Acceptance Test Plan

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October 26, 2012     Eindhoven
Abstract

This document is the Acceptance Test Plan (ATP) of the kroket group. This project is part of the Software Engineering Project (2IP35) and is one of the assignments at Eindhoven University of Technology. The document complies with the ATP from the Software Engineering Standard, as set by the European Space Agency [1].

This document provides the main guidance for the Acceptance Test phase for the kroket application. It describes the environment needed to perform the acceptance test. When this environment is set up, all test cases must be executed according to their corresponding test procedures and a report needs to be written. If all tests pass, the acceptance test phase can be finished successfully.
Contents

Document Status Sheet 3

Document Change Records 4

1 Introduction 6
   1.1 Purpose 6
   1.2 Overview 6
   1.3 List of definitions and abbreviations 6
      1.3.1 Definitions 6
      1.3.2 Abbreviations 7
   1.4 List of references 7

2 Test plan 8
   2.1 Test items 8
   2.2 Features to be tested 8
   2.3 Test deliverables 8
   2.4 Testing tasks 9
   2.5 Environmental needs 9
   2.6 Test case pass/fail criteria 9

3 Test case specification 10
   3.1 Untestable 10
   3.2 Browser support 10
   3.3 Language support 11
   3.4 Register & log in 11
   3.5 Filter & search subjects 13
   3.6 Add & remove subjects 15
   3.7 Invalid schedule 16
   3.8 Additional subject information 16
   3.9 Validate schedule 17
   3.10 Save & load schedule 18
   3.11 Print schedule 19
   3.12 Recommend subjects 20
   3.13 Extra functionality 20
      3.13.1 Add and remove a year 20
Kroket – ACCEPTANCE TEST PLAN

4 Test procedures

5 Test reports
5.1 First AT .................................................. 23
5.1.1 Statistics ............................................. 23
5.1.2 Remarks and failures ............................. 23

6 Requirements traceability matrices
6.1 UR to AT .................................................. 25
6.2 AT to UR .................................................. 25

A Server setup
A.1 System requirements .................................. 27
A.2 Installation of Apache ................................ 27
A.3 Installation and configuration of PostgreSQL ....... 27
A.4 Installation of Python .................................. 28
A.5 Installation of Django .................................. 28
A.6 Installation of other Python-tools .................. 28
A.7 Installation of KROKET ............................... 29
A.8 Configure Apache and Django (mod_wsgi) ....... 30
A.9 Done ..................................................... 31
Document Status Sheet

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Identification: Documentatie.SVVP.AT.1.0.1
Authors: Astrid Pieterse, Robbert Raats, Peter van Heck, Willem Sonke
Document status: Approved by Lex Lemmens

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Chapter 1

Introduction

1.1 Purpose

This document describes the plan for testing KROKET against the user requirements as defined in the URD[2]. The purpose of this test is to make sure that KROKET complies with the requirements in the URD[2]. Therefore this document needs to be agreed upon by the KROKET developers and Lex Lemmens, the dean of the Bachelor College at Eindhoven University of Technology.

These tests should be executed in the Acceptance Test (AT) phase of KROKET as described in the European Space Agency (ESA) software engineering standard[1].

1.2 Overview

Chapter 2 mentions the items to be tested and the general criteria for the AT phase. A specification for each test case is given in chapter 3. The procedures for these test cases are explained in chapter 4. In chapter 5 the reports for all test cases are presented.

1.3 List of definitions and abbreviations

1.3.1 Definitions

Bachelor College The result of a reform of bachelor education at the TU/e. See URD [2] appendix B for a description.

Chrome An internet browser developed by Google.

Firefox An internet browser developed by Mozilla.

Internet Explorer An internet browser developed by Microsoft.

KROKET Software engineering team developing the application.

NT authentication Employees and students of Eindhoven University of Technology are all assigned a 'NT account'. Authentication of these accounts is possible through the NT authentication system.
Kroket – ACCEPTANCE TEST PLAN

**Opera**  An internet browser developed by Opera Software.

**Safari**  An internet browser developed by Apple.

### 1.3.2 Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ASCII</td>
<td>American Standard Code for Information Interchange</td>
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<td>AT</td>
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<td>ATP</td>
<td>Acceptance Test Plan</td>
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<td>ECTS</td>
<td>European Credit Transfer System</td>
</tr>
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<td>ESA</td>
<td>European Space Agency</td>
</tr>
<tr>
<td>KROKET</td>
<td>Kies niet Roekeloos maar Objectief Keuzevakken Efficiënt en Tevreden</td>
</tr>
<tr>
<td>SVVP</td>
<td>Software Validation and Verification Plan</td>
</tr>
<tr>
<td>TU/e</td>
<td>Eindhoven University of Technology</td>
</tr>
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<td>UR</td>
<td>User Requirement</td>
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<td>URD</td>
<td>User Requirements Document</td>
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<td>URL</td>
<td>Uniform Resource Locator</td>
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### 1.4 List of references

2. Kroket group, User Requirements Document (URD)
3. Kroket group, Software Validation and Verification Plan (SVVP)
4. Kroket group, Acceptance Test Plan (ATP)
Chapter 2

Test plan

2.1 Test items

The software to be tested is kroket. Information about the requirements on this system by the Bachelor College at Eindhoven University of Technology can be found in the URD[2].

2.2 Features to be tested

kroket must meet the requirements as stated in the URD[2].

2.3 Test deliverables

Before the testing starts the following documents must be delivered:

- SVVP[3]
- URD[2]
- ATP[4] (chapters 1, 2, 3 and 4)
- AT input data
- kroket

After completing the testing the following documents must be delivered:

- AT output data
- Problem reports (if any)
2.4 Testing tasks

Before any testing in the AT phase can take place the following tasks need to be done:

- Designing the acceptance tests.
- Tracing all test cases to user requirements and/or use cases.
- Creation of the AT input data.
- Ensuring that all environmental needs for the AT have been satisfied.

When these tasks have been done an AT can be performed according to the procedures described in chapter 4.

2.5 Environmental needs

To be able to perform the AT the following resources are needed:

- A computer connected to the internet running the supported browsers stated in the user requirements.
- A server running kroket. (In appendix A is explained in detail how a server should be configured.)

The computer is assumed to be present. The URL to access the website is known by people executing this ATP and is intended to be used when asked to navigate to kroket.

2.6 Test case pass/fail criteria

Every test describes the criteria that should be met to pass a specific test. An overall AT pass can only be achieved if all tests described in chapter 3 have been performed and passed.
Chapter 3

Test case specification

3.1 Untestable

The URD[2] specifies some requirements which can not be tested because of various reasons. The first reason why requirements can not be tested is because they have not been implemented in the client, the server or both. These requirements are UCR17, UCR22, UCR28, UCR30, UCR31, UCR32 and UCR35.

One other requirement that can not be tested in the standard way is UCR4. The testing of this requirements is not conform the other tests because it concerns behaviour of the system which is difficult to test from the user interface of kroket.

The performance requirements of the URD[2] are not tested specifically. UCR42, UCR43, UCR44 and UCR45 can be tested during the tests of the other requirements. UCR41 and UCR46 are difficult to test during the acceptance test (AT) phase.

3.2 Browser support

<table>
<thead>
<tr>
<th>AT1</th>
<th>UCR36, UCR37, UCR38, UCR39, UCR40</th>
</tr>
</thead>
</table>

**Test items**  Verify the website is accessible on Chrome version 20 or above, Firefox version 13 or above, Internet Explorer version 9 or above, Safari version 5 or above and Opera version 12 or above.

**Input specifications**

1. Enter the URL of the kroket website in Chrome version 20 or above and hit enter.
2. Enter the URL of the kroket website in Firefox version 13 or above and hit enter.
3. Enter the URL of the kroket website in Internet Explorer version 9 or above and hit enter.
4. Enter the URL of the kroket website in Safari version 5 or above and hit enter.
5. Enter the URL of the kroket website in Opera version 12 or above and hit enter.
Kroket – ACCEPTANCE TEST PLAN

Output specifications
- Each browser starts showing the login window of KROKET.

3.3 Language support

Input specifications
1. Go to the website.
2. Close login window by clicking on Continue without login.
3. Click in the menubar on Nederlands.
4. Close login window by clicking on Verder zonder inloggen.

Output specifications
- After step 2 the website shown is in English.
- After step 3 the login window and after step 4 the website is shown in Dutch.

Remark Only the interface of the website is shown in Dutch. This means that not all the subjects and not all the additional information of subjects are in Dutch. Also the search function will not be in Dutch.

3.4 Register & log in

Input specifications
1. Go to the website.
2. Click on Register to create an account.
3. Enter a username, two different passwords and click on Register.
4. Make sure the two passwords are exactly the same and click on Register.
5. In the menubar, click on Logged in as .... and than click on Log out.
CHAPTER 3. TEST CASE SPECIFICATION

6. Refresh the website.
7. Click on Register to create an account.
8. Enter the same username as in step 3 and 4 and click on Register.
9. Click on Cancel.
10. Refresh the website.
11. Enter the credentials which are created in step 4 and click Log in.
12. Click on OK in the alert window.
13. In the menubar, click on Logged in as .... and than click on Log out.
14. In the menubar, click on Log in.
15. Enter the credentials of your account and click Log in.

Output specifications

• After step 3, there is shown a warning saying the passwords do not match.
• After step 4, the user is logged in on kroket.
• After step 5, the user is logged out from kroket.
• After step 8, there is shown a warning saying the username is already taken.
• After step 11, there is shown a popup saying that the user does not have any schedules.
• After step 12, the user is logged in on kroket.
• After step 13, the user is logged out from kroket.
• After step 15, the user is logged in on kroket.

Remark This test does not totally correspond with the user requirement, since kroket is not allowed to use NT-authentication of the TU/e. Therefore, kroket uses an own account system. There are some restrictions on the username and password:

• The username only contains (capital-)letters (a-z), numbers (0-9), dashes (-), underscores(_), and periods (.). It also may not contain more than one period in a row.
• The length of the username is in the range [5, 20].
• The password only contains combinations of non-control ASCII characters. A minimum of 8 characters is required.
• The username and the password are case-sensitive.
3.5 Filter & search subjects

**Test items** Verify that a user can filter and search subjects on certain possibilities.

**Input specifications**

1. Click on *Search* in the *Subjects* tab on the left side of the website.
2. Type *algorithms* in the search field and click on *Search*.
3. Type *2iv60* in the search field and click on *Search*.
4. Clear the search field and choose *advanced options* in the *Subjects* tab.
5. Click on *Intermediate* and click on *Search*.
6. Click on *All difficulties*, click on year 3 and click on *Search*.
7. Click on *All years*, click on quartile 2 and click on *Search*.
8. Click on *All quartiles*, click on timeslot D and click on *Search*.
9. Click on *All timeslots*, choose the major *Automotive* and click on *Search*.
10. Click on year 1, quartile 2, timeslot C and click on *Search*.

**Output specifications**

- After step 1, there are shown some search results.
- After step 2, there are shown subjects which have the search term in their name, subject code, department, subdepartment, remarks, study goal, content or weekly content.
- After step 3, the subject with the subject code *2iv60* is shown, which is the subject *Computer graphics*.
- After step 5, all the subjects shown after the search have the difficulty *Intermediate*.
- After step 6, all the subjects shown after the search have the year 3.
- After step 7, all the subjects shown after the search have the quartile 2.
- After step 8, all the subjects shown after the search have the timeslot D.
- After step 9, all the subjects shown after the search belong to the major *Automotive*.
- The subject *Dynamics* is shown, which is of the major *Automotive* (and of the major *Mechanical Engineering*) and is planned in year 1, quartile 2, timeslot C.
CHAPTER 3. TEST CASE SPECIFICATION

Test items  Verify that a user can filter on broadening or deepening subjects.

Input specifications

1. Refresh the website.
2. Click on Broadening in the Subjects tab on the left side of the website.
3. Click on Click here to choose a major in the warning box.
4. Choose Software Science and click on Save.
5. Click on Search.

Output specifications

• After step 2, there is shown a warning saying that searching for deepening/broadening subjects needs a major.
• After step 5, there are shown subjects that are broadening to the major Software Science.

Test items  Verify that a user can filter on the coherent or USE package a subject is in.

Input specifications

1. Refresh the website.
2. Click on the tab Coherent packages on the left side of the website.
3. Click on Search.
4. Click on the package Smart Environment.
5. Type transport in the search field, choose Effective package and click on Search.
6. Click on the package Advanced Operation management.

Output specifications

• After step 3, there are shown some packages.
• After step 4, there is shown which subjects there are in the package Smart Environment.
• After step 5, The package Advanced Operation management is shown.
• After step 6, there is shown that the subject Transport and distribution is in the package.
Kroket – ACCEPTANCE TEST PLAN

3.6 Add & remove subjects

AT7 UCR13, UCR14, UCR18, UCR29

Test items Verify that a user can add and remove subjects to the schedule.

Input specifications

1. Refresh the website.
2. In the menu bar, click on Options and choose Change major.
3. Choose the major Automotive and click on Save.
4. In the menu bar, click on Options and choose Fill in major subjects.
5. Type healthcare in the search field, click on Search and add the subject Healthcare Information Systems to the schedule at quartile 4 of year 1. To do this, click on the subject (such that it is selected), then click on the green background of the cell in the table representing quartile 4, year 1.
6. Type interaction in the search field, click on Search and add the subject Human technology interaction to the schedule at quartile 4 of year 1 in the same way as in step 5.
7. Type automata in the search field, click on Search and add the subject Automata en Processes to the schedule at quartile 4 of year 1.
8. Click on the cross by Human technology interaction in the schedule.
9. Click on Empty schedule button under the schedule.

Output specifications

• After step 4, the schedule is filled with the mandatory subjects of the major Automotive.
• There are two possible ways of adding a subject to the schedule. You can click on a subject and click on a free space in the schedule or you can drag a subject to the schedule to place it at a free space.
• After step 5, the subject Healthcare Information Systems is added to quartile 4 of year 1.
• After step 6, the subject Human technology interaction is added to quartile 4 of year 1. There is shown that there can be more than three subjects per quartile.
• After step 7, the subject Automata en Processes is added to quartile 4 of year 1.
• After step 8, the subject Human technology interaction is removed from the schedule.
• After step 9, all of the subjects in the schedule are removed and the schedule is empty.
3.7 Invalid schedule

**Test items**  Verify that when two subjects of the same timeslot are added to the schedule, there is shown a warning.

**Input specifications**

1. Refresh the website.
2. Choose *advanced options* in the *Subjects* tab on the left side of the website.
3. Choose quartile 1 and timeslot C and click on *Search*.
4. Add the subjects *Mechanics* and *Circuits* to quartile 1 of year 1.

**Output specifications**

- After step 4, quartile 1 of year 1 should be marked red. When you hover over the quartile with your mouse, there is shown a warning saying that at least two subjects in this quartile have the same timeslot.

3.8 Additional subject information

**Test items**  Verify that there is shown additional subject information when a user clicks on a subject.

**Input specifications**

1. Refresh the website.
2. Type *brain* in the search field in the *Subjects* tab on the left of the website and click on *Search*.
3. Click on the subject *Brain, Body & Behaviour*.
4. Click on the tab *Planning* in the additional information popup.
5. Click on the tab *Description* in the additional information popup.
6. Click on the tab *Study goals* in the additional information popup.
7. Click on the tab *Evaluations* in the additional information popup.
Kroket – ACCEPTANCE TEST PLAN

Output specifications

• After step 3, there is shown a popup which initially shows the General information of the subject.

• After step 4, the planning of the subject is shown in the popup.

• After step 5, the description of the subject is shown in the popup.

• After step 6, the study goals of the subject is shown in the popup.

• After step 7, there is shown an evaluation in the form of a number between the 1 and 10.

3.9 Validate schedule

AT10 UCR16, UCR23

Test items  Verify that a user can check whether the chosen electives form a valid packet for the Bachelor College.

Input specifications

1. Refresh the website and click Empty schedule to empty the schedule.

2. In the menu bar, click on Options and choose Change major.

3. Choose the major Software Science and click on Save.

4. In the menu bar, click on Options and choose Fill in major subjects.

5. Click on Search in the Subjects tab on the left side of the website.

6. Add three subjects to the schedule (it does not matter which and in which year).

7. In the menu bar, click on Options and choose Validate schedule.

8. Click on Close in the validate popup.

9. Add eight other subjects to the schedule (again it does not matter which and in which year).

10. In the menu bar, click on Options and choose Validate schedule.

11. Click on the Close button.
CHAPTER 3. TEST CASE SPECIFICATION

Output specifications

- After step 7, there is shown a popup with four criteria a schedule must adhere to. The second criteria shows how much ECTS is still needed. In this case you have 140 ECTS of the 180 ECTS needed. So you still have to add 40 ECTS, which is eight subjects.

- After step 10, the same popup is shown, but now you have enough ECTS, which is 180 ECTS.

3.10 Save & load schedule

AT11 UCR25,UCR26

Test items  Verify that a user can save and load a saved schedule.

Input specifications

1. Use the schedule from the previous test.

2. In the menu bar, click on Options and choose Save.

3. In the Name field, type in the name of the schedule you want to save and click on OK.

4. Refresh the website.

5. In the menubar, click on Logged in as .... and than click on Log out.

6. Refresh the website.

7. Enter the credentials of your account and click Log in.

8. Choose the schedule you just saved and click OK.

9. Click on the Empty schedule button.

10. Click on Search in the Subjects tab on the left side of the website.

11. Add five subjects to the schedule (it does not matter which subjects and where in the schedule).

12. In the menu bar, click on Options and choose Save as.

13. In the Name field, type in the name of the schedule you want to save and click on OK.

14. Refresh the website and empty the schedule.

15. In the menu bar, click on Options and choose Load.

16. Choose the schedule you first saved and click on OK.

17. In the menu bar, click on Options and choose Load.
Kroket – ACCEPTANCE TEST PLAN

18. Choose the schedule you secondly saved and click on Delete.

19. Click on OK.

20. In the menu bar, click on Options and choose Save as.

21. In the Name field, type in the exact name of the first schedule and click on OK.

22. Click on No.

23. Click on OK.

24. Click on Yes.

25. In the menu bar, click on Options and choose Load.

26. Click on OK.

Output specifications

- After step 3, the schedule is saved.
- After step 4, the saved schedule is immediately loaded.
- After step 8, the saved schedule is loaded.
- After step 13, the schedule is saved.
- After step 14, the secondly saved schedule is immediately loaded.
- After step 15, show that there are really two saved schedules.
- After step 16, the first saved schedule is loaded.
- After step 18, the secondly saved schedule is removed from the saved schedules list.
- After step 21, there is shown a pop up which says there is already a schedule with that name.
- After step 25, show that there is really just one saved schedule.

3.11 Print schedule

AT12

Test items  Verify that a user can print a schedule.
CHAPTER 3. TEST CASE SPECIFICATION

Input specifications

1. Use the first saved schedule of the last test.
2. In the menu bar, click on Options and choose Print schedule.
3. Choose a printer and click on OK.
4. Close the print preview window.

Output specifications

- After step 2, there is shown a print options window and a print preview window.
- After step 3, the schedule is printed.

3.12 Recommend subjects

AT13

Test items Verify that a user can see subjects that are recommended by kroket based on the schedule.

Input specifications

1. Empty the schedule from the previous test.
2. Add the subject Brain, body and behavior to the schedule.

Output specifications

- After step 2, there are shown some subjects under the schedule which are recommended based on the filled in schedule.

3.13 Extra functionality

There are some extra functionalities that are added to kroket. These functionalities are therefore not linked to user requirements.

3.13.1 Add and remove a year

AT14

Test items Verify that a user can add a year to the schedule and can remove a year from the schedule.
Kroket – ACCEPTANCE TEST PLAN

Input specifications

1. Refresh the website.
2. Click on the button *Add year* under the schedule.
3. Click on the button *Add year* under the schedule.
4. Click on the button *Remove year* under the schedule.

Output specifications

- After step 2, there is added one year to the schedule, so the schedule has now a total of four years.
- After step 3, there are added two years to the schedule, so the schedule has now a total of five years.
- After step 4, there is removed one year from the schedule, so the schedule has now a total of four years.
Chapter 4

Test procedures

Perform all tests in the order in which they appear in chapter 3. Do not log out from kroket, close the website or close the web browser between testing, unless it is said specifically in the tests.

The login session might expire during the AT. This means that kroket will ask the user to log in again, when the website is refreshed.
Chapter 5

Test reports

5.1 First AT

5.1.1 Statistics

Test report identifier: ATR1
Date: 23-10-2012
Time: 10:00-11:30
Location: Eindhoven, TU/e HG, room -1.23
Participants: Diana Vinke (representing Lex Lemmens), Astrid Pieterse, Peter van Heck.
Test document: ATP version 1.0.0
Description: This report concerns the first AT of kroket. Subject to this test is the kroket website release #5. This release has been tested against the tests described in chapter 3.
Results: 14 tests passed and 0 test failed.

5.1.2 Remarks and failures

Only tests with remarks or failures are described here.
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<th>Remarks</th>
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<td>In Internet Explorer, the website does not work if the compatibility mode is enabled. Also it appeared that the coloring and layout was not really good. Since this was no requirement the test passed, but we have changed this right after the AT.</td>
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<tr>
<td>AT7 step 5</td>
<td>It is not said in the description how a subject should be added to the schedule. This was done by clicking the subject and then clicking the right quartile or using drag and drop to move the subject from the search field to the schedule.</td>
</tr>
<tr>
<td>AT9 step 3</td>
<td>It was not specified that the Search-button needed to be pressed in step one. Due to this, there were no subjects in the search results. Clicking Search solved the problem.</td>
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<tr>
<td>AT10 step 7</td>
<td>After refreshing the website, 2 subjects were still in the schedule (because of local storage of the web browser). This means that after adding 4 elective subjects and the major we had 150 ects in the schedule, instead of the expected 140. We removed the 2 subjects from the schedule and after this the test passed.</td>
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Chapter 6

Requirements traceability matrices

6.1 UR to AT

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6.2 AT to UR
## CHAPTER 6. REQUIREMENTS TRACEABILITY MATRICES

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Appendix A

Server setup

A.1 System requirements

Step 1  We assume that Ubuntu 11.10 or 12.04 has already been installed. Other versions of Ubuntu should work too, but this has not been tested. Wherever we use nano, it is also possible to use any other text editor.

When sudo is used, you will be asked for your password. Also a confirmation is sometimes required by inputting a ‘Y’ before installation can continue. We will not explicitly state this step every time.

A.2 Installation of Apache

Step 2  Install Apache and mod_wsgi:

    sudo apt-get install apache2
    sudo apt-get install libapache2-mod-wsgi

A.3 Installation and configuration of PostgreSQL

Step 3  Install PostgreSQL and the corresponding development packages:

    sudo apt-get install postgresql
    sudo apt-get install postgresql-server-dev-9.1

Step 4  (This is optional.) Change the password of postgres user with sudo passwd postgres.

Step 5  Create a new user for the database. (Remember the password; you will need it later on.)

    sudo -u postgres -- createuser -U postgres djangouser -P
    Enter password for new role:
    Enter it again:
    Shall the new role be a superuser? (y/n) n
Shall the new role be allowed to create databases? (y/n) y
Shall the new role be allowed to create more new roles? (y/n) n

**Step 6** Create a new database:

```
sudo -u postgres -- psql
psql (9.1.6)
Type "help" for help.
```

```
postgres=# CREATE DATABASE kroket_db;
```

(This prompt can be closed with \q.)

**A.4 Installation of Python**

**Step 7** Ubuntu already has Python 2.7 installed, so you need not do this again.

If, for whatever reason, Python 2.7 is missing it can be installed with:

```
sudo apt-get install python2.7
```

**Step 8** Install the Python setuptools:

```
sudo apt-get install python-setuptools python-pip
```

These are tools to help install Python programs.

**A.5 Installation of Django**

**Step 9** This is done via pip:

```
sudo pip install django
sudo pip install django-extensions
```

**Step 10** Test this by executing:

```
python -c "import django; print(django.get_version())"
```

If Django has been installed correctly, the version of Django will be printed.

**A.6 Installation of other Python-tools**

**Step 11** django-nose is for unit testing:

```
sudo pip install django-nose
```
Kroket – ACCEPTANCE TEST PLAN

**Step 12** For the fuzzy search we need NLTK (the Natural Language Toolkit). This library has a lot of dependencies. First we need to install numpy:

```bash
sudo apt-get install python-dev
sudo pip install -U numpy
```

**Step 13** Install psycopg2 to enable Django to communicate with the database:

```bash
sudo pip install psycopg2
```

(if this does not work, verify that PostgreSQL is working properly, including the -dev-9.1-packet.)

**Step 14** We also need suds to process the Biztalk responses coming from OWIS, so:

```bash
sudo pip install suds
```

**Step 15** Now we need pyyaml:

```bash
sudo apt-get install libyaml-dev
sudo pip install -U pyyaml
```

**Step 16** distribute is needed to install NLTK:

```bash
sudo pip install -U distribute
```

**Step 17** Finally we can install NLTK itself:

```bash
sudo pip install -U nltk
```

**Step 18** kroket uses two corpora for NLTK:

```bash
sudo python -m nltk.downloader -d /usr/share/nltk_data wordnet
sudo python -m nltk.downloader -d /usr/share/nltk_data maxent_treebank_pos_tagger
```

**A.7 Installation of KROKET**

**Step 19** Insert and mount the CD (this probably happens automatically in /media).

**Step 20** Add the contents of the folder Media (from the CD) to the /var/www folder:

```bash
sudo rm /var/www/*
sudo cp -R /media/(cd-name)/Media/* /var/www
```

(This can be tested by going to the address of the server; the static HTML pages should work now, but the server will not respond to queries yet.)
APPENDIX A. SERVER SETUP

**Step 21**  Now create a Django application for **kroket**.

```
cd
mkdir Django
cd Django
django-admin.py startproject KroketServer
```

**Step 22**  We fill the application with **kroket** code:

```
cd KroketServer
cp -R /media/(cd-name)/Django/* .
```

**Step 23**  Now update the database configuration:

```
nano KroketServer/settings.py
```

Change the – currently empty – password to the one you chose in step 5 for PostgreSQL.

```
'PASSWORD': '<your password>', # Not used with sqlite3.
```

**Step 24**  Create Django’s database schemas:

```
python manage.py syncdb
```

At one point Django will ask if a superuser is wanted. Enter **yes** and choose an username, email address and password. (This is not for the database, but only for Django.)

**A.8 Configure Apache and Django (mod_wsgi)**

**Step 25**  Configure Apache so that it will communicate with Django via WSGI.

```
sudo nano /etc/apache2/httpd.conf
```

In this file add the following line:

```
WSGIScriptAlias /studyplanner /home/(username)/Django/KroketServer/apache/django.wsgi
```

**Step 26**  If everything is fine, Apache will now forward all requests for /studyplanner to the file apache/django.wsgi from Django. We still need to change that file.

```
cd ~/Django/KroketServer/apache
nano django.wsgi
```

Fill in the username in the line starting with `path`:

```
path = '/home/(username)/Django/KroketServer'
```

**Step 27**  Restart Apache.

```
sudo service apache2 restart
```
A.9 Done

Step 28 Open a browser and go to localhost to check if everything worked.