

# **AUTOMATING THE MUNDANE**

**CRAIG MALONEY  
FEBRUARY 9<sup>TH</sup>, 2019  
MICHIGAN!/USR/GROUP**

What does “Automating the Mundane” mean?

# Automation

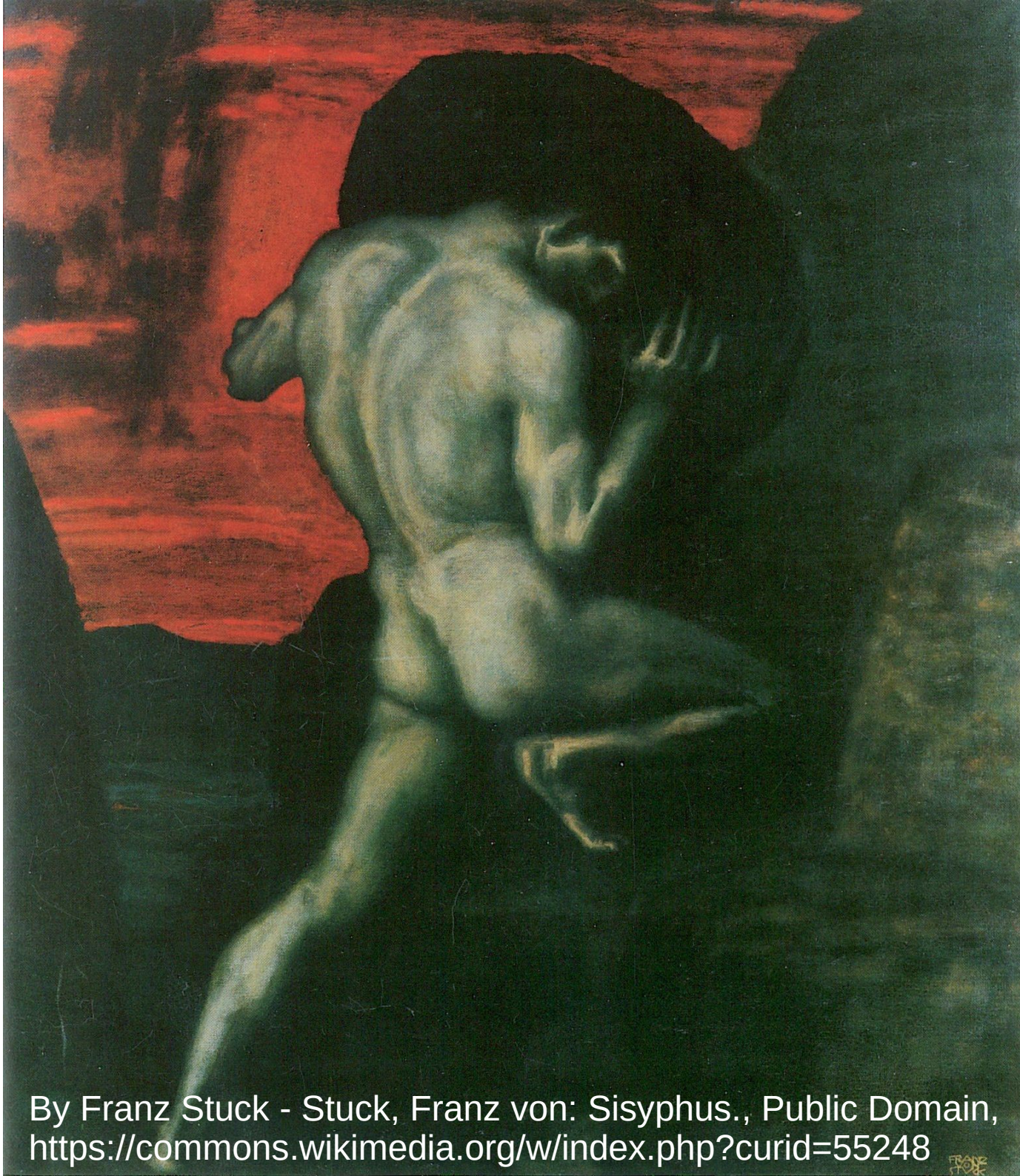




OLD HOOK MILL  
OPEN  
10:00 AM - 5:00 PM  
7/10 - 7/11  
\$5.00

Mundane

*PLACEHOLDER*  
*(Image of your desk here)*



By Franz Stuck - Stuck, Franz von: Sisyphus., Public Domain,  
<https://commons.wikimedia.org/w/index.php?curid=55248>





By Jean Le Tavernier - [1], Public Domain, <https://commons.wikimedia.org/w/index.php?curid=74516>

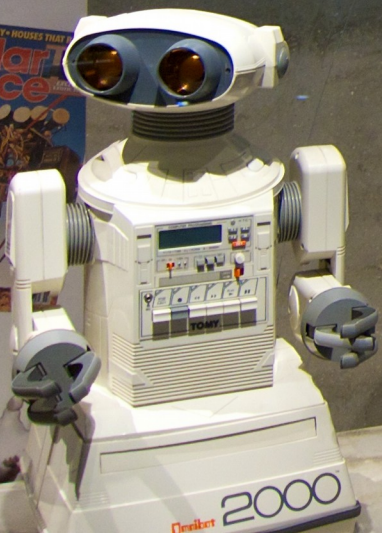
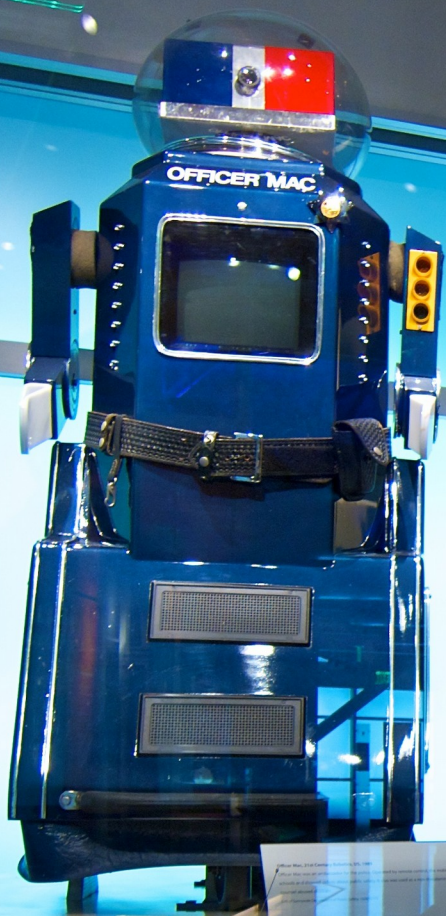
“Automation” + “Mundane” = ?

It's not quite...



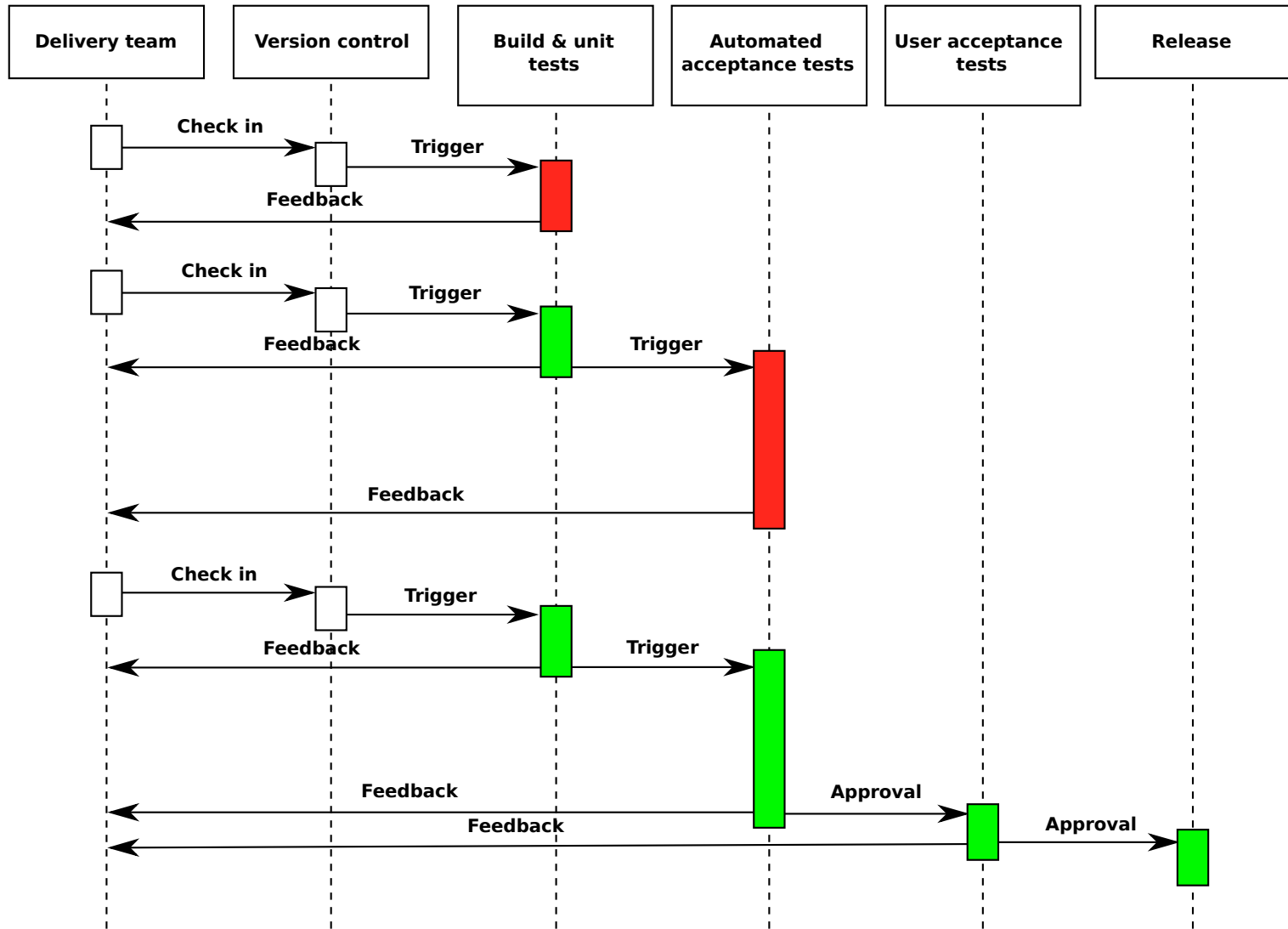
<http://www.theoldrobots.com/hero.html>

ols. Sometimes both.  
ustrial and consumer  
dustry. Whether  
emingly intelligent  
noying, provocative,



“Automation” + “Mundane” = ?

(What we'll explicitly ignore...)





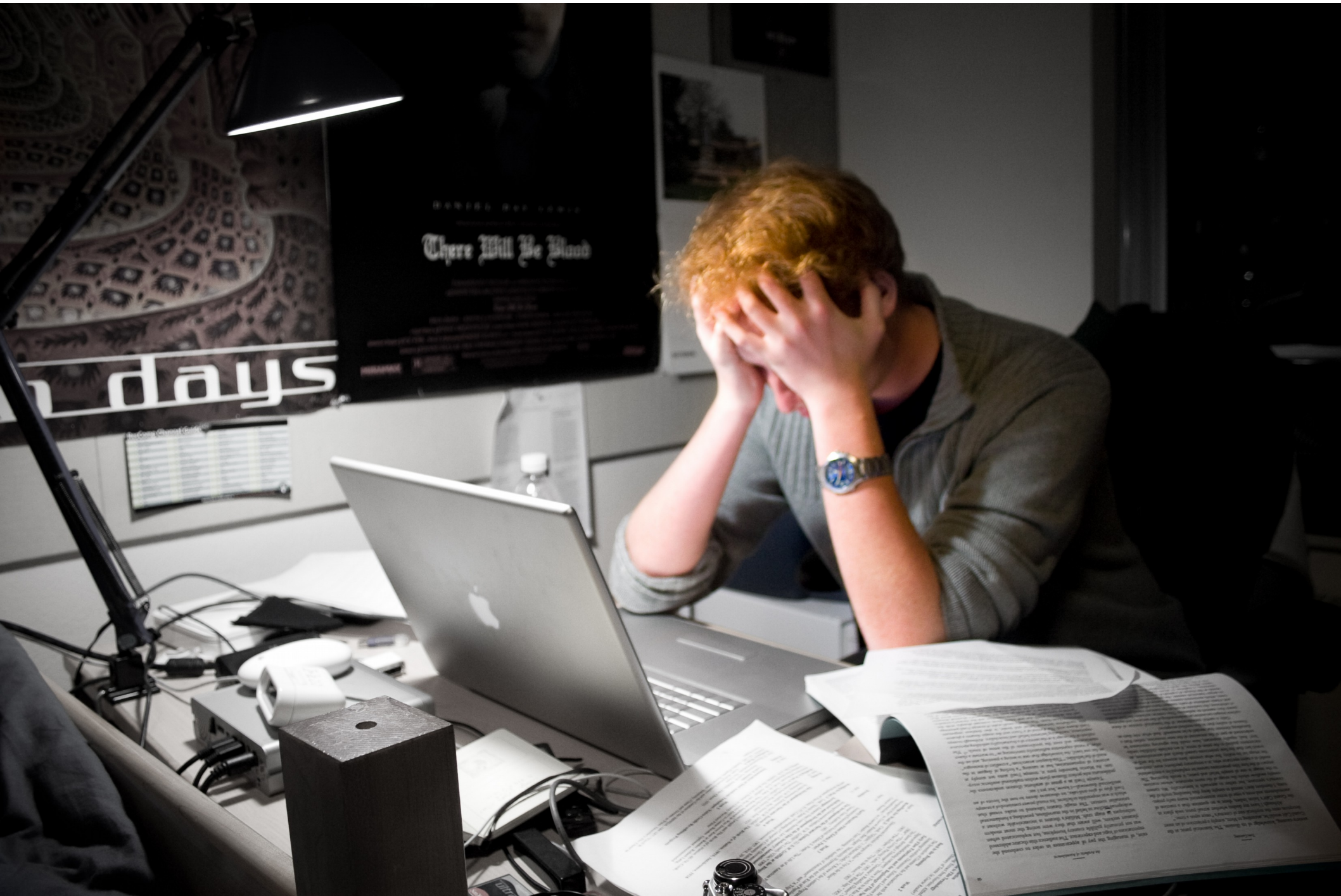
Maybe this would be a better title...

# **SHELL-SCRIPTING THE MUNDANE**

~~SHELL-SCRIPTING THE MUNDANE~~

Our focus...

*Doing meaningful work;  
Offloading mundane and repetitive work.*



<https://www.flickr.com/photos/peterhess/2976755407>



*(Brace for **over-simplified** and **scientific-sounding** reason for not doing repetitive or mundane work on the next slide)*



# Conserving Calories

- Every decision you make counts against your daily energy reserve.
- Every calorie you save can be used later for deeper thoughts and energy.
- Prevent decision fatigue, automate!

How do we decide what to automate?

# CRAIG'S LAW\*

If this is the first time doing something, just do it.

If this is the second time doing this, automate it.

If there's a checklist for it, consider automating it.

\* Note: Not really a law. More like "Craig's really neat rubric"

# Deciding what to automate

- Is it something that can be reproduced with little or no human input?
- Is it something we do repeatedly?
- Is it something we don't enjoy doing?



***This task does not “spark joy”.***

# Process of automating

- Clarify the verbs
  - What does this task do?
- Clarify the nouns
  - Who is this task for?
  - What do we need to make this happen?

Describe the task;  
Notice the verbs you use.

# Find the verbs

“I get the number from Bob via email and turn them into a report that gets sent via email to the customer”.



# Verbs

- Get (numbers)
- Turn (numbers into report)
- Sent (report)

# Nouns

- Bob (has the numbers)
- Numbers (for the report)
- Email (receive the numbers)
- Report (is created)
- Email (the message)
- Customer (the final recipient)

# Digging deeper

- Where does Bob get the numbers from?
- Is Bob the only source of these numbers?
- Who is the customer?
- When is this needed?
- What's the text of the email?
- Is this still needed?
- (etc.)

# More answers

- Bob gets the numbers from a database
- We have access to the database
- Report is in Excel
- Email message text is copied from a template
- Customer email is [glenda@example.com](mailto:glenda@example.com)
- Email is sent first of the month by 5pm

# What this suggests

- Python script to grab data directly from the database
- Output using OpenPyXL
- Email using email library

Always dig deeper into the problem to see what happens throughout the lifecycle of the process...

# Digging even deeper

- Glenda converts data to their database
  - Converts file into CSV from Excel
  - Glenda doesn't care about formatting, only consistency
  - Glenda has been complaining to Bob for several months about keeping the data consistent

# One possible result

```
#!/bin/sh
```

```
psql -c "COPY products_273 TO  
'/tmp/products_199.csv' WITH (FORMAT CSV,  
HEADER);"
```

```
mutt -a /tmp /products_199.csv -s "csv file for  
you" -- glenda@example.com
```



# In our contrived example

- Bob would take the data and copy it by hand into Excel (with formatting).
- Glenda didn't care about formatting because it went directly into a database.
- We replaced Bob's complex task with a simple shell script.

What makes good candidates for automation?

# Good automation

- Consistent sources / destinations
- Clearly defined processes & goals
- No need for “human” decision-making
- Tasks that can be simplified to default behaviors of existing tools.

# Difficult automation

- Inconsistent sources / destinations
- Ill-defined processes & goals
- “I’ll know it when I see it” or “I trust my instincts” decisions
- Tools with purpose-built or no interfaces for import / export
- Obfuscation

# Types of automation

- Simple script
  - Low / no error checking
  - Minimal logging
  - Fragile (small changes will break the script)

# Types of automation

- Complex script
  - More error checking / correction
  - Sufficient logging
  - Robust



# Other types of automation

- Aliases
  - Allows for complex commands to be executed using simple commands
- “One-liner” scripts
  - Common command-line switches that aren’t immediately obvious, or are often run during the day.



# Other types of automation

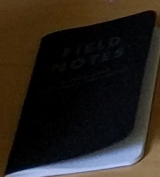
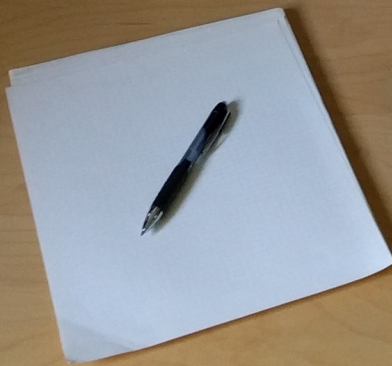
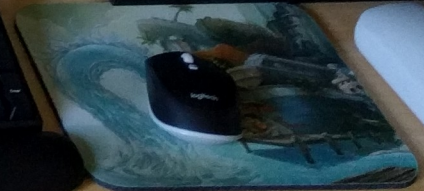
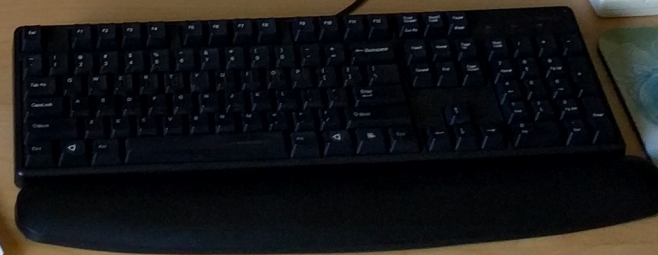
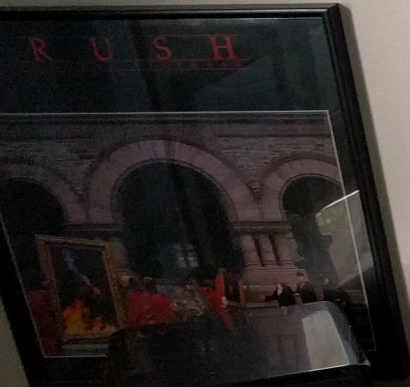
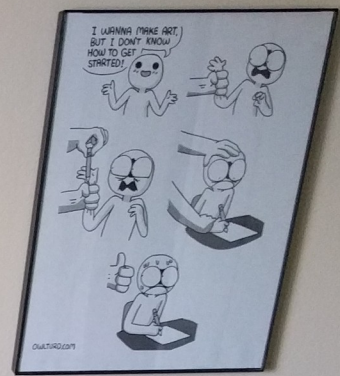
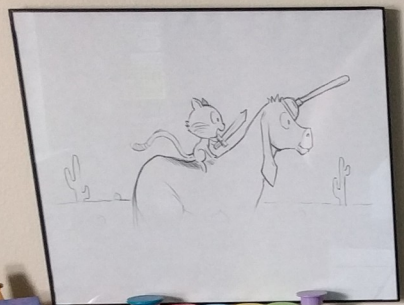
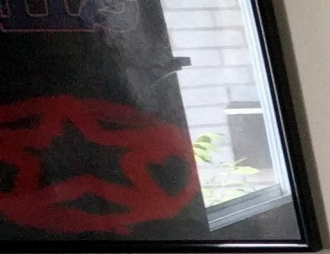
- Cron Jobs
  - Scheduled tasks with simple scheduling
  - (We should have a talk about this)

# Other types of automation

- Makefiles
  - Used for build processes
  - Can be used to bring together multiple files into one file

# Other types of automation

- Editor plugins
  - Can be used for templating code
  - Can check code for correctness / formatting as it is being written



# Scripts that I run / wrote

- MUG Announcement script
- Birthday manager
- todo.txt recur script
- todo.txt health check
- Random background changer
- Various backup scripts
- Social Media posting (feed2toot, diaspora\_post)
- Reminders for Open Metalcast
- Show-notes creator for Open Metalcast
- Rss2email
- ssh tunneling scripts
- Script to sync my laptop with my home machine

Demo

Questions?

# Links

- <https://gitlab.com/craigmaloney/birthday-manager>
- <https://gitlab.com/craigmaloney/vim-config>
- [https://github.com/MichiganUnixUserGroup/mug\\_ical](https://github.com/MichiganUnixUserGroup/mug_ical)
- <https://gitlab.com/chaica/feed2toot>
- <https://debakel.github.io/feedDiasp/>
- [https://gitlab.com/open\\_metalcast](https://gitlab.com/open_metalcast)
- <https://pypi.org/project/rss2email/>
- <http://jrnl.sh/>



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