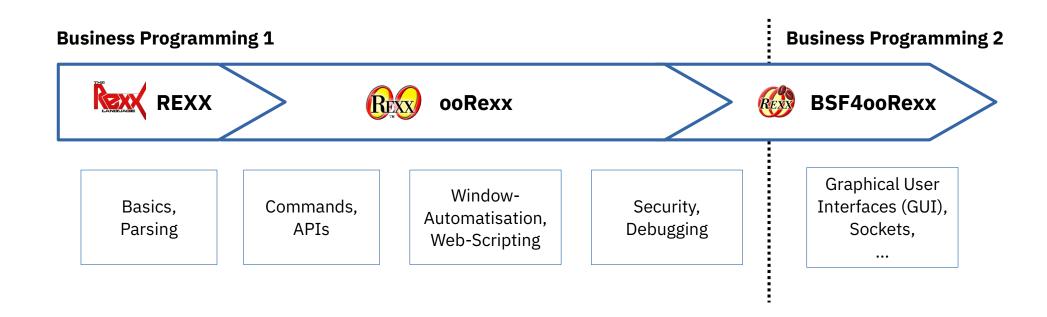
# Department of Information Systems and Operations Management



#### **About Storing Files: Where and How?**

Source directory, current directory, home directory, temporary directory ...



## About Locations For Storing Files, 1



- About directories (synonym: folders)
  - Can be nested (directory/folder in a directory/folder ...)
  - Root directory has the symbol "/" (Unix) or "\" (Windows)
    - Windows has the notion of a drive, an alphabetic letter followed by a colon, e.g. "C:"
      - A drive may be prepended to the directory, e.g. to the root directory: "C:\"
  - A PATH is the sequence of directories (folders) to traverse to arrive at the storage location of a file
    - Each *directory* (*folder*) gets separated with the letter "/" (Unix) or "\" (Windows)
    - Windows examples for absolute (starts with the root directory/folder) and relative paths

```
C:\Users\JohnDoe\Documents\someFile1.png (absolute path)
Documents\someFile2.png (relative path: relative to current directory/folder)
```

Unix examples for absolute and relative paths

```
/Users/MaryDoe/Documents/someFile1.png (absolute path)
Documents/someFile2.png (relative path: relative to current directory/folder)
```

#### **Source Directory**



- The directory where the Rexx program is stored
  - Can be retrieved from Rexx using the PARSE SOURCE keyword statement
     PARSE SOURCE opsys invocationType pathToRexxProgram
    - opsys refers to the operating system, e.g. "Windows", "Darwin" (Apple), "Linux", ...
    - invocationType is one of "COMMAND", "FUNCTION", "SUBROUTINE", "METHOD", "REQUIRES"
    - pathToRexxProgram is the fully qualified path to the Rexx program, e.g.
       C:\Users\JohnDoe\programs\someProgram.rex (absolute path, Windows)
       /Users/MaryDoe/programs/someProgram.rex (absolute path, Unix)
  - FILESPEC()-BIF (built-in-function) allows to retrieve different parts of a path

```
e.g. FILESPEC('location', pathToRexxProgram) yields for the above two examples:
        C:\Users\JohnDoe\programs\ (Windows example location)
        /Users/MaryDoe/programs/ (Unix example location)
```



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#### **Current Directory**



- The directory (folder) where the Rexx program executes
  - Used for looking up additional programs and files without a path
  - Can be changed arbitrarily while the program executes
- directory(optionalNewDir)-BIF (built-in-function)
  - Returns the full path to the current directory
  - If argument optionalNewDir supplied, changes the current directory to it

#### Example:

Output Windows, assuming current directory is C:\Users\MaryDoe\temp:

```
C:\Users\MaryDoe\temp
C:\Users\MaryDoe
```

Output Unix, assuming current directory is /Users/JohnDoe/temp:

```
/Users/JohnDoe/temp
/Users/JohnDoe
```

#### **Home Directory**



- The directory (folder) where all files and directories/folders of a user reside
  - User usually has all permissions for all directories/folders and files therein
- Operating system defines an environment variable that contains the path
  - Environment variable (Windows): "USERPROFILE"
  - Environment variable (UNIX): "HOME"
- Use the value()-BIF (built-in-function) to retrieve the environment variable's value,
   e.g.
  - Example Windows:
    homeDir=value('USERPROFILE', ,'ENVIRONMENT') -- maybe: "C:\Users\JohnDoe"
  - Example Unix:

```
homeDir=value('HOME', ,'ENVIRONMENT') -- maybe: "/Users/MaryDoe"
```

### **Temporary Directory**



- Every operating system defines a directory for temporary files
  - Rights for everyone to read and write files
    - May be emptied by the operating system, e.g. during boot process
    - Beware of storing sensitive data there!
- Temporary directories on different operating systems
  - Windows: defined with the environment variable "TMP" or "TEMP" tempDir=value('TEMP',,'ENVIRONMENT') -- maybe "C:\Users\JohnDoe\AppData\Local\Temp"
  - MacOS: defined with the environment variable "TMPDIR" tempDir=value('TMPDIR',,'ENVIRONMENT') -- maybe "/var/folders/x9/gyg5hmn/T/"
  - Unix: usually the directory "/tmp"

#### Using Java to Fetch these Directories



- Java's java.util.System class manages the properties for the system
  - The following properties are set according to the user's operating system
    - Current directory, property named "user.dir"
    - Home directory, property named "user.home"
    - Temporary directory, property named "java.io.tmpdir"

```
say "User name : " .java.lang.System~getProperty("user.name")
say "User's home directory: " .java.lang.System~getProperty("user.home")
say "Current directory : " .java.lang.System~getProperty("user.dir")
say "Temp directory : " .java.lang.System~getProperty("java.io.tmpdir")
::requires BSF.CLS -- get ooRexx-Java bridge
```

Possible output (Windows) assuming current directory is C:\Program Files\ooRexx:

