-py3
 - * postgresql-server-dev-9.3 (or newer)
 - A valid SSL certificate for the host you want to run Seth on
 - A valid RADIUS secret.
1. Clone the project's `master` branch into `/var/www/seth/`.
 2. Next to the cloned projects' folder, create a folder `/var/www/secrets/`.
 3. Create a Python virtual environment in `/var/www/seth/`. Install the following packages through this virtual environment's pip executable:
(`$ /var/www/seth/bin/pip3 install <packages>`)
 - django
 - django-widget-tweaks
 - pyrad
 - future
 - django-excel
 - xlswriter
 - pyexcel-xls
 - pyexcel-xlsx
 - django-debug-toolbar
 4. In Postgres, create a user with a password for the Django website. Give it ALTER DATABASE rights. Save the username and password as `/var/www/secrets/postgres_user` and `/var/www/secrets/postgres_password` (no file extension).
 5. Save the RADIUS hostname as `/var/www/secrets/radius_host` and the RADIUS secret as `/var/www/secrets/radius_secret`

6. Generate a Django secret and save it as `/var/www/secrets/django_secret`
7. Save the website certificate's .crt files and the private key of the server in `/var/www/secrets`.
8. Save the following contents to `/etc/apache2/sites-available/100-seth.conf`:

```
<VirtualHost *:80>
    ServerName www.farm11.ewi.utwente.nl
    Redirect permanent / https://farm11.ewi.utwente.nl/
</VirtualHost>

<VirtualHost *:443>

    ServerName www.farm11.ewi.utwente.nl
    ServerAlias farm11.ewi.utwente.nl
    ServerAdmin <<something>>@<<example.com>>

    # DocumentRoot /var/www/Seth/

    SSLEngine on

    SSLCertificateFile    /var/www/secrets/farm11_ewi_utwente_nl.crt
    SSLCertificateKeyFile /var/www/secrets/seth.key
    SSLCertificateChainFile /var/www/secrets/DigiCertCA.crt

    Alias /robots.txt /var/www/static/robots.txt
    Alias /favicon.ico /var/www/static/favicon.ico

    Alias /static/ /var/www/static/

    Alias /static/admin/ /var/www/static/admin/

    <Directory /var/www//static/>
        Require all granted
    </Directory>

    WSGIDaemonProcess farm11.ewi.utwente.nl python-path=/var/www/Seth/Seth/
    WSGIProcessGroup farm11.ewi.utwente.nl

    WSGIScriptAlias / /var/www/Seth/Seth/Seth/wsgi.py

    <Directory /var/www/Seth/Seth/Seth/>
        <Files wsgi.py>
            Require all granted
        </Files>
    </Directory>
```

</VirtualHost>

9. In Apache, enable the following modules:
 - wsgi
 - ssl
10. change directory to `/var/www/Seth/Seth`. Run the following commands, and follow the instructions on screen:
 - `$../../seth/bin/python3 ./manage.py collectstatic`
 - `$../../seth/bin/python3 ./manage.py migrate`
 - `$../../seth/bin/python3 ./manage.py createsuperuser`
11. Restart apache. (`$ sudo service apache2 restart`)
12. Currently, the admin panel of the website should be accessible. Please create (at least) the following:
 - 2 Persons:
 - A module coordinator
 - A study advisor
 - A study. Add the study advisor as advisor.
 - A module.
 - A module edition. Add the module coordinator to this module edition.

5 Common actions

5.1 General

There are some actions every user needs to do. They are described here.

5.1.1 Log in

When: Whenever visiting the site.

Why: Logging in is necessary in order to see anything. Since everything is personal, every user visiting the site needs to be logged in.

How:

- Got to `farm11.ewi.utwente.nl/`.
- Fill in credentials. When going to `farm11.ewi.utwente.nl/`, the first page will be the login page. Here, users can fill in their university credentials (university number and corresponding password). When the fields are filled in, click the Login button.

5.1.2 Log out

When: Whenever leaving the site or when switching accounts.

Why: In order to switch to a different account, one has to be logged out of the first account before they can log in to another. When leaving the site, logging out is good practice in order to safeguard your account.

How:

- Got to `farm11.ewi.utwente.nl/`.
- Click on the Logout button (1) in the top-right corner. This button can be seen from anywhere on the site and as such, one can log out from anywhere on the site.



Figure 1: Logout button

5.2 Module Coordinator

To be able to do the actions discussed hereafter, you have to log in. If you are not logged in yet, you will be prompted to log in automatically. Afterwards, you will be redirected to the page you requested. Submitted data (edits or uploaded excel sheets) may be lost if you were not logged in when you sent the request.

5.2.1 Adding a module edition

When: Before the start of the module. One can also wait until the list of participating students is known. Then one can combine this action with importing students to a module.

Why: Adding a module edition is done to be able to run a module for a new year. This way, old editions of a module can be kept for historic purposes. This new edition is bare, no students are enrolled and no grades are present.

How: Log in and:

- Go to Module Management.
Click the Module management button on the Navigation Bar, or go to `farm11.ewi.utwente.nl/module_management/`. This page lists all module editions you are a module coordinator of, grouped by module.
- Go to Add new module edition.
Click the + button next to the module you want to make a new edition of. You are now presented with a form.
- Fill in the form with the correct information.
The year field and block are used to show to the users when the module is being held. The combination of the two must be unique for that module!
A list is shown where the module coordinators are listed. These cannot be changed on this page, only an administrator can change them.
- Create the module.
Click on the 'Create' button. You will return to the Module Management page, where the new module edition is now listed.
This new module edition contains all the module parts and tests of the last module edition of that module.

5.2.2 Adding a module part

When: Before the start of the module. If the module edition does not exist yet, make it first by Adding a module edition.

Why: This functionality is used to add a new module part to a module edition. In practice one will only use this if the curriculum changes significantly, as on creation of a new Module edition, the module parts and tests are copied over from last year.

How: Log in and:

- Go to Module Management.
Click the Module management button on the Navigation Bar, or go to `farm11.ewi.utwente.nl/module_management/`. This page lists all module editions you are a module coordinator of, grouped by module.
- Go to the Module edition
Click on the module edition one wants to add a module part to. The module editions are the items listed with their year and block. You are presented with the module edition detail page.
- Go to Create new module part.
Click the + button next to 'module parts'. You are now presented with a form.
- Fill in the form with the correct information.
Give the module part a name, and select the teachers that shall give the module part. One can select students here, who will automatically become a student assistant.
- Create the module part.
Click on the 'Create' button. You will return to the module edition detail page, where the new module part is now listed.

5.2.3 Adding a test

When: Before the start of the module. If the module part does not exist yet, make it first by Adding a module part.

Why: This functionality is used to add a new test to a module edition. In practice one will only use this if the curriculum changes, as on creation of a new Module edition, the module parts and tests are copied over from last year.

How: Log in and:

- Go to Module Management.
Click the Module management button on the Navigation Bar, or go to `farm11.ewi.utwente.nl/module_management/`. This page lists all module editions you are a module coordinator of, grouped by module.

- Go to the Module edition.
Click on the module edition one wants to add a test to. The module editions are the items listed with their year and block. You are presented with the module edition detail page.
- Go to the Module part. Click on the module part one wants to add a test to.
- Go to Create new Test.
Click the + button next to 'tests'. You are now presented with a form.
- Fill in the form with the correct information.
Give the test a name and select the test type. By selecting 'assignment', the assignment is treated as a sign off exercise and its result will appear as pass/fail.
Finally, fill in the minimum and maximum grade.
- Create the test.
Click on the 'Create' button. You will return to the module part detail page, where the new test is now listed.

5.2.4 Importing students to a module

When: Before the start of the module.

Why: This functionality is used to add students to a module edition. This way, the system knows which students are enrolled in a module. It is required to enrol students to a module before grades can be saved. It is also used to fill in the student list in the grading excel files.

How: Log in and:

- Go to Importer.
Click the Importer button on the Navigation Bar, or go to `farm11.ewi.utwente.nl/importer/`. This page lists all modules you are a module coordinator of and all module parts you are a teacher of.
- Download the student upload form
Click on the 'Download student form' button on the module you want to upload students to. This will download an excel file, which you must fill with the students' info.
- Fill in the excel file.
Fill in the excel file, one student per line. Please do not alter the title row, as its names are used to validate the form. Fill in the students' student number under 'university_number', full name under name, their university

mail address under mail. Finally, a role field can optionally be filled in. This field is useful to annotate students with special requirements.

Be sure that the title row is untouched, and that the excel file does not contain empty rows or missing student numbers, names and/or email addresses. Save the excel file.

- Go to the upload student form.
Back in the web browser, click on the 'Upload students' button in the correct module edition.
- Upload the form and send it in.
Upload the excel file by selecting the file from disk, and pressing the 'Upload' button. Please wait for the system to upload the students to the system. It can take up to 30 seconds to fully process all students. After pressing the 'Upload' button, please wait patiently until the operation completes.
- Inspect the result page.
After the sheet has been successfully uploaded, a page is presented which shows what operations have been done to add the students to the module. Please briefly inspect this form for irregularities.

5.2.5 Importing grades to a module or module part

When: When you want to report on grades. Make sure all students that have received grades are actually enrolled into the module already. If this is not yet the case, import them first by importing students to a module.

Why: To upload grades to the system, so that they can be released.

How: Log in and:

- Go to Importer.
Click the Importer button on the Navigation Bar, or go to `farm11.ewi.utwente.nl/importer/`. This page lists all modules you are a module coordinator of and all module parts you are a teacher of.
- Download the grade upload form
Click on the 'Download grading form' button on the module you want to upload grades to. This will download an excel file, which you must fill with the students' grades.
- Fill in the excel file.
Fill in the excel file. Please do not alter the title rows, as it's names are used to validate the form. Fill in their grades under the appropriate

test columns. You can make helper columns, for example for calculating averages. These will be ignored by the importer. Make sure however that for any helper column you do NOT fill in any number in the test code column. This is the row directly under the name. This will generate an error.

If for example, you *do* want to communicate an average to students, please make a test for that grade. It can be a good idea to put these averages in their own "module part" (as for example 'module criteria'). To see how to do this, refer to Adding a Module Part and Adding a Test.

- Go to the upload student form.

Back in the web browser, click on the 'Upload grades' button in the correct module edition.

- Upload the form and send it in.

First, a title_row must be filled in. You can ignore this if you use the correct template sheet, the default value is correct. This value only has to be changed if you made your own upload sheet. This is the row that contains the unique identifier for a test. This may be a database ID as an integer, or the full name of the test, case sensitive. This last option is only available if test names within modules are unique.

Secondly, upload the excel file by selecting the file from disk. Now press the 'Upload' button. Please wait for the system to upload the students to the system. It can take up to 60 seconds to fully process all students. After pressing the 'Upload' button, please wait patiently until the operation completes.

- Inspect the result page.

After the sheet has been successfully uploaded, You are redirected to the module overview, where you can inspect all grades that have been uploaded. From here, you can release the grades that have been uploaded.

5.2.6 Importing grades to a test

When: When you want to report on grades. Make sure all students that have received grades are actually enrolled into the module already. If this is not yet the case, make sure they are imported to the module by the module coordinator by importing students to a module.

Why: To upload grades to the system, so that they can be released by the module coordinator.

How: Log in and:

- Go to Importer.
Click the Importer button on the Navigation Bar, or go to `farm11.ewi.utwente.nl/importer/`. This page lists all modules you are a module coordinator of and all module parts you are a teacher of.
- Download the grade upload form
Click on the down-pointing arrow next to the test you want to upload grades to. This will download an excel file, which you must fill with the students' grades.
- Fill in the excel file.
Fill in the excel file. Please do not alter the title rows, as its names are used to validate the form. For each student, fill in their student number, their grade and optionally the description field with text data. This description field is currently unused, but could in later versions be used to communicate feedback to the student.
- Go to the upload student form.
Back in the web browser, click on the upwards-pointing button next to the test.
- Upload the form and send it in.
Upload the excel file by selecting the file from disk, and pressing the 'Upload' button. Please wait for the system to upload the students to the system. It can take up to 30 seconds to fully process all students. After pressing the 'Upload' button, please wait patiently until the operation completes.
- Inspect the result page.
After the sheet has been successfully uploaded, You are redirected to the test overview, where you can inspect all grades that have been uploaded.

5.2.7 Importing Module Structure

When: If a new module is created, it is possible to provide the module structure to Seth.

Why: An objective of Seth is provide grades to students in a meaningful context. This means that the system must know the module structure in order to show to students not only what their grade is, but also what that grade is for.

How: Log in and:

- Go to `farm11.ewi.utwente.nl/importer`.
In order to go to the Importer, click 'Importer' in the navigation bar at the top of the screen.
- Download an empty module structure.
Click the 'Download module structure'-button, located at the top left of every module that the logged in user is module coordinator of.
- Open the downloaded file and create additional module parts.
For every module part, copy the downloaded sheet in another sheet. *Note that this is a different sheet in the same file, not different files!*
- Provide the module part names.
In cell B1 of the downloaded file, the module part name can be provided. Naturally, this must be done for all sheets, as all sheets represent a distinct module part.
- Provide tests and minimum and maximum grades.
Every module part can have a multitude of tests. The name of the first test must be provided in cell B2, the second one in C2, et cetera. In the two cells below the name of the test a minimum and maximum grade is to be provided. If these grades are 0 and 1 respectively, then the test is seen as an assignment and will be added to another tab in the web application and not be released with an email by default.
- Upload the filled in file.
In order to upload the created module structure, the empty module must be found in the importer. After clicking on the 'Upload module structure'-button, which is provided in the container in the top left of the relevant module, the file can be selected and uploaded by clicking on the 'Upload'-button. After that, the module has the prescribed structure.

5.2.8 Copying a module edition

When: If a passed module edition is to be repeated with regards to the module structure, this can be done directly through this method. *Warning: this method can only be used by a module coordinator of the last module edition!*

Why: This method enables module coordinators to create module editions independently from an administrator. Also, instead of having to use the same module structure file again every time a module occurs can be avoided by simply copying the previous module structure.

How: Log in and:

- Go to `farm11.ewi.utwente.nl/module_management`.
The Module Management portal can be accessed by clicking the 'Module Management'-button in the navigation bar at the top of the screen.
- Click on the plus-button of the relevant module (Note: not a module instance).
This button is on the right side of the name of the module that should be copied.
- Fill the form with applicable data and save.
The form requires a year, a block and a module code. Then this data can be saved by clicking the save-button on the top right.

5.2.9 Releasing and Retracting Grades

When: After a test has been graded, a teacher or teaching assistant can import the grades into Seth. After verification of these grades, the module coordinator can release these grades.

Why: With the releasing of the grades, the module coordinator indicates that the grades are verified. After releasing, students can see their grade.

How: Log in and:

- Go to `farm11.ewi.utwente.nl/grades`.
To go to the grades portal, click 'Grades' in the navigation bar, which is located at the top of the screen.
- Click on the relevant module.
The test that must be released is placed within a module part, which is placed within a module. This module must be clicked in order to gain access to it.
- Click the icon below the relevant test(s).
In order to access to the releasing/retracting options, the icon(s), either a cross or a check mark, must be clicked. The cross means that the grades are retracted, the check mark means that they are released, thus accessible for students. Multiple tests can be selected at once, and will be released or retracted at once.
- Click the 'Release/Retract'-button.
This button is located at the top right of the screen and actually releases or retracts grades. If you released at least one grade, you will be redirected to a concept email page.
- Click the send or cancel icon.
From here you may choose to send an email to students. If you do not want to send an email, press the red cross. If you do want to send an

email, check the contents of the email and edit this email if necessary. To send the email, press the blue paper airplane. Emails will be sent to all students participating in the chosen module, not only students who received a grade.

5.3 Teacher and Teaching Assistants

5.3.1 Importing grades to a test

When: After the grading of a test, assignment or project, the results can be uploaded to Seth.

Why: In order to allow students to view the grades they received on tests, assignments and projects, these grades must be uploaded by the teacher. After that the module coordinator can release the grades if that is desired, after which the students can access their grades. Note that grades that are uploaded multiple times do not overwrite each other, but are all saved. This functionality can be used for resits, but if the grade is not to be changed, the grade should be left empty in case of a re-upload.

How: Log in and:

- Go to `farm11.ewi.utwente.nl/importer`.
To go to the importer, click 'Importer' in the navigation bar, which is located at the top of the screen.
- Go to the teacher view.
At the top of the screen two tabs are available: 'As module coordinator' and 'As teacher'. The 'As teacher' tab should be active. If you are a teacher and not a module coordinator, this is the default active tab.
- Find the module part the grades are associated with.
All module parts that are taught by the logged in user are listed in blocks, containing the module part the grades are linked to.
- Find the test the grades are associated with.
Within the module part block, all tests are listed, including the test the grades apply to.
- Download the grading template.
Click the download button on the right of the name of the test. The button looks like Figure 2 and provides the download of the template which allows the grades to be added into the system.



Figure 2: Download button

- Fill in the template.
The template consists of four fields, including the student numbers, names, grades and descriptions. The student numbers and names are already filled in. For every student a grade and an optional description can be given in their respective fields.
- Upload the filled in template.
Next to the button for the downloading of the grading template is the button for uploading the filled in template, looking like Figure 3. When this button is pressed, select the correct file by pressing 'Browse...' ¹ and press the 'Upload' button. *Warning: The uploading of the grades might take some time, depending on the amount of grades that are added to the system*



Figure 3: Upload button

- Check the grades.
After the uploading, all grades are shown. It is also possible to remove grades if that is necessary, or to edit the grades in case of a mistake.

5.3.2 View grades

When: A teacher can always access the grades that are added to tests within the module parts that are associated with that teacher.

Why: Naturally, the teacher, as well as the students, wants to have insight in the grades that are present within module parts. This is achieved by providing an overview for the teacher of all grades of all module parts that the teacher is present in.

How:

- Go to `farm11.ewi.utwente.nl/Grades`.
In order to do this, press the 'Grades' button, which is located at the top of the screen.
- Choose the module.
All modules in which the teacher is active in one or more module parts are listed. The module that contains the grades that are desired to be reviewed should be chosen. When this module is chosen, all grades within that module are shown.

¹This text changes depending on the browser and language settings

- View assignments.
In order to view the assignments, there is a second tab next to the Tests/Projects tab. When this tab is opened, all assignments can be accessed as well.

There are several serviceable functionalities on the grades overview that can be used to provide a clearer picture of the grades. These functionalities include:

- Search
As one could expect, searching functionality is present for the grades. This means that a (partial) student number, name or even a grade value can be used to find a specific student faster. The search bar is located at the top right of the grades overview.
- Pagination
It is possible to customize the amount of grades and assignments that are displayed on a page. At the top left of the list is a drop-down menu in which it is possible to select the displaying of 25, 50, 100 or all entries. A teacher can see the amount of information that is the most satisfactory.
- Colorization
Another functionality is that all grades can be colorized based on their value. At the top of the screen is a 'Colors' bar which can be collapsed. The colors can be toggled on and off using the button in the collapsed bar, as well as fields in order to customize the color transition by providing a values turning the grades red, orange and green. This provides a teacher the ability to have a quick impression of all grades, without having to check all grades individually.

5.3.3 Edit grades

When: A teacher is allowed to edit a grade at any given time, as the teacher is also allowed to give and remove a grade at any time.

Why: When the wrong grade is given to the right student, for example when a grade is erroneously duplicated, the grade can be edited. This is the right choice as the grade does not have anything to do with the student it is assigned to, but removal is clumsy, as there should be another grade, which is to be inserted immediately. In this case the editing of grades should be used.

How:

- Go to `farm11.ewi.utwente.nl/Grades`.
In order to go to the grades page, click on 'Grades' in the navigation bar, which is located at the top of the screen.
- Click on the relevant module.
When the grades window is opened, all modules are listed. Click the one of which grades must be removed.

- Edit a grade.

In order to edit a grade, click the grade of a student that must be edited. Note that there is searching functionality and the size of the page can be adjusted. When the grade is selected, a new grade can be inserted, which overrides the former grade. To make this edit final, simply press enter or deselect the field.

5.3.4 Remove grades

When: A teacher is allowed to remove a grade at any given time, as the teacher is also allowed to give and edit a grade at any time.

Why: There are several reasons why a teacher would want to delete grades: a grade could be added to the wrong module part or to the wrong student. In these cases, it is vital to be able to remove the grade from that student, as it has nothing to do with the history of that student. *Warning: in case of a resit or change in grade, do not remove the last grade. When a new grade is added this is taken to be the conclusive grade, whilst the other grade is preserved as well.*

How:

- Go to `farm11.ewi.utwente.nl/Grades`.
In order to go to the grades page, click on 'Grades' in the navigation bar, which is located at the top of the screen.
- Click on the relevant module.
When the grades window is opened, all modules are listed. Click the one of which grades must be removed.
- Delete a grade.
In order to delete a grade, click the grade of a student that must be deleted. Note that there is searching functionality and the size of the page can be adjusted. When the grade is selected, click the remove icon on the far right. Confirm the deletion. *Warning: the deletion of grades this way is final.*

5.3.5 View HR

When: A teacher is always allowed to review the HR.

Why: It is vital that communication can run as smooth as possible for all employees, which is why HR can be accessed: this view contains all students, colleagues and supervisors of all module parts the teacher is active in.

How:

- Go to `farm11.ewi.utwente.nl/human_resource/users`.
In order to go to the Human Resource view, click on 'Human Resources' in the navigation bar, which is located at the top of the screen.
- Find the relevant person.
Search for the relevant person, either by using the search functionality or just by scrolling. When this person is found, it can be clicked to gain more information.

5.3.6 See own grades (Teaching Assistants)

When: As the teaching assistants are students, they are allowed to see their grades at any time.

Why: Teaching assistants are students and as such, they want to be able to see their grades.

How:

- Got to `farm11.ewi.utwente.nl/`.
To see their grades, teaching assistant need to be on the site.
- Click on 'My Grades' in the navigation bar.
This will show the grades

5.4 Study Adviser

5.4.1 View all students

When: The study adviser is always allowed to view all students to quickly go to the grade overview for a specific student.

Why: A study adviser wants to view the grades of every student individually without waiting for those grades to appear on blackboard so a study adviser can monitor the progress of the students and know which students fall behind so one can invite these students for a meeting about their study progress.

How: To view all students, a study adviser goes to `farm11.ewi.utwente.nl/` and logs in. From here, the study adviser is greeted with a list of students. For filtering this list, one goes to the left side of the screen and chooses one or more options to filter on. Possible filters are:

- Student number
- Student name

- Module edition

Here the student number and student name are text field where a number or a name, or a part of such a number or name can be put in. The filter will filter automatically when typing. The red button on the right of the search fields for the student number and name is used for clearing the search field.

When clicking a student in the list of students, one is directed to the student grade view. This view is identical to the dashboard of a student.

5.4.2 View all grades

When: A study adviser can always view all the grades of the studies he or she is a study adviser of.

Why: A study adviser wants to have insight in the grades that are present in the modules. This is because a study adviser wants to know which students are struggling with their modules so the study adviser can invite them for a meeting. This is achieved by providing an overview of all the grades per module edition, with the possibility to go to the grades of the module parts, tests or students.

How: The study adviser, when logged in, presses the 'Grades' link in the navigation bar at the top of the page or goes to `farm11.ewi.utwente.nl/grades`. From here, the study adviser chooses the relevant module edition where he or she can view the grades of the chosen module edition. Also, from this overview of grades, when a study adviser presses a module part, a test or a student, the study adviser goes to the relevant page where one can view the grades of that part.

5.4.3 View HR

When: A study adviser can always view all persons which are relevant to the study adviser.

Why: A study adviser might want to view the information known of a person in the system, for instance the modules of which a person is enrolled. Or the study adviser needs the email address or student number of a person.

How: The study adviser can, when logged in, press the 'Human Resources' link in the navigation bar at the top of the screen or go to `farm11.ewi.utwente.nl/human_resource/users`. From here, the study adviser can find the relevant person by scrolling to the list, or using the search functionality at the top of the persons table.

5.5 Student

5.5.1 View grades

When: A student is always allowed to view their grades. This means that every test, assignment and project is visible and that a student can always see whether there is a grade already available or not. A grade is only visible when it is released by the module coordinator responsible for that module part.

Why: The point of Seth is to make grades and progress insightful and accessible for students. This aspiration comes together mostly in this view, as this is where students can inquire all grades that are of interest.

How: Go to `farm11.ewi.utwente.nl/login` and log in. Then the first page shown is the grade overview for the student. Here the student can view his grades, which are grouped by module edition and then grouped by module part. All tests are collapsed under the module part. By clicking on a module part, all tests for which the grades are released are shown.

5.6 Admin

The Admin is the role who is permitted to interact almost directly with the database. In order to do this, the default Django admin functionality is available at `farm11.ewi.utwente.nl/admin`. On this domain all database models can be individually accessed, altered, removed and created. Most of the functionality is apparent, but the most important responsibilities of the admin will be explained briefly in the following sections.

5.6.1 Create a New Module

When: When a new Module needs to be created, this can only be done by an admin.

Why: As the distinction between a Module and a Module Edition may not be clear for an average user and the addition of a new module is a relatively rare occasion, the permission to create a fully new module is seen as a duty of the admin. Therefore, this can be asked by the faculty or the forthcoming module coordinator.

How: Log in and:

- Go to `farm11.ewi.utwente.nl/admin`.
As the admin panel is only accessible for admins and Django functionality is used, this domain can only be accessed by going to this exact url.
- Click on the plus-button next to 'Modules', in the table 'Grades'.

- Fill in the form and save.
The data that is needed to fill the form are a module code and a module name. This can then be saved by clicking on the Save-button, which is located on the lower right of the form.

5.6.2 Create a New Module Edition

When: When a module coordinator of the last Module Edition is unable to create a new Module Edition, the admin is the only role who can do so as well.

Why: There are several reasons why a module coordinator cannot create a new Module Edition. It is possible that the coordinator is not available in time or retired. Also, when a new Module is created, there is no last module coordinator to create a new Module Edition. In these cases, the admin is expected to create a new Module Edition.

How: Log in and:

- Go to `farm11.ewi.utwente.nl/admin`.
As the admin panel is only accessible for admins and Django functionality is used, this domain can only be accessed by going to this exact url.
- Click on the plus-button next to the 'Module editions' in the table 'Grades'.
- Fill in the form and save.
The data that is needed to fill the form are a year, a module, a block and optionally module coordinators. After this the data can be saved by clicking the Save-button on the lower right of the form.

5.6.3 Add a Module Coordinator to a Module Edition

When: An admin is able to assign module coordinators to any Module Edition.

Why: In the case of a newly made Module Edition, it is possible that no module coordinators are yet added to that module. In that case it is the responsibility of the admin to add a module coordinator.

How: Log in and:

- Go to `farm11.ewi.utwente.nl/admin`.
As the admin panel is only accessible for admins and Django functionality is used, this domain can only be accessed by going to this exact url.
- Click on the plus-button next to 'Coordinators' in the table 'Grades'.

- Fill in the form and save the data.
The data that is needed to fill the form are a person, a Module Edition a check if this person is an actual module coordinator or an assistant. After this the data can be saved by clicking the Save-button on the lower right of the form.

5.6.4 Remove a Student from a Module

When: After a student has made connections in the database it becomes impossible to remove that student for the module coordinator. At this moment it might be required of the admin to fulfill this task.

Why: When a student is erroneously added to a Module Edition but has connections within this module like a grade nonetheless, a module coordinator is now allowed to remove that student. After all, that would pose the risk that the deletion of the model works in such a way that other models are deleted as well. By giving this responsibility to the admin, this risk is reduced. *Note that the deletion is almost always unnecessary and should be avoided if possible.*

How: Log in and:

- Go to `farm11.ewi.utwente.nl/admin`.
As the admin panel is only accessible for admins and Django functionality is used, this domain can only be accessed by going to this exact url.
- Click on the Change-button next to 'Studyings' in the table 'Grades'.
- Click on the student that should be deleted.
- Click on delete.
- If the information is correct, confirm the deletion.
The Summary should state 'Studyings: 1' and the object should be the student that must be deleted in combination with the module that student must be deleted from. *If this is not the case, do not confirm the deletion.*

5.6.5 Add a Study

When: If a new study is added to the university, this must be added in Seth to, in order to communicate grades with the students of this new study.

Why: As the addition of new studies is not the responsibility of any of the other roles, this is considered to be a task of the admin as well. As this is expected to happen only sporadically, this is not considered a substantial burden.

How: Log in and:

- Go to `farm11.ewi.utwente.nl/admin`.
As the admin panel is only accessible for admins and Django functionality is used, this domain can only be accessed by going to this exact url.
- Click on the plus-button next to 'Studys' in the table 'Grades'.
- Fill in the form and save the data.
The data that is needed to fill the form are an abbreviation, a name an optionally modules and study advisers. After this the data can be saved by clicking the Save-button on the lower right of the form.

5.6.6 Add a Study Adviser

When: When a new study adviser needs access to the system, this user must be added to Seth by an admin.

Why: As there is no other user that has any responsibility towards the study adviser, it is the task of the admin to add a new study adviser to a study.

How: Log in and:

- Go to `farm11.ewi.utwente.nl/admin`.
As the admin panel is only accessible for admins and Django functionality is used, this domain can only be accessed by going to this exact url.
- Click on the Change-button next to 'Studys' in the table 'Grades'.
- Click on the study the study adviser needs to be assigned to.
- Ctrl+Click on the corresponding person in the attribute Advisers.
Without Ctrl, the clicked person is the *only* study adviser in the study. This person is then the only person with access to the study adviser domain on the web application. If this happened by mistake, *do not save*, but rather go back a page and try again.
- Click the Save button.

6 Dashboard

The dashboard view of this system is the first view a user sees when logged in on the system. Depending on the type of user that is logged in, the dashboard view changes.

6.1 Module Coordinator Dashboard

Accessible for: Module coordinator

The dashboard for the module coordinator shows all modules of which the user is a module coordinator. Also all module parts and tests within that module are shown. From this dashboard, the user can directly go to the gradebook for the module edition, module part or a test. Also, it is possible to go to the correct import page for a module edition for grades or students. Lastly, a module coordinator can immediately see for which tests the grades are already released and how many grades are in the system for a test.

6.2 Teacher Dashboard

Accessible for: Teacher, Teaching Assistant

The dashboard of a teacher or teaching assistant are identical. They both see all module part of which they are either a teacher or a teaching assistant. From here, it is possible to go to the gradebook of either a module part or a test. Also the user can directly go to the import view of a module part to upload grades for a module part. Lastly, a teacher or teaching assistant can see whether or not a grade is released to the students.

6.3 Student Dashboard

Accessible for: Student

When a student logs in, he or she sees all modules of which one is enrolled in. From here, the student sees all module parts, grouped by module edition. All grades are collapsed under these module parts. Pressing on these module parts show all tests, with all grades, that are released to the student. At the top of the module edition card, next to the module edition title is a button which expands or collapses all module parts of a module edition.

6.4 Study Adviser Dashboard

Accessible for: Study advisor

The study adviser dashboard consists of a list of all students currently enrolled for a module edition of the study of which the current user is a study adviser. The study adviser can filter the list of student on the left side of the screen by student number, student name or module edition. When choosing a student from this list, it brings the study adviser to the grade view of a student. This

view is the same as that of the view a student sees when logging in, so it can be used during a meeting with this student.

7 Grades

Most views (with the exception of the Student View) have certain options to apply to their respective table. By default, the tables display 25 entries per page. This can be changed to 50, 100 or all entries per page in the top-left corner of the table. In the top right corner, a search field can be found. This field can be used to filter the entries in the table. One can search for student names, student ids and grades.

The last feature these tables have, is the ability to display colors depending on the grade. The options for this can be found in the 'Colors' dropdown. In this dropdown, the button 'Toggle Colors' can be found. Once pressed, colors will appear in the table below. By default, grades which are lower than 5 are colored red, grades which are between 5 and 5.5 are colored orange and every grade above 5.5 is colored green. These values can be changed in the field below the 'Toggle Colors' button.

7.1 Main View

Accessible for: Module Coordinator, Teacher, Teaching Assistant, Study Adviser

This is the main view of the grades module. It shows a list of module editions the user can access. If they are a teacher or teaching assistant, it will show all module editions in which they teach a module part.

7.2 Module View

Accessible for: Module Coordinator, Teacher, Teaching Assistant, Study Adviser

This page shows an overview of each module part in a module and all grades linked to this part. The students are listed in the leftmost column of the table and the module parts are denoting the rows. Below the module parts, a row with their respective tests can be found.

The icons below the test names denote if the corresponding test has been released. If it is, the cross will be changed with a tick-mark.

Teachers and teaching assistants can only see module parts of which they are the teacher.

7.3 Module Part View

Accessible for: Module Coordinator, Teacher, Teaching Assistant, Study Adviser

While similar to the Module View, this page shows a more detailed look at one specific module part. All individual components of this page are the same as their Module View counterparts.

Teachers and teaching assistants can only view this page if they teach the specified module part.

7.4 Test View

Accessible for: Module Coordinator, Teacher, Teaching Assistant, Study Adviser

This page shows only the grades of a certain test. All its individual components are the same as their Module Part View counterparts.

Teachers and teaching assistants can only view this page if they teach the module part this test is linked to.

7.5 Module Student View

Accessible for: Module Coordinator, Teacher, Teaching Assistant, Study Adviser

This page gives an overview of the grades of a certain student. It will only show the grades of the currently selected module edition.

Teachers and teaching assistants can only see module parts of which they are the teacher.

7.6 Student View

Accessible for: Student, Study Adviser

Lastly, this is the page a student sees. It shows tabs denoting different module editions. When clicked, these tabs will open up showing their grades in a similar format to the Module Student View. The study adviser can also see this view, in order to see all grades of a certain student.

8 Importer

The importer is the module responsible for processing large amounts of data by use of Excel Sheets. It can set up a module structure, import students to a module edition and import grades.

8.1 Index page

Accessible for: Module Coordinator, Teacher, Teaching Assistant

This view contains an overview of all actions that can be done by a module coordinator, teacher or teaching assistant. These actions are:

- As Module coordinator or -assistant:
 - Downloading and uploading a module structure workbook
 - Downloading and uploading a student enrolment workbook
 - Downloading and uploading a module grading workbook containing all grades in the module
 - Downloading and uploading a module part grading workbook containing all grades in the module part
 - Downloading and uploading a grading workbook for a specific module part or test.
- As teacher or teaching assistant:
 - Downloading and uploading a module part grading workbook containing all grades in the module part
 - Downloading and uploading a grading workbook for a specific module part or test.

If you are both, you can switch between these two roles through a tab.

8.2 Import module structure

This view presents a file upload opportunity to the user. By uploading a module structure form, which can be downloaded from this page if required, one can import the module structure. On success, you are redirected to the module edition in module management.

8.3 Import students

This view presents a file upload opportunity to the user. By uploading a student form, which can be downloaded from this page if required, one can import the students to the module. On success, you are redirected to a page that shows what actions have been done to import the students to a module.

8.4 Import grades to a module or module part

This view presents a file upload opportunity to the user. By uploading a grade form, which can be downloaded from this page if required, one can import the grades. On success, you are redirected to the module edition in Grades.

8.5 Import grades to a test

This view presents a file upload opportunity to the user. By uploading a grade form, which can be downloaded from this page if required, one can import the grades. On success, you are redirected to the test in Grades.

9 Module Management

The module management part of the site is accessible only to the module coordinators. They can view and edit the module editions they are coordinating here.

9.1 Module Overview

Accessible for: Module Coordinator

Provides an overview of the module editions coordinated by the user grouped by module. Also allows for the creation of a new module edition for a module. Only an administrator can create a new module.

9.2 Module Detail View

Accessible for: Module Coordinator

Provides the following details of a module:

- Name
- Study
- List of module editions coordinated by the user

It is possible to create a new module edition for the module here. Only an administrator can remove a module edition or create the first module edition of a module.

9.3 Module Edition Detail View

Accessible for: Module Coordinator

Provides the following details of a module edition:

- Module
- Code
- Year
- Block
- Study
- List of module parts
- List of coordinators
- List of students

For both the coordinator list and the student list, the name and university number are provided. It also shows the role of students and whether a coordinator is an assistant.

A new module part can be created from here.

Students that do not have any grades in this module edition can be removed the module edition using the student list.

9.4 Module Edition Update View

Accessible for: Module Coordinator

Provides the possibility to change some of the aspects of a module edition. Changes that can be made are:

- Year
- Module code
- Block

Naturally, both will differ from edition to edition, which is why they are allowed to be changed. Other aspects of an edition, like the module it is an edition of, are not allowed to be changed. In that case that the module edition should be linked to a different module, a new module should be created, instead of a changing the module code.

9.5 Module Edition Create View

Accessible for: Module Coordinator

Provides a form to create a new module edition for which the following can be edited:

- Year
- Module code
- Block

The module and coordinators are shown but cannot be changed. The former is taken from the module for which a new edition is created, the latter is taken from the latest module edition of the module. Only an administrator can change the coordinators of a module or create the first module edition of a module.

9.6 Module Part Detail View

Accessible for: Module Coordinator

The module part detail view will offer more information on that particular module part, that can be relevant to module coordinators. This information entails:

- Module Edition code, the code of the module edition that the module part is a component of.
- Name
- Tests, this lists all tests that make up the module part
- Teachers
- Students

9.7 Module Part Update View

Accessible for: Module Coordinator

Naturally, some aspects of a module part are prone to change. The aspects of a module that can be changed are:

- Name

- Teachers

Sometimes, the name of a module part covers its content no longer, or it is replaced by another subject. In this case, the name can be easily changed without having to create a new module part. Something that is even more likely to occur is the changing of teachers in a module part. This, as well, is easily accessible and changeable.

9.8 Module Part Create View

Accessible for: Module Coordinator

The module part create view is similar to the updating view, with the following fields:

- Name
- Teachers

This is all that is required to create a new module part.

9.9 Module Part Delete View

Accessible for: Module Coordinator

A module part can become obsolete. In that case it can be deleted, which is as easy as pressing the removal button and confirming the deletion. Only module parts that do not have any grades can be deleted.

9.10 Test Detail View

Accessible for: Module Coordinator

The test detail view contains all relevant aspects of exams, projects and assignments. These are:

- Module part
- Test name
- Test type, choosing from exam, project or assignment
- Minimum grade
- Maximum grade

9.11 Test Update View

Accessible for: Module Coordinator

As a test itself is at quite a low level within the structure of the university, it can change relatively easy with regards to modules or even module editions. Facets of a test that can be changed are:

- Name
- Type, choosing from exam, project or assignment
- Maximum grade
- Minimum grade

9.12 Test Create View

Accessible for: Module Coordinator

Like module parts, the test create view is quite similar to the update view. Similarly, the following fields are given:

- Module part, already given, dependent on the module part in which the new test creation is invoked
- Name
- Type, choosing from exam, project or assignment
- Maximum grade
- Minimum grade

9.13 Test Delete View

Accessible for: Module Coordinator

When a test is no longer desired, its deletion is necessary: after the remove button is pressed, the deletion only has to be confirmed for this to happen. As with module parts, a test can only be deleted when it has no grades.

10 Human Resource Management (HRM)

10.1 Persons View

Accessible for: Teaching Assistant, Teacher, Module Coordinator, Study Adviser

The Persons View gives an overview of all persons that are of relevance to the logged in user are showed here. This includes all types of persons, thus students, teaching assistants, teachers, module coordinators as well as study advisers. This view is accessible for anyone (except for the admin, who has direct access to all users). Information provided about the shown persons is:

- Student/Employee number
- Full name

10.2 Person View

Accessible for: Teaching Assistant, Teacher, Module Coordinator, Study Adviser

Every person shown in the Persons View has, naturally, more information. This data can be accessed through the Person View. The data this contains is:

- Name
- Student/Employee number
- E-mail address
- All modules the person is enrolled in (in case of student)

From here, a person can also be deleted. This can only be done by a module coordinator and only students in their module edition can be deleted. This should only be used when a person was wrongly added to the database. As such, a person cannot be deleted when they have grades within the system.

10.3 Person Create View

Accessible for: Module Coordinator

If a person does not yet exist in the database, this person can be added by a module coordinator. Unknown persons submitted through the Importer are added automatically. The data that is needed to create a new Person is:

- Name
- University number
- E-mail

10.4 Person Update View

Accessible for: Module Coordinator

It is possible to update a person already in the database. This functionality is not expected to be used often. However, in the case that false information about a person is in the system, this can be updated. The data that can be updated is:

- Name
- University number
- E-mail

11 Admin Panel

Overall, the admin domain, situated at `farm11.ewi.utwente.nl/admin`, has the same functionality at every page. Every entry in the database can be updated and removed, and new entries can be created. In order to get an idea on how to do this, please examine the common admin actions in section 5.6. All pages that exist on the admin page will be discussed now. This will also lead to a deeper insight in the exact design of the database. All pages are directly accessible from the admin dashboard.

11.1 Groups

Accessible for: Admin

Groups are a standard Django feature. It is possible to group users and give certain permissions to that group. However, as the permissions in Seth are directly linked with the models that are created separate from the Django Groups, these are not used for Seth.

11.2 Users

Accessible for: Admin

Every person within the Seth environment is linked to a User, which is also a default Django feature. These Users are used in order to connect persons to the Radius system, which is used by the University of Twente. This way users can log in with their university credentials and Seth does not have to store this sensitive information.

11.3 Coordinators

Accessible for: Admin

The Coordinator model is the model that is used to connect a Person to a ModuleEdition and declare that person the module coordinator within Seth. The attributes involved with this are:

- Person
- ModuleEdition
- Is assistant (True/False)

11.4 Criteria

Accessible for: Admin

The Criterion model is a model that can, in the future, be used in order to create criteria for passing the module. However, at this moment, the criterion model is only present in the database and does not have a real implementation. Therefore, the exact attributes are redundant for the scope of this manual. *Note that this model is empty by default and any models that are present do not have any effect on the system.*

11.5 Grades

Accessible for: Admin

The Grade model contains all grades that are inputted into the system. These grades are not only the grades that are visible to students, but also grades that are overwritten and grades that are not released yet. Further elaboration about the working of the Grade model can be found in section 3.3. The attributes of the model are:

- Test
- Teacher
- Student
- Time
- Grade
- Released (True/False)

Warning: Students can only see grades if the Release-attribute in the Test object is set to True, not if the Released-attribute in the Grade object is set to True.

11.6 Module editions

Accessible for: Admin

The ModuleEdition model patterns the appearance of modules with the same structure, for example 'Pearls of Computer Science'. For the exact difference between a Module and a ModuleEdition, please examine section 3.1. The ModuleEdition has the following attributes:

- Year
- Module
- Block
- Coordinators

11.7 Module parts

Accessible for: Admin

The ModulePart model patterns the module parts in Seth. This model has the following attributes:

- Name
- ModuleEdition
- Teachers

11.8 Modules

Accessible for: Admin

The Module model patterns the module in Seth. This means that a general module overlay is provided. For the difference between the Module and the ModuleEdition, please examine 3.1. The attributes associated with a Module are:

- Code
- Name

11.9 Persons

Accessible for: Admin

The Person model is used for every user of Seth. This model is connected to the educational structure in order to provide context of the role of the user with respect to the University, as described in section 3.2. Every Person has the following attributes:

- Name
- University number
- E-mail
- User
- Coordinators
- Teachers

11.10 Studyings

Accessible for: Admin

The Studying model is used to create a connection between a Person and a ModuleEdition in order to indicate the student role of that person. The attributes of this model are:

- Person
- ModuleEdition
- Role

11.11 Studys

Accessible for: Admin

The Study model patterns the study in the educational model. This means that this model has the following attributes:

- Abbreviation
- Name
- Modules
- Advisers

11.12 Teachers

Accessible for: Admin

The Teacher model is used as a connection between a Person and a ModulePart. It indicates that the Person is either a teacher or a teaching assistant of this module part. Therefore, it needs the following attributes:

- Person
- Module Part
- Role

11.13 Tests

Accessible for: Admin

The Test model is used to model the test in reality. This is the model that connects the educational structure with the actual grading system. In order to create this connection, the following attributes are needed:

- Module part
- Name
- Type
- Maximum grade
- Minimum grade
- Released (True/False)