INF 3280, 2019

Mandatory Assignment 1-2

After these assignments, you should be able to

- develop learning material and
- teach, supervise and assess users.

The assignments build on each other and are to be carried out by pairs of students.

These two assignments concern the same topic, which the pair can choose.

The end result of these two assignments should be a training session consisting of two modules as shown below.

Both assignments have written and oral deliverables.

Assignment 1: Module for Understanding
1. Introduction
a. Usefulness of the learning objectives
b. Explanation of new functionality and data structure
2. Practical hands-on exercises
a. Exercise 1: follow instructions
b. Exercises 2 and 3: somewhat different from the instructions
3. Summary
a. Multiple choice question on new functionality / data structure
b. Discuss functionality / data structure and confront misconceptions
c. Discuss usefulness
Assignment 2: Module for Problem solving
1. Introduction
a. Usefulness of problem solving method
b. Presentation of problem solving method
2. Practical hands-on exercise
a. Exercise requiring problem solving
3. Summary
a. Discuss problem solving approach

Assignment 1. Module for Understanding.

Select a topic for others to learn. You can freely choose the starting level of your IT learners' competence, and then pick a topic which they could learn in less than half an hour. The topic should be somewhat challenging for the user to understand, and it should introduce some new functionality and data structure. The teaching is going to take place during 20 minutes, hence the topic has to be rather limited in scope.

Suitable sized topics (with possible functionality/data structure): setting up automated back-ups (back-up), advanced page numbering (sections), table of contents (heading styles),

automatic mail filtering (filters), graphs in spread sheets (graph types, series, range), upload media files to internet sites (media formats), advanced searches (logical operators), sharing files on a cloud server (access levels, cascade).

Too small and trivial topics would be sending e-mails, formatting text with button choices, summarising columns in spreadsheets, converting a file to pdf-format, setting the alarm on a phone, download and use a simple phone app. A complete software tool like an office application would be too large, but a utility program with one main function could be OK.

It should be practically feasible to run the software in the classroom. If you choose software which is not normally on students' private computers, make sure it can be downloaded and installed in a short time in the classroom.

Select 1-3 functionalities and data structures which are

- new to the learners
- central to your topic
- somewhat challenging to learn

Decide the starting level (prerequisites) and the learning objectives of the training.

I A document containing
- Prerequisites
- Learning objective(s)
- Possible learning challenges and misconceptions for each of the new functionalities / data structures
In total 1-2 pages

II Learning material consisting of written / illustrations / video covering
- Learning objective(s) and its Usefulness (Module for Understanding 1a) (1 slide)
- A functional and a structural model (Module for Understanding 1b) (2-3 slides)
- Instructions (Module for Understanding 2a) (2-5 slides)
- Two exercises which differ somewhat from the instructions (Module for Understanding 2b) (1 slide)
- One multiple choice question testing understanding of one of the new functionalities / data structures (Module for Understanding 3a) (1 slide)

The learning material could be on any media, including documents, web-pages, slides, video or a combination thereof. The length is indicated by the number of slides above. For video, 1a + 1b should be max 4 minutes, and 2a max 4 minutes.

An example of some of the learning material for Assignments 1 and 2.

Submit material on Devilry by *22 February*.

Oral deliverable:

III Training

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Use the learning material for training of the other students in the tutor group during class time The students you train are supposed to behave like being at the starting level which you assumed as the prerequisites for your training.

During the practical hands-on exercises, supervise the learners by walking around in the classroom helping out those who are stuck or have questions.

The training should take around 20 minutes in total, and the practical hands-on exercises (2a+b) should occupy more than half of this time. The practical part can be terminated when all students have completed the first exercise or when time has passed 15 minutes.

After completing the multiple choice question, the summary should be a conversation between the teacher and the class. No written material is required specifically for this part, although reusing the material from 1a+b might be favourable.

This training will take place in the tutorial groups after 22 February.

Assignment 2. Module for problem-solving.

Make an exercise which requires the user finding out more about the software than presented in the Module for Understanding. Choose a problem solving approach which you think will be efficient for finding out how to do the exercise and which can be carried out in the classroom during the session.

Written deliverables:

IV A document containing
- The problem solving approach
- Why this approach was chosen

V Learning material
- Revised material from Assignment 1 based on feedback received.
- Presentation of the problem solving approach. Size: approximately one slide and corresponding size for other media (Module for Problem solving 1a)
- Presentation of the usefulness of the problem solving approach **also outside of the current exercise.** 1 slide. (Module for Problem solving 1b)
- Exercise requiring problem solving (Module for Problem solving 2)

Submit on Devilry by *8 March*.

Oral deliverables:

VI Training

   Train the tutor group with Module for Understanding 1 and 3 (skip Practical hands-on exercises) and Module for Problem solving 1, 2 and 3, around 20 minutes in total. This training will take place in the tutorial groups after 8 March.