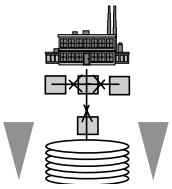

Introduction to Object-oriented Programming for Managers (Object Rexx)

VO

Lecture, English Program

(2007-03-09 through 2007-05-12)

Inskr.-Nr. **0666** „Schulungsraum 2“ (SCHR 2, UZA II)

Lecturer	Begin	Time of Day
Flatscher	Friday, **2007-03-09**	**14:00 - 18:00**

POSITION IN THE WU STUDIES (FOR THE AUSTRIAN STUDENTS)/STELLUNG IM STUDIUM

Wahlpflichtfach (alte Studienordnung, spezielle BWL "Wirtschaftsinformatik"):
Es wird ein schriftliches Kolloquium für das CP-System angeboten. There will be the possibility of a final examination.

English Program and Freies Wahlfach (neue Studienordnungen):
Es wird ein schriftliches Kolloquium angeboten. There will be a final examination.

OVERVIEW

This course concentrates on a groundlaying **introduction** into the **procedural** and **object-oriented programming**. We concentrate on the **concepts** which are available to us for **object-oriented programming** and for object-oriented (commercial) application systems.

At the end of this lecture you should have learned the object-oriented paradigms, which should considerably ease your access to **object-oriented modeling** or devising **business objects**, as well as being able to understand and assess the terminology and technology.

The **knowledge** that you will have acquired thru this lecture should enable you to solve **small business-administrative** related problems at hand with your own devised procedural and/or object-oriented programs. At least you will be able to formulate **adequate problem solutions** and communicate them efficiently (using the same language) to IT professionalists. In addition it should be **much easier** for you to learn and understand object-oriented modeling concepts and modeling languages (e.g. EERM, MOF/UML, MDA) and technologies (e.g. OMG CORBA, J2EE, .NET), as **you would not be shied away** by the technical terms in this area anymore.

To teach and excercise the taught concepts the „human-centric“ programming language **ooRexx** (created originally by IBM, maide available as opensource by the non-profit International Rexx Language Association) will be used, which is available at least for AIX, Linux, OS/2, Solaris and Windows. available.

→ *Hint:* the syntax of ooRexx is *very simple*, such that this programming language can be ***easily learned even by end-users***. Therefore the language is being deployed for creating scripts, macros and/or software prototypes.

GOALS OF THIS LECTURE

In the context of this lecture **you will learn**

- the basics of **procedural programming** and the successful creation of procedural programs to solve simple problems on your own,
- the basics of **object-oriented programming** and the successful creation of object-oriented programs to solve simple problems on your own
- to understand and to apply the **object-oriented paradigm** in programming and modeling,
- the programming language **ooRexx** and
- as an additional benefit, **remote controlling Windows** and **Windows applications** by example. (This knowledge could immediately be applied in the lectures # 0794 "Automatisierung von Windows-Anwendungen" – „Automating Windows Applications“ - and lecture # 1083 "Automatisierung von Java-Anwendungen" – “Automating Java Applications”.)

TYPE OF LECTURE

This course will be held as a lecture, where the students will get little assignments from installment to installment to be solved in groups of two or three.

→ *Active participiation in form of questions or discussions is requested explicitly!*

LITERATURE

- Veneskey G.L., Trosky W., Urbaniak J.J.: Object Rexx by Example. Aviar.
  URL (as of 2007-03-05): http://www.oops-web.com/orxbyex/
- Fosdick H.: Rexx Programmer’s Reference. John Wiley & Sons, ISBN: 0-7645-7996-7,
  URL (as of 2007-03-05):
  http://www.wrox.com/WileyCDA/WroxTitle/productCd-0764579967.html

DETAILED OVERVIEW OF THE LECTURE

NR.	CONTENT	DATES
	Introduction into Procedural Programming	
1	Overview of the lecture, history of Rexx, latest developments: ANSI Rexx, Object Rexx, ooRexx, NetRexx	2007-03-09 14:00-15:45
2	A minimal Rexx program, interactive programming ("RexxTry.cmd"), variables, constants, comments, statement, block, conditional branching, iteration	2007-03-09 16:15-18:00
3	Label, procedure, funktion, search order for functions/procedures, scopes	2007-03-16 14:00-15:45
4	Rexx-functions, "stems" (associative arrays), "RexxUtility"-functions ("RexxUtil")	2007-03-16 16:15-18:00
5	Object Rexx-extensions: routines, arguments by reference, exceptions	2007-03-23 14:00-15:45
	Introduction into Object-oriented Programming	
6	Classes, methods, attributes, messages, scopes, creation of objects	2007-03-23 16:15-18:00
7	Inheritance, specialization, scopes, multi-threading	2007-03-30 14:00-15:45
8	Object Rexx-classes I: classification tree, defining classes, examples	2007-03-30 16:15-18:00
9	Object Rexx-classes II: classification tree, collection classes	2007-04-27 14:00-15:45
10	Object Rexx-classes III: classification tree, collection classes	2007-04-27 16:15-18:00
11	Object Rexx-Klassen IV: class methods, class attributes, meta-classes, patterns	2007-05-11 14:00-15:45
12	Excercise(s): problem(s) and solution(s); „The Big Picture“, defining classes and methods at runtime, ‚one-off' objects, automation of Windows and Windows applications	2007-05-11 16:15-18:00
13	Q&A, Examples and Demonstrations.	TBA

URLs zu (Object) Rexx

”Rexx Language Association” with their own "Link"-page for further Rexx resources:

http://www.RexxLA.org/

FOSS Open Object Rexx (ooRexx) Homepage, Documentation and Download Pages

http://www.ooRexx.org/

Article about history and concepts of Rexx and Object Rexx (ECOOP 2006 Workshop)

http://prog.vub.ac.be/~wdmeuter/RDL06/Flatscher.pdf

FOSS „vim“ Editor (since version 7.0 supports the ooRexx syntax-highlighting)

http://www.vim.org/
ftp://ftp.vim.org/pub/vim/pc/gvim70.exe (Windows-Version)
http://www.vim.org/download.php#unix (Unix/Linux-Version)

”Object-oriented Links”, Entry: ”Object Rexx”:

http://www.cetus-links.org/oo_rexx.html

Means of Communications

In order to improve the communication among and with the students the E-Mail-list **ORX2007s** has been created. To subscribe to this e-mail list you need to use the form at (be careful to write everything in lowercase letters):

http://alice.wu-wien.ac.at/mailman/listinfo/orx2007s

After subscribing you can send e-mail to `orx2007s@wi.wu-wien.ac.at`, which in turn will cause a re-distribution of it among all people who have subscribed to this list. (More infos in the first installment.)

This e-mail list will allow you to ask any questions (there are no stupid questions!) and to discuss concepts day and night.

Needed Materials

You can freely download ooRexx for your own operating system from:
http://www.ooRexx.org/

Foils fort this lecture:

http://wi.wu-wien.ac.at/rgf/wu/lehre/poolv/material/English/foils/

Excercises for this lecture:

http://wi.wu-wien.ac.at/rgf/wu/lehre/poolv/material/English/foils/excercises/poo_exercises.htm