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Fun Experiments on Automating Office Workflows

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Why?

- Routine tasks are boring
- Offload to the computer
- Terminal:fast :: GUI:slow
- Save time for important work
- Stuck with legacy systems
- Permission issues
- Bulk actions

How?

- Python can create native office files on windows.
- But some problems may be too difficult in pure python.
- pywin32 package allows easy access to window's Component Object Model(COM) to control applications via python.
- We leverage this for our office automation tasks.

Source: https://github.com/mhammond/pywin32
Docs: http://timgolden.me.uk/pywin32-docs/contents.html

Quick Facts

- **COM:** A Platform-independent, distributed, object-oriented system for creating binary software components that can interact [1]
- COM objects can be created with a variety of languages to control Windows applications from another program
- **PyWin32:** Wrapper to interact with COM objects

[1] https://msdn.microsoft.com/en-us/library/windows/desktop/ms680573(v=vs.85).aspx

What?

- Fetching and Parsing emails
- Simple Analytics
- Sending calendar meetings
- Bonus! :-D
- Where to from here?

Emails

win32com

Fetch and parse emails and take predetermined actions as per its contents/sender/time etc.

Key steps:

1. Get a handle to the open outlook app.
2. Select an account and required folder (eg. Inbox)
3. Fetch emails
4. Parse content

https://github.com/saurabhkm/outlookAutomation

Attachments

win32com

Fetch attachment from an email and process the data and send across the results as attachment

Key steps:

1. Get a handle to the open outlook app.
2. Obtain the save the attachment locally
3. Process the data
4. Send the results

https://github.com/saurabhkm/outlookAutomation

Meetings

win32com

Send outlook meeting invites or emails to colleagues without leaving the terminal

Key steps:

1. Get a handle to the open outlook app.
2. Create a meeting item
3. Add properties (Subject/ Duration/Time/Venue)
4. Save and Send

https://github.com/saurabhkm/outlookAutomation

Stalking someone :D

Bonus!

win32com, matplotlib

Key steps:

1. Make a contact object
2. Get contacts list and their status from communicator
3. Populate stalk counters
4. Visualize collected data

https://github.com/saurabhkm/employeeStalker

What next?

win32com, win32gui, win32api
+
pyinput, sklearn, nltk …

- ML based parsing emails; beyond simple analytics
- Screenshots to infer with a trained visual ML model.
- Speech interactivity with applications
- Automatic window handling, switching apps etc.
- Keyboard and mouse control from program
- Basically like a “Virtual employee” for routine tasks!
- …

Thank You

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