

Advanced Programming (I00032) 2016

Basic iTasks

Assignment 5

Goal

The goal of this exercise is to get you started with the iTask system. After making this exercise you should know how to use basic editors like `enterInformation`, `updateInformation`, and `viewInformation` for new datatypes. You have used the bind operator `>>=` and the choice `||-`.

Version

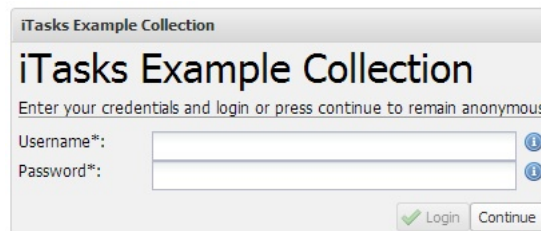
The iTask system is under development. We will check the predefined code with the latest development release for Windows at http://clean.cs.ru.nl/Download_Clean. Currently this is <ftp://ftp.cs.ru.nl/pub/Clean/nightly/clean-itasks-win32-20160927.zip>. The versions for Linux and Mac OS X seem to be rather similar, but there is no guarantee that things will work there. There might be small differences in the library, or (other) bugs.

In order to check whether this iTask component works correctly you can open the project `iTasks-SDK/Examples/BasicAPIExamples.prj` and run it. This should create a console window with text:

```
*** BasicAPIExamples HTTP server ***
```

Running at <http://localhost/>

Start your favorite web-browser (there are issues with IE, chrome or firefox is a better choice), and direct it to <http://localhost/>. This should open the following page:



The screenshot shows a web browser window titled "iTasks Example Collection". The page has a header "iTasks Example Collection" and a sub-header "Enter your credentials and login or press continue to remain anonymous". Below this, there are two input fields: "Username*" and "Password*", each with an information icon (i) to its right. At the bottom right, there are two buttons: "Login" (with a green checkmark icon) and "Continue".

Press *Continue* to log in anonymously. A task gets available to edit new user accounts. You can browse this application to get used to the iTask look and feel.

1 An Idea Box

In a number of steps we will develop an idea box. This is a program that allows you to create a list of ideas. On Blackboard you find an initial version of this program. You can put this anywhere on your system, but the executable must be located in the folder `iTask-SDK`, or one of its subfolders. You can either put your Clean program there, or use the set executable option of the Project Options.

Change this skeleton step by step:

1. Define an idea consisting of a title and a description.
2. Use the type `Note` instead of `String` for the description and notice the difference.
3. See what changes in the interface when you make the description a `Maybe Note` instead of a plain `Note`.
4. Change your program to automatically add the name of the user and a number to the ideas. These fields should not be editable by the user, but supplied by the program. Hint: use `Display Int` instead of `Int` to number the ideas.
5. Change your program in order to enable the user to enter a list of ideas instead of a single idea.
6. Change your program such that it displays the list of existing ideas, but does not allow to edit those ideas (Hint: `viewInformation`). In parallel to displaying the ideas the user should be able to edit a new idea. Hint: use the operator `||-` to compose tasks in parallel. When the new idea contains enough text (e.g. `size string > 5`) it is added to the list of displayed ideas and the user can add again a new idea. Use the monadic bind, `>>=`, from `iTask` for sequential composition of tasks.

Deadline

The deadline for this exercise is October 4, 2016, 13:30h (just before the next lecture).