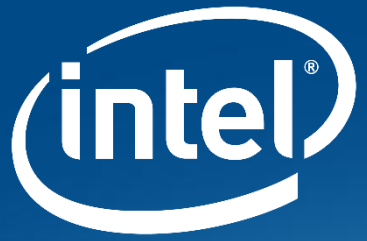

SLOWING DOWN TO SPEED UP

The Business Case for Automation

Eshe N. Pickett
Intel IT, Cloud Services Engineering
@eshenayo #NSBE42 Career Fair Booth 1107

Intel Information Technology

Housekeeping

Be Courteous

Hold your questions

Where are we going?

Workshop Outcome

- Gain a cursory knowledge of automation concepts
- Identify prime opportunities for applying solutions in your work
- Provide a common language to discuss the need for automation
- Provide a framework for implementing automation solutions

Me @ a glance

Eshe N. Pickett, Information Technology, Cloud services Engineering

'05 RCG

Career

- BS & MS, Computer Science
- Engineering Computing, Datacenter automation
- Design Automation, Data Center Group
- Cloud Infrastructure Automation

Skills

- Lean, Agile, Scrum
- Software development
- Large scale compute management
- Design Requirements
- Process/Product Documentation
- Product Development Teams
- Acquisitions enabling

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Passions

- GPTW (Volunteering, Employee Groups)
- Women in STEM
- Talent retention
- Mentoring & Network building

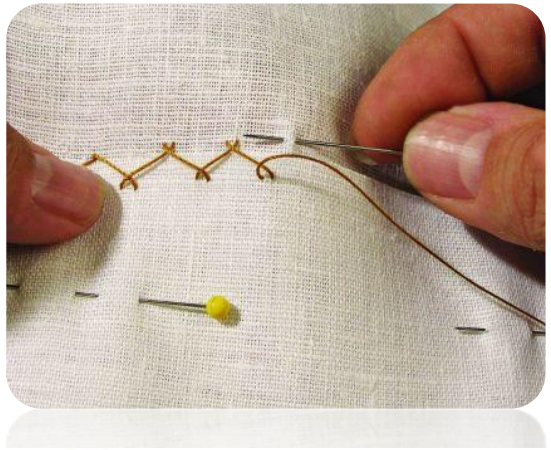
UCHICAGO

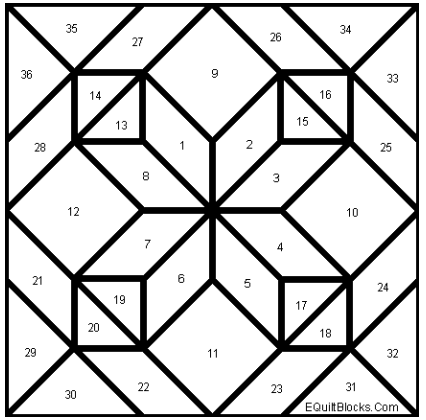
The Business Case for Automation

Why Automate?

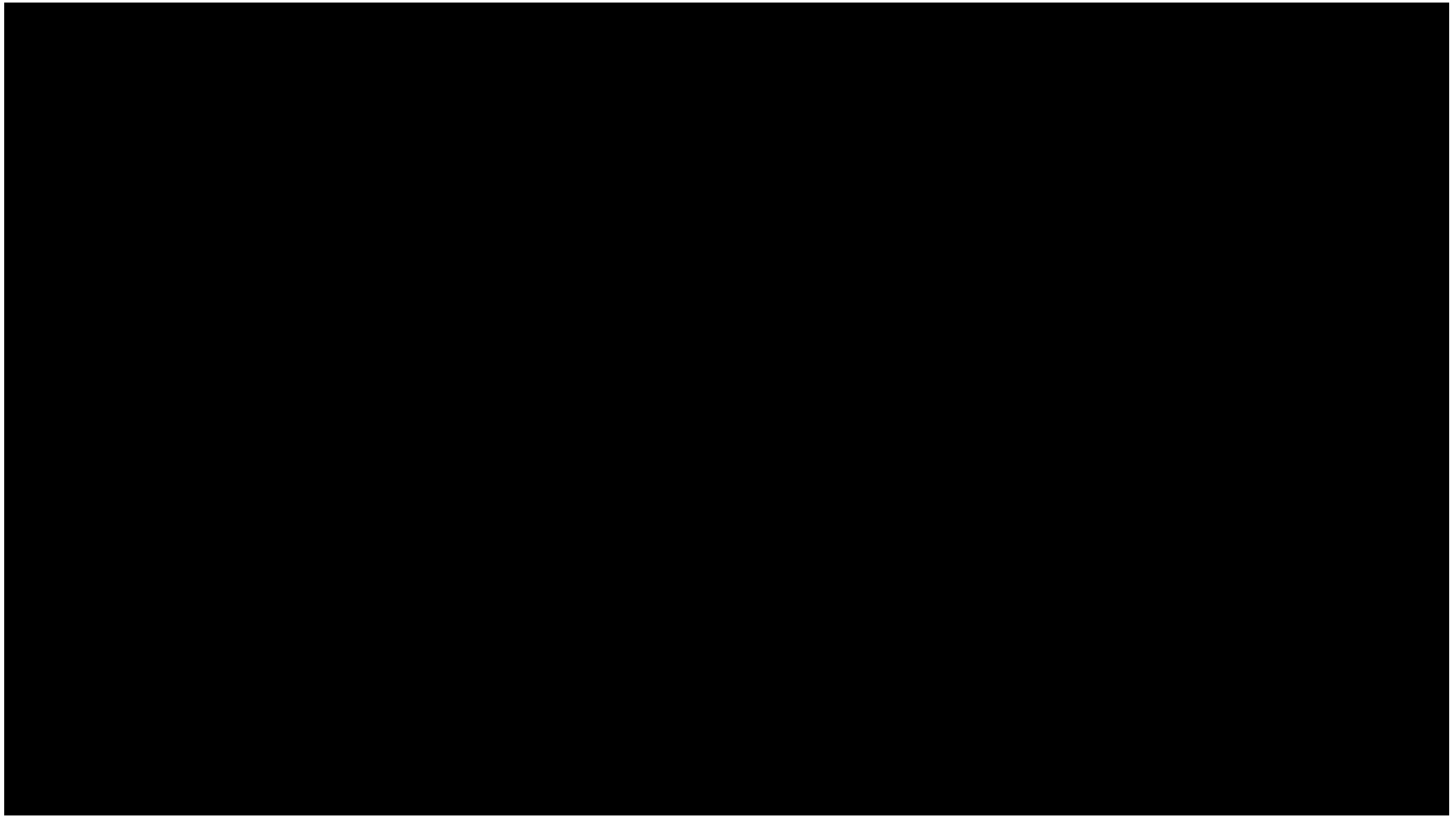
- Predictability
- Efficiency
- Repeatability
- Sustainability
- Unleash Creativity
- Work life balance

An analog automation tale...





Don’t believe me? Just watch…



So...When do I automate?

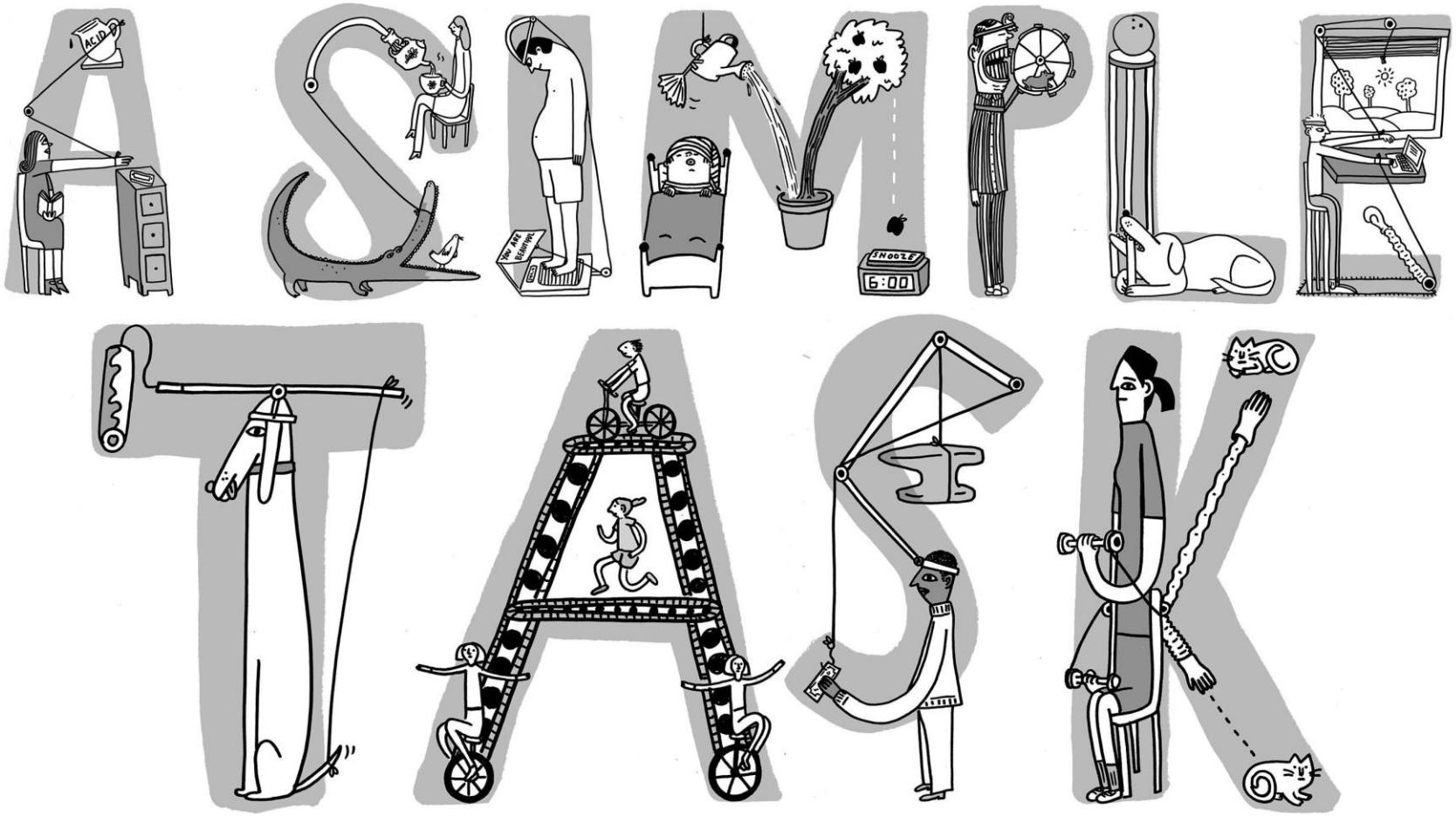
Duration

How long does it typically take for a task to be performed in present state?

Could your time be better spent?

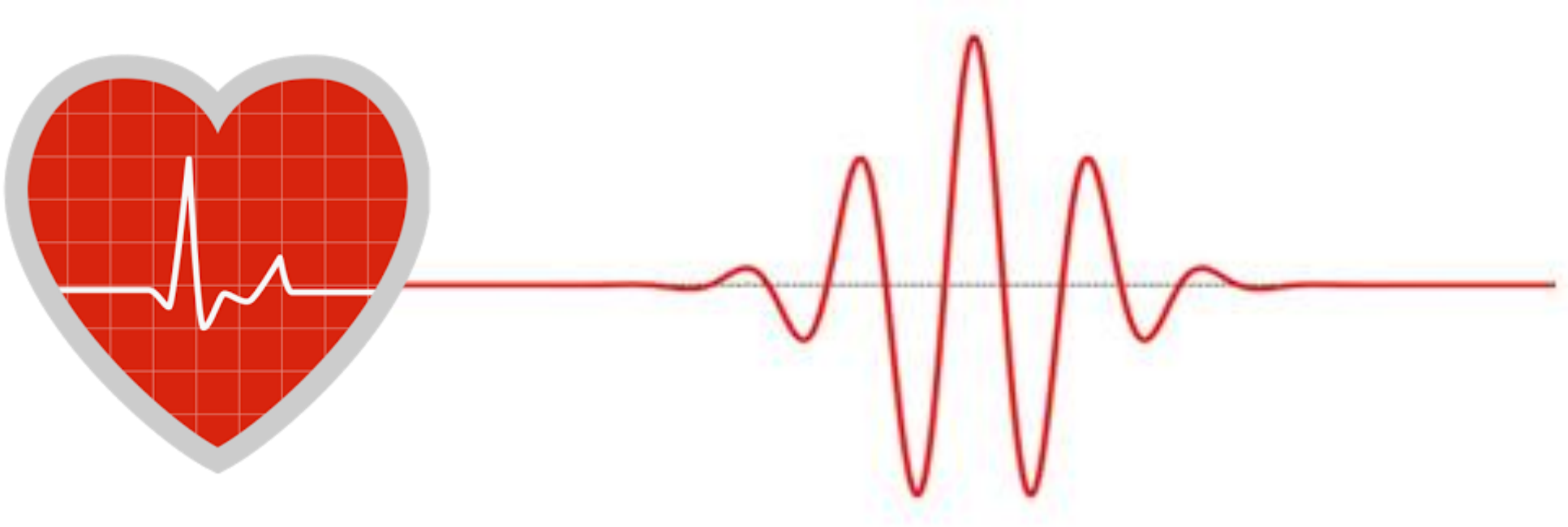
Complexity

How many “moving parts” make up the process?



Frequency

How often do you perform this task?

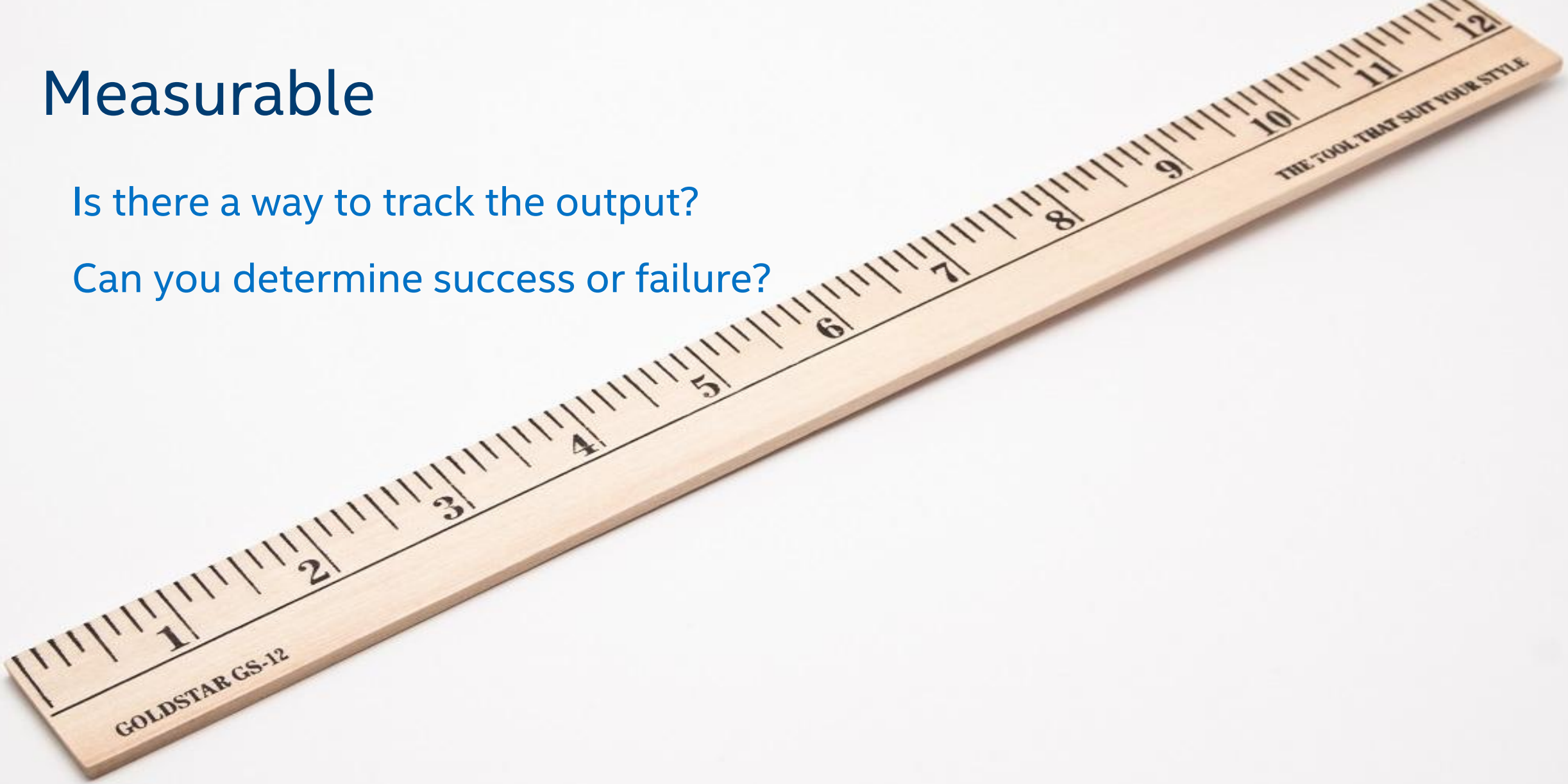


Criticality

Measurable

Is there a way to track the output?

Can you determine success or failure?



Resources

Do you have enough people to support the process?

ROI

Is it worth it?

Will the effort expended warrant the cost?

How do I proceed?

Is there a product that already exists?

- What are the skills sets you need in order to automate the solution?
- Do you have the manpower to support the automated process?

Thought Exercise: Identify automation candidates

Think about the processes you own at work

Based up on the “When do I automate” rubric identify 3-5 automation candidates

Select one of the candidates on your list

Answer the “How do I proceed?” Questions for that candidate

Automation Exercise: Comparing Manual to Automated

Every day task: Update a Windows Registry Key

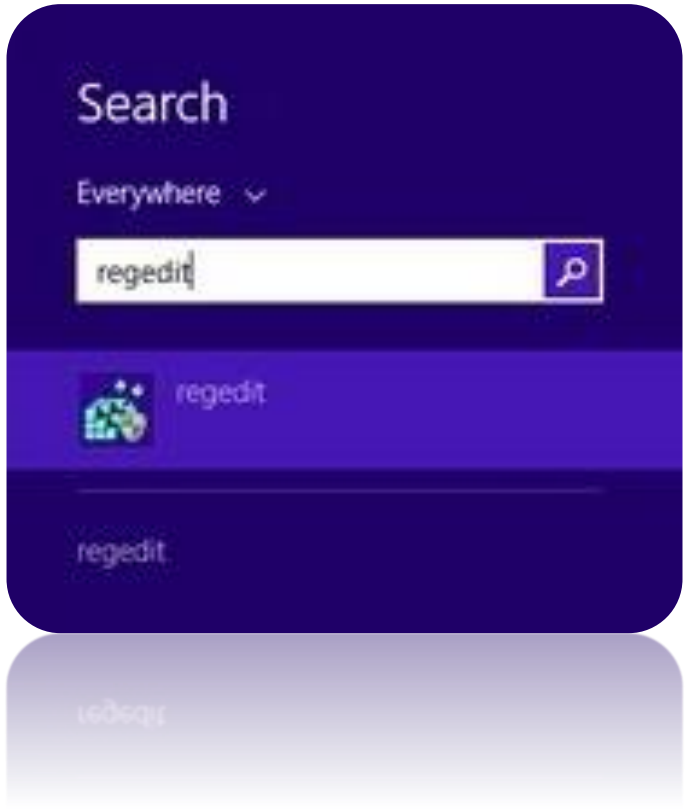
Exercise 1: Manually

Exercise 2: Through Automation

P.S: Why would I *ever* care about automating Windows Registry Keys?

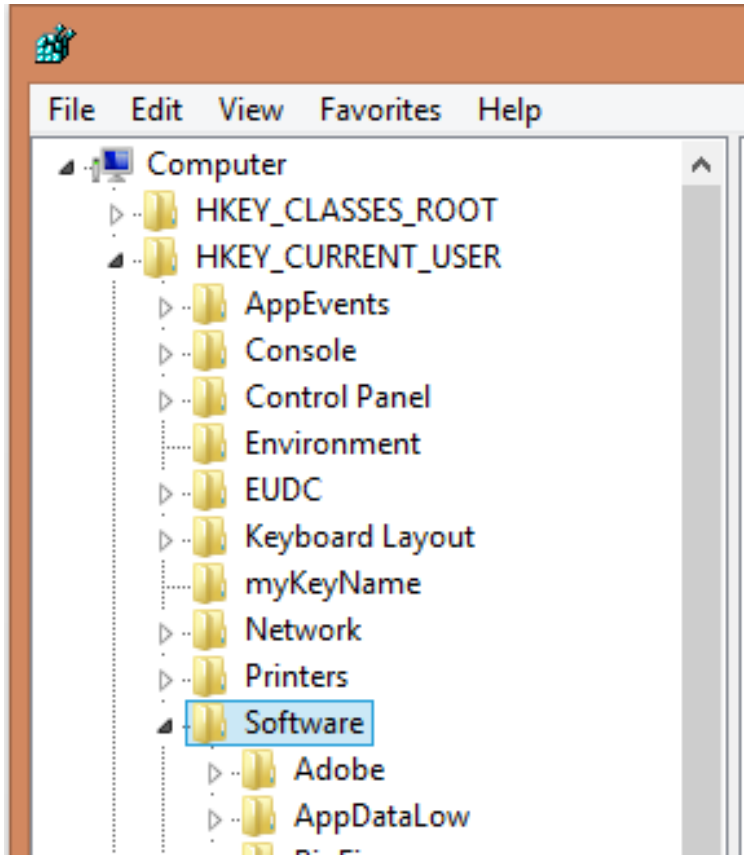
Manually Update Registry Key

Open the windows registry editor (search – regedit)



Manually Update Registry Key

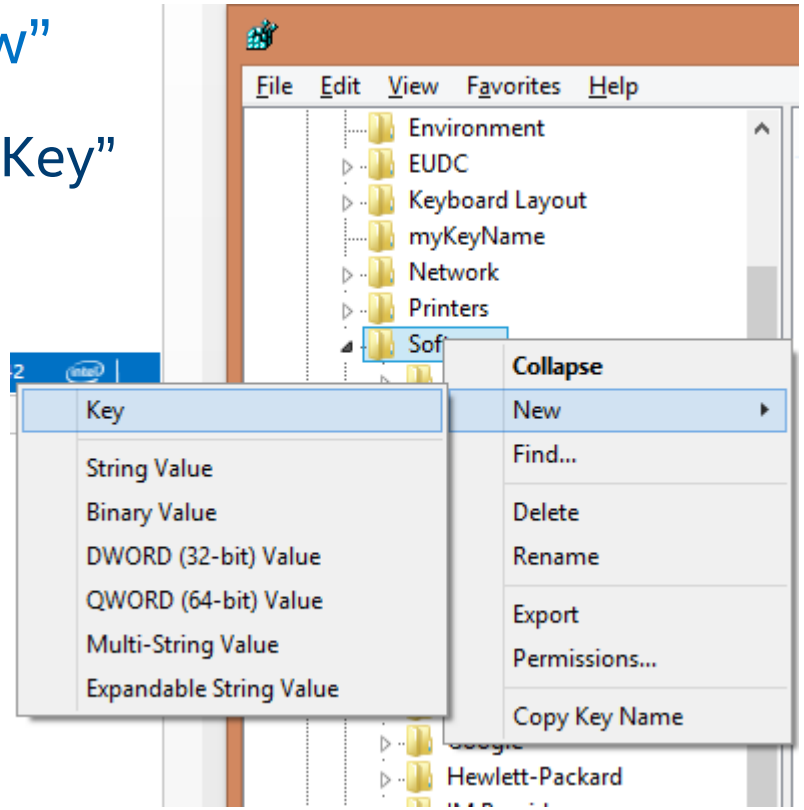
Navigate to HKCU:\Software\



Manually Update Registry Key

Right-click and select “new”

- Name the key “FirstLastMyKey”
  - ex: EshePickettMyKey

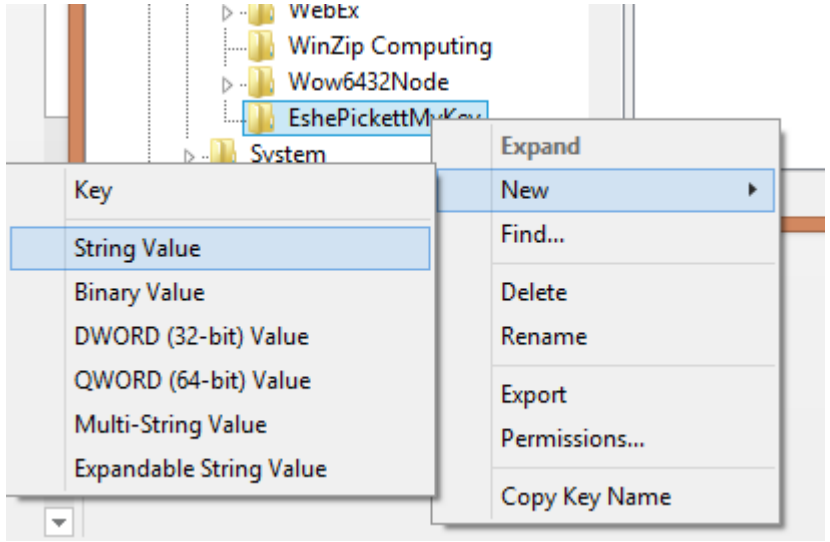


Manually Update Registry Key

Right click on the newly named Key

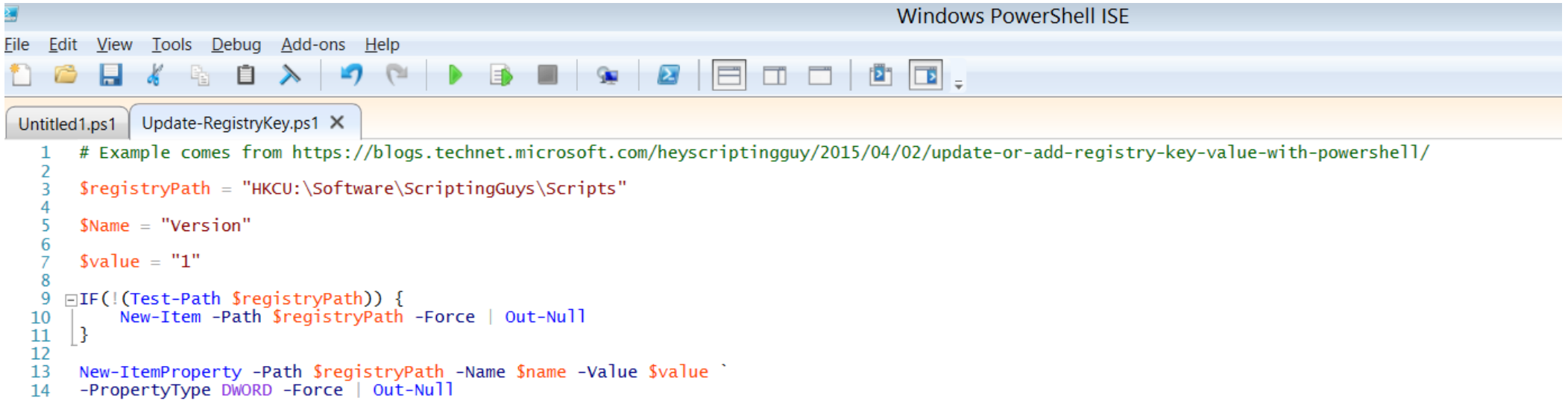
Select “New String Value”

Name the Value “MyValue”



Using Automation to Update a Registry Key

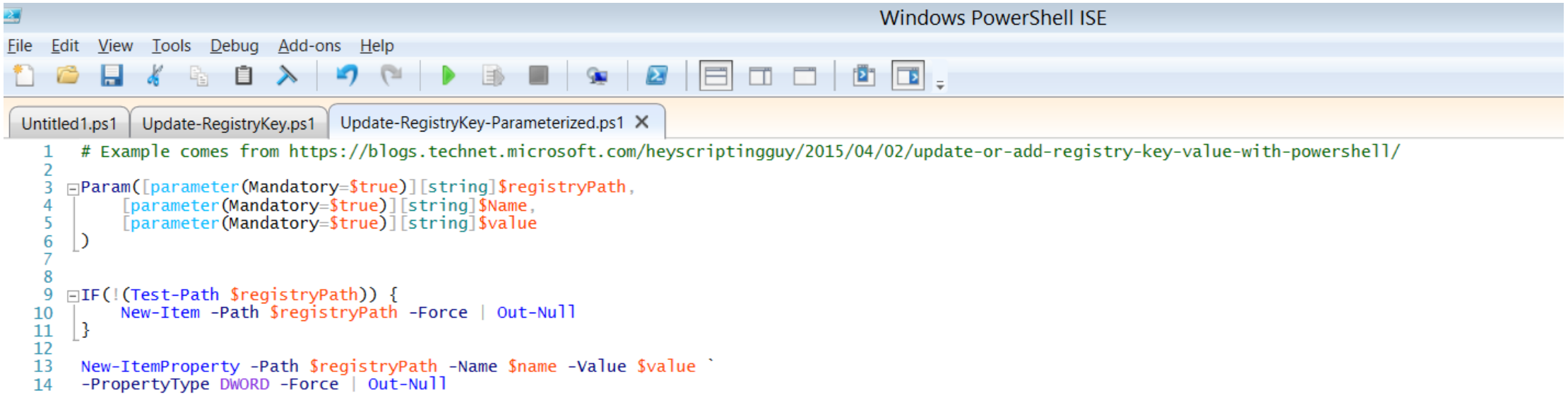
Use PowerShell ISE to open the “Update-RegistryKey.ps1” script



Parameterizing the Registry Key Script

Well, that was fun, but what if I want to update a different key?

Open “Update-RegistryKey-Parameterized.ps1”



Considering Scalability

So now, I can do it for a different value, but what if I have 1,000?

Open “Update-RegistryKey-Scaled.ps1”

Untitled1.ps1 | Update-RegistryKey.ps1 | Update-RegistryKey-Parameterized.ps1 | Update-RegistryKey-Scaled.ps1

```
# Example comes from https://blogs.technet.microsoft.com/heyscriptingguy/2015/04/02/update-or-add-registry-key-value-with-powershell/

Param([parameter(Mandatory=$true)][string]$RegistryKeyFile )

function Update-RegistryKey {
    Param([parameter(Mandatory=$true)][string]$registryPath,
        [parameter(Mandatory=$true)][string]$Name,
        [parameter(Mandatory=$true)][string]$value
    )
    IF(!(Test-Path $registryPath)) {
        New-Item -Path $registryPath -Force | Out-Null
    }

    New-ItemProperty -Path $registryPath -Name $name -Value $value `
    -PropertyType DWORD -Force | Out-Null
}

If (Test-Path $RegistryKeyFile) {
    $RegistryPathValues = Get-Content $RegistryKeyFile
    foreach ($RegistryPathValue in $RegistryPathValues) {
        if (! $RegistryPathValue.StartsWith(("#")) { #Ignore Comments
            $registryPath, $Name, $value = $RegistryPathValue.split(",")
            # We are not doing robust error checking here...but if this were real, we absolutely would
            Update-RegistryKey -registryPath $registryPath -Name $Name -value $value
        }
    }
}
Else {
    Write-Error "File $RegistryKeyFile does not exist"
}
```

So why “slowing down” to “Speed up?”

Best Practices

- Engage key stakeholders
- Build in security from day 1 (this should NEVER be an afterthought)
- Plan to fail
  - Include robust error handling
  - Fail gracefully
  - Have a path for reversal (e.g. if my automation fails, how do I undo it?)
- Revision control your changes
- Document, everything.
- Test, test, test!

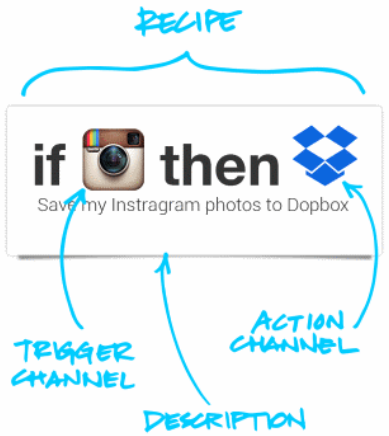
Will automation take my job?

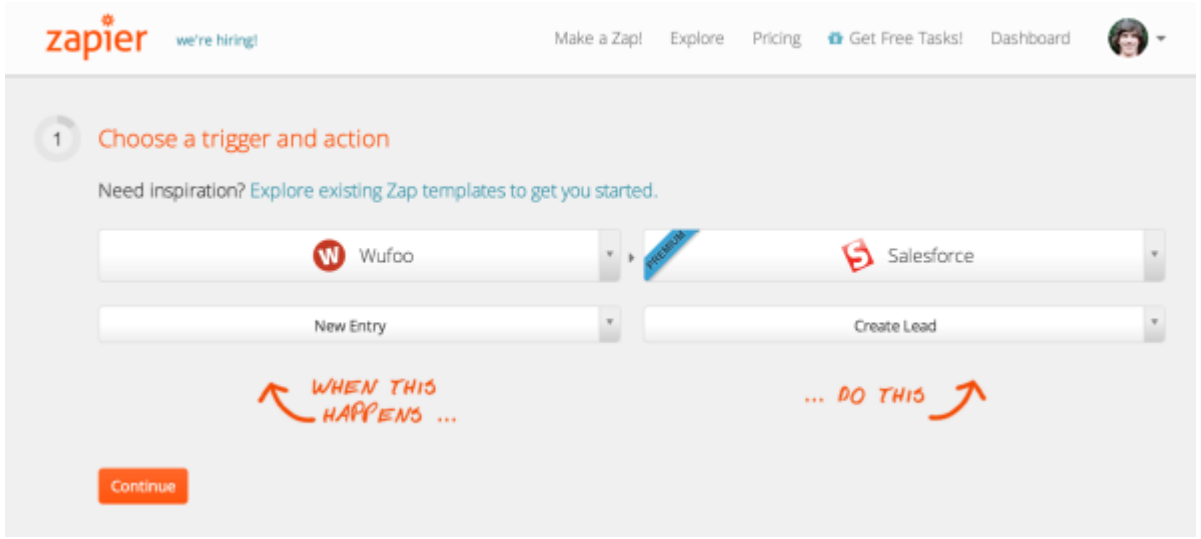
Yes, and no.

- Productivity vs. Innovation
- Work with (not against) automation

Automation: It's not just for business

IFTTT lets you create powerful connections with one simple statment - if this then that





Paperless® POST

Now What?

Challenge:

- Automate some of the candidates you identified

Grow:

- Identify skills that will help you automate processes in your current role:
  - Which (of those skills) do you have?
  - Which do you lack?
  - Which do you need to refresh?

Proliferate

- If there are teams/organizations that do not have an automation mindset, work with them to develop one.

Keep In Touch!

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Visit: booth #1107
email: staywithit@intel.com

- **Join:** Intel Student Lounge
- **Connect:** linkedin.com/in/eshepickett

*Include “NSBE 2016” in the subject heading


QUESTIONS
ANSWERS