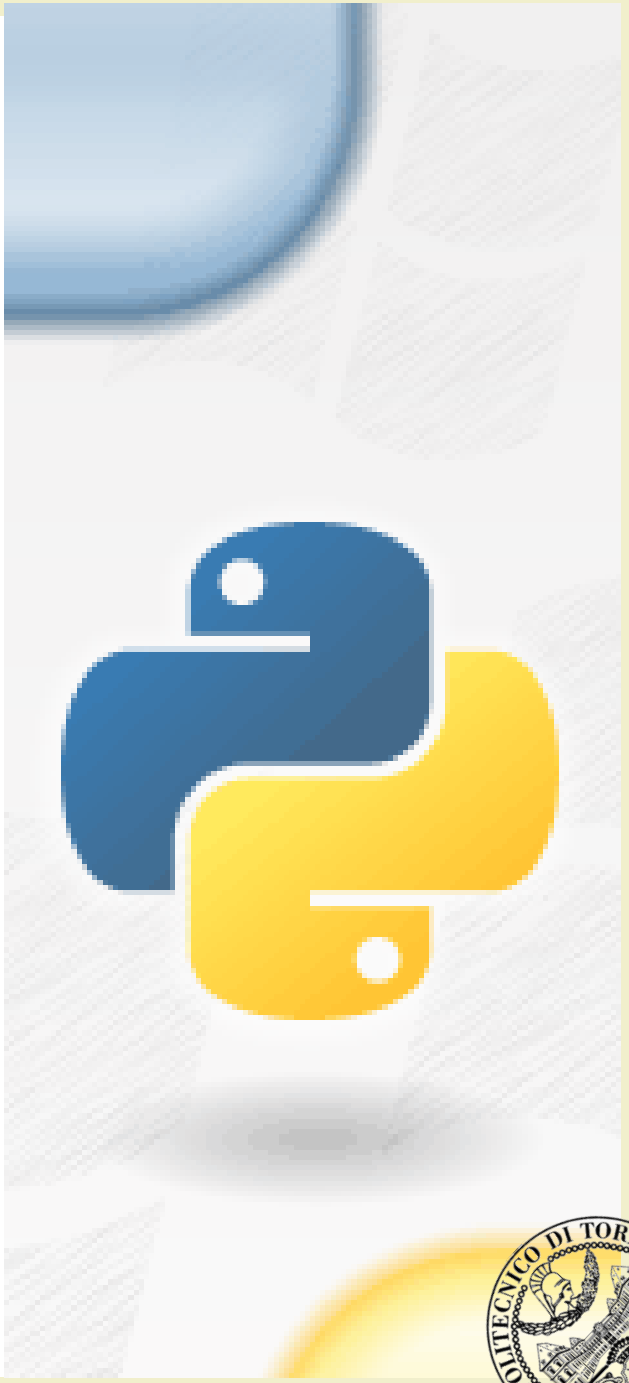
Python

Simple Candies in Python

Examples of rapid prototyping in Python: pure software case studies



Text To Speech

- Write a program to make the computer «speak» text strings given by users on the console
- The program must ask for new words until the word «exit» is entered, in such a case it should greet the user by saying «Goodbye»
- *Suggestion*
  - check how the Google's tts service works
    - http://translate.google.com/translate_tts?tl=en&q=hello

System metrics

- Write a program to
  - Provide a set of system metrics :
    - the current load average,
    - the operating system version, name, architecture,
    - the total and the free memory
    - Add some information on CPU and disk usage
  - Monitor the CPU percentage value and trigger a vocal warning if the CPU goes over a given threshold
    - e.g., 10%
- *Suggestion*
  - The `psutil` module offers system-independent access to the O.S. Performance metrics

Music crawler

- Write a program that, given a starting folder, crawls all the folder sub-directories to find music files
  - Root folders are provided at the program prompt, on the command line
  - Typing the word «exit» stops the program execution
- *Suggestion*
  - The `os` module allows to access operating system facilities (e.g., bash commands)
  - Consider .mp3 and .flac files only

MP3 player

- Write a program for playing a given mp3 audio file
- *Suggestion*
  - Exploit the `mplayer` software as in the Text To Speech exercise

Vocal mailbox

- Write a program that
  - Monitors your inbox folder for unseen messages
  - Provides a vocal summary of newly received messages including the message count, and for each message the sender(s) and the title
- *Suggestion*
  - Assume that the mail server is accessible through IMAP
  - The Python modules that enable mailbox access and mail reading are: `imaplib` and `email`

Solutions?

- Check exercise solutions on GitHub
  - http://github.com/AmI-2015/python-intermediate

Questions?

01PRD AMBIENT INTELLIGENCE: TECHNOLOGY AND DESIGN

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