

Use the Windows Subsystem for Linux to develop your Qt apps on Windows

Program Managers – Avri Parker and Craig Loewen



Overview



What is the
Windows
Subsystem for
Linux (WSL)



Developing with
WSL



Creating Qt
Desktop apps

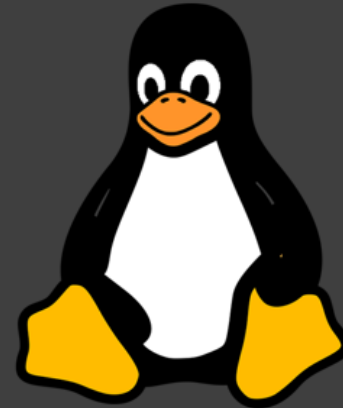


New in WSL



Q&A

What is the Windows Subsystem for Linux (WSL)?



Windows Integration

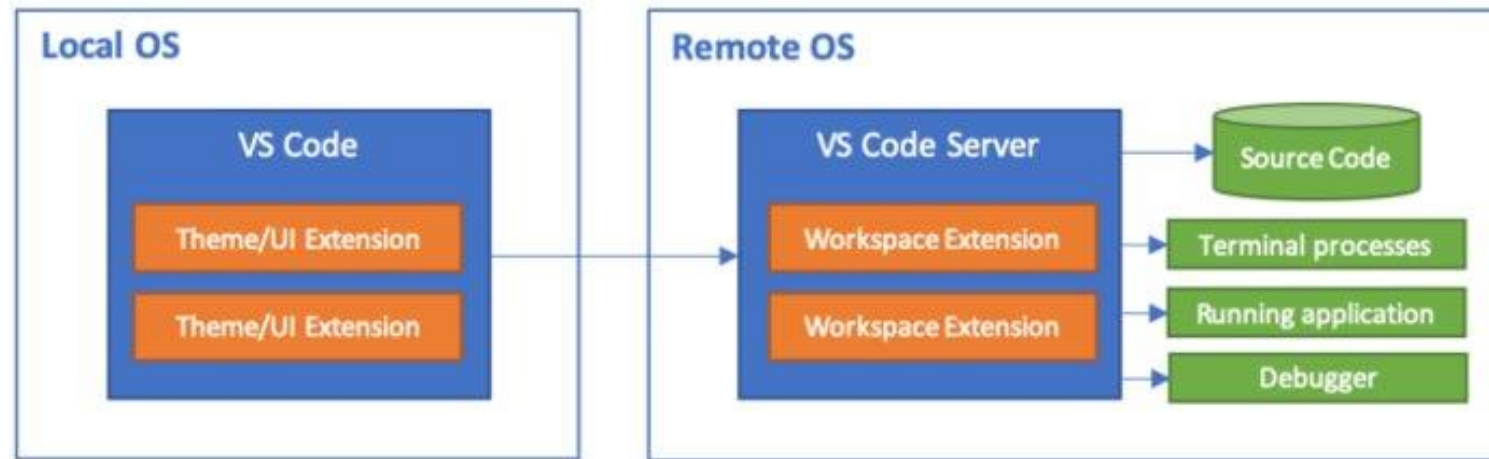
- > OneDrive
- > This PC
- > Network
- ▼ Linux
 - > Debian
 - > Ubuntu



DEMO

Developing with WSL

- Install Git
- **Build, Run, and debug** your Linux applications
 - Directly from VSCode
 - Using WSL as the backend



DEMO

Creating QT apps





Google
Chrome



Recycle Bin



PowerToys



Microsoft
Edge



Microsoft
Teams



XLaunch



Visual Studio
Code



Camtasia
2019



Docker
Desktop



Perf Ramp
Up



Microsoft
Edge Dev

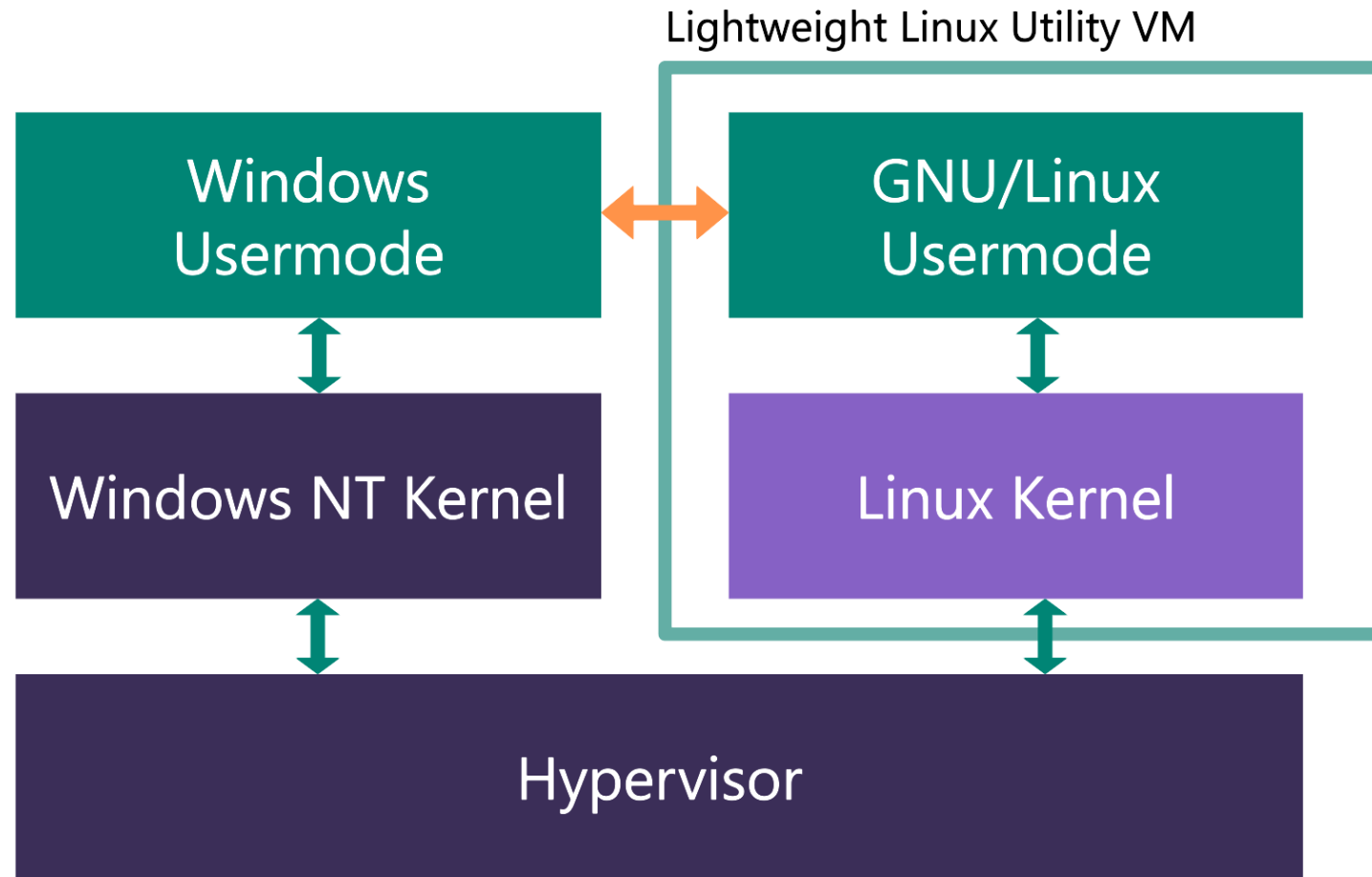


MongoDB
Compass ...



Microsoft
Edge Beta

General Architecture



Differences between a regular VM and a lightweight utility VM

Traditional VM

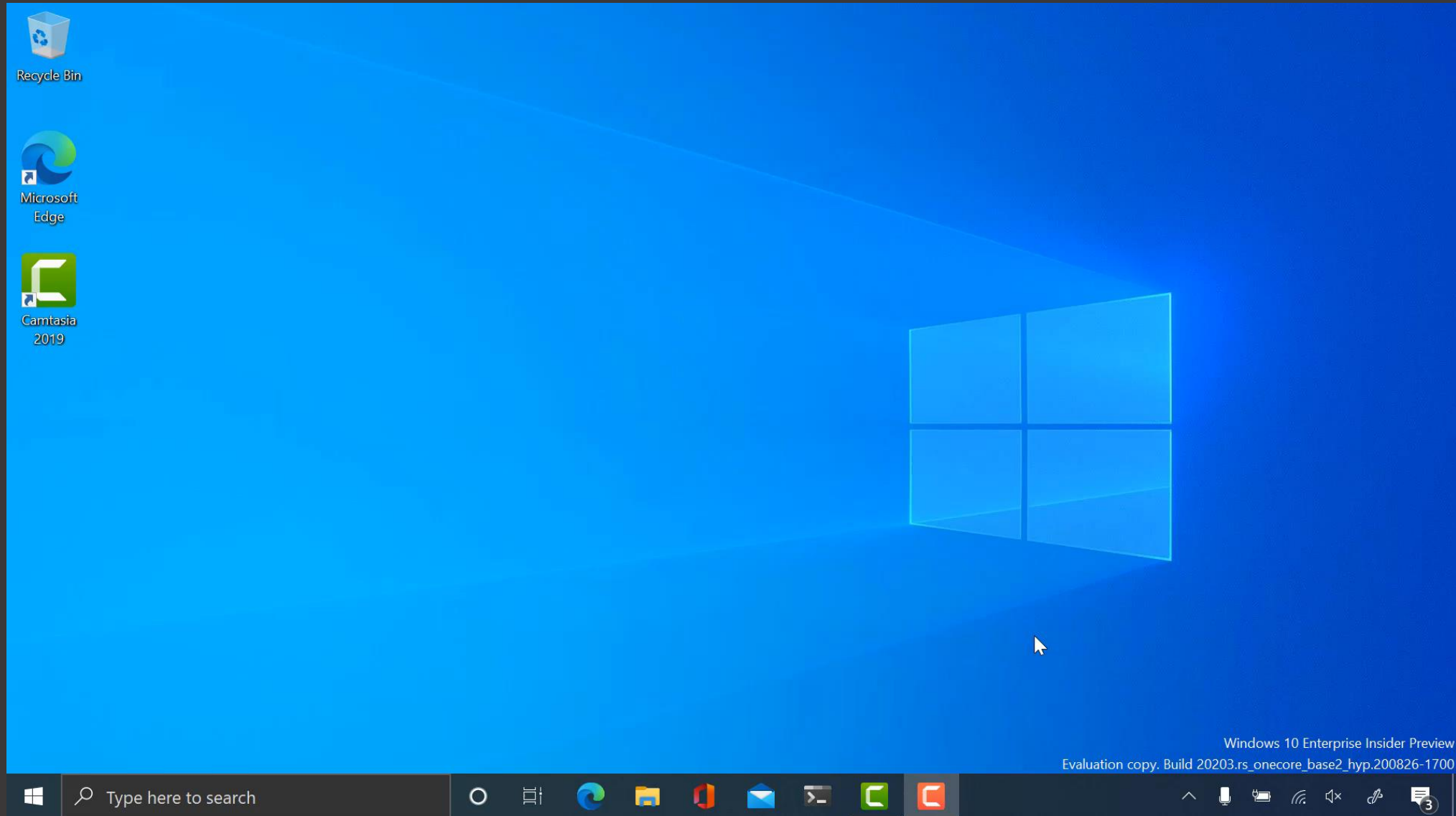
- Isolated
- Slower to boot
- Large memory footprint
- You need to manage it

vs

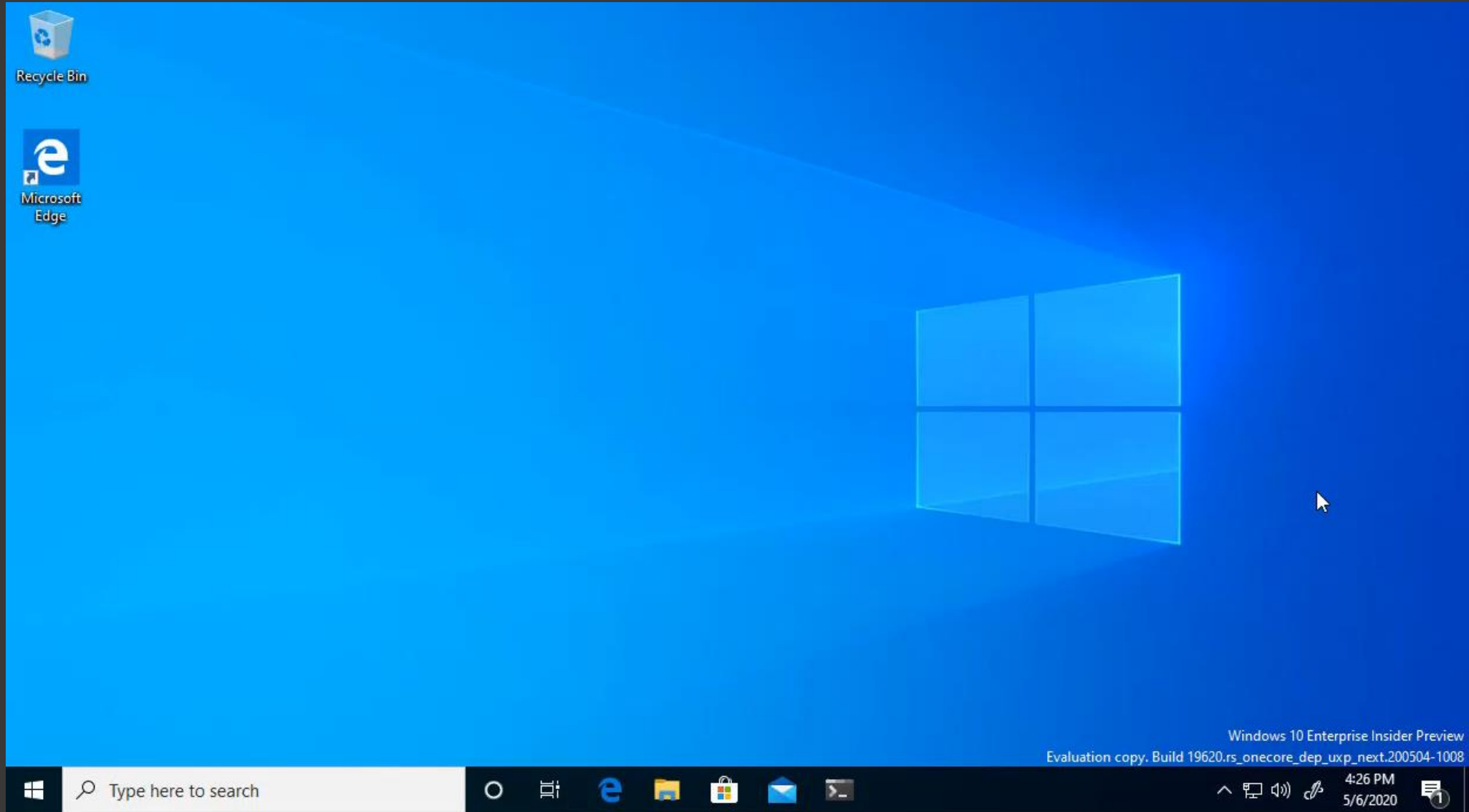
WSL 2

- Integrated
- Fast to boot (~1 second)
- Small memory footprint
- Only runs when you need it

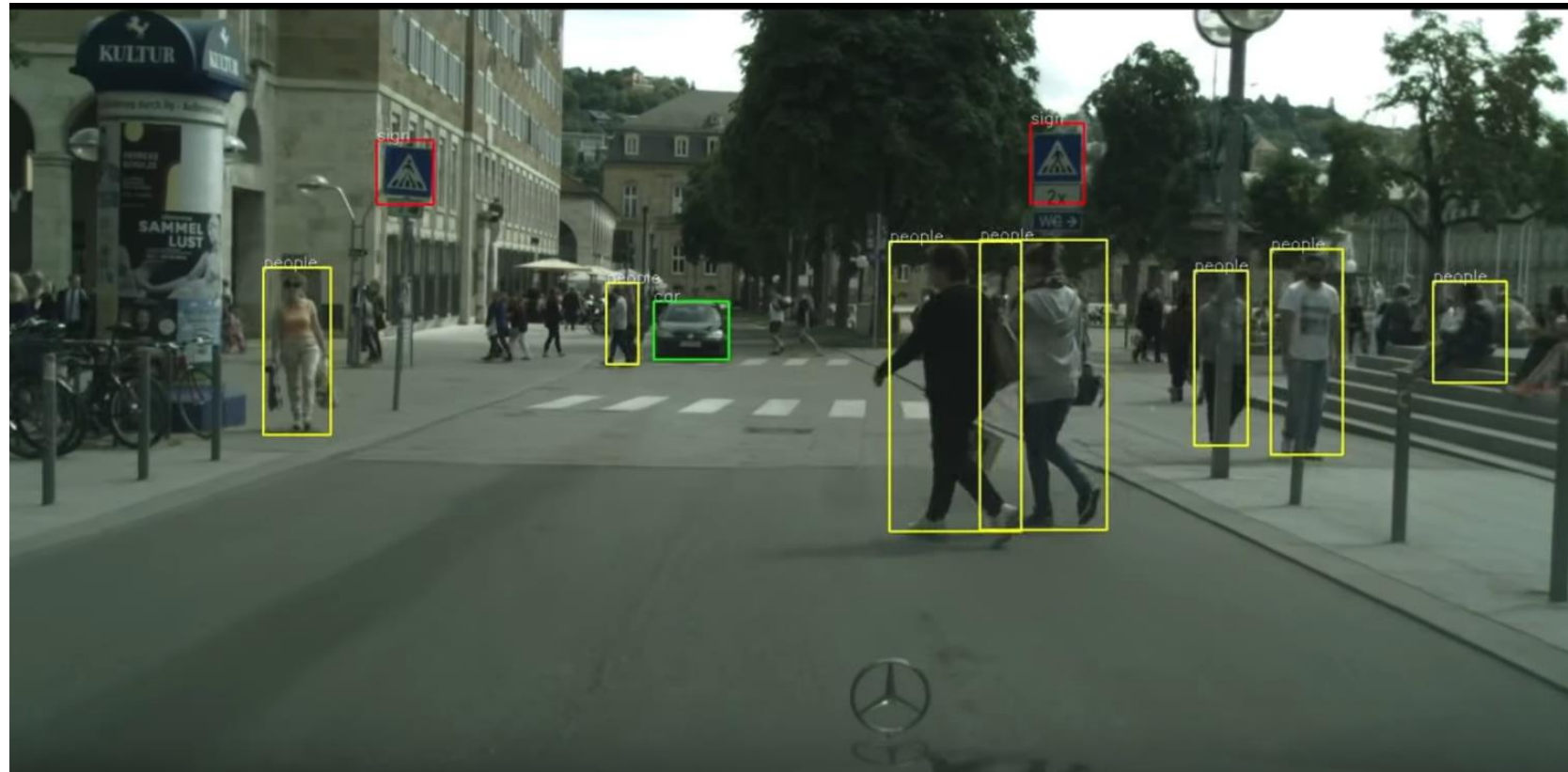
New with WSL – GUI App Support



New with WSL – `wsl --install`



New with WSL – GPU Compute



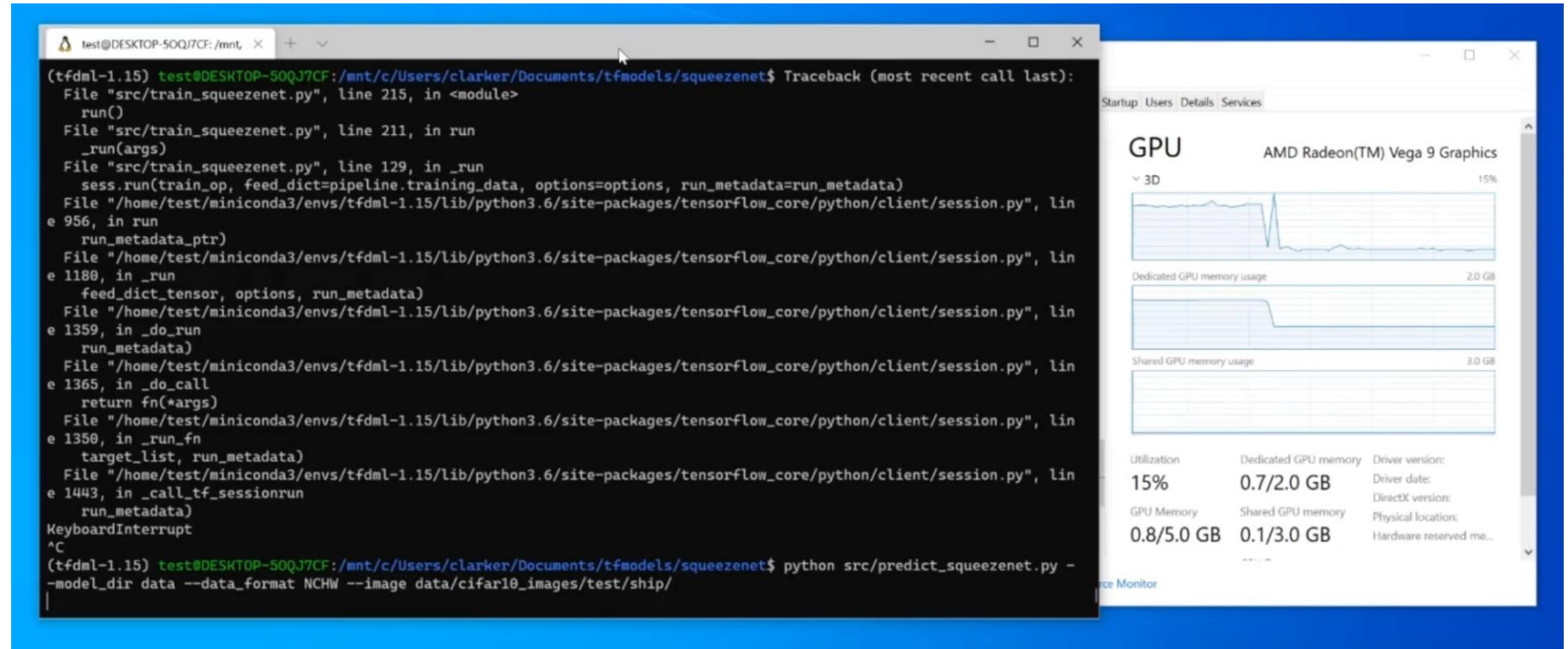
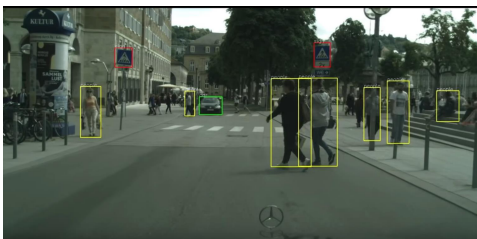
Source: The Convolution Layer (CNN Visualization) by Henry Warren on Youtube https://www.youtube.com/watch?v=KiftWz544_8

Source: 2D Visualization of a convolutional neural network <https://www.cs.ryerson.ca/~aharley/vis/conv/flat.html>

Source: CES 2016: NVIDIA DRIVENet Demo – Visualizing a Self-Driving Future (part 5) by NVIDIA on Youtube

<https://www.youtube.com/watch?v=HJ58dbd5g8g>

New with WSL – GPU Compute



```
(tfdbg-1.15) test@DESKTOP-50QJ7CF: /mnt/ x + -
File "src/train_squeezenet.py", line 215, in <module>
    run()
File "src/train_squeezenet.py", line 211, in run
    _run(args)
File "src/train_squeezenet.py", line 129, in _run
    sess.run(train_op, feed_dict=pipeline.training_data, options=options, run_metadata=run_metadata)
File "/home/test/miniconda3/envs/tfdbg-1.15/lib/python3.6/site-packages/tensorflow_core/python/client/session.py", line
e 956, in run
    run_metadata_ptr)
File "/home/test/miniconda3/envs/tfdbg-1.15/lib/python3.6/site-packages/tensorflow_core/python/client/session.py", line
e 1180, in _run
    feed_dict_tensor, options, run_metadata)
File "/home/test/miniconda3/envs/tfdbg-1.15/lib/python3.6/site-packages/tensorflow_core/python/client/session.py", line
e 1359, in _do_run
    run_metadata)
File "/home/test/miniconda3/envs/tfdbg-1.15/lib/python3.6/site-packages/tensorflow_core/python/client/session.py", line
e 1365, in _do_call
    return fn(*args)
File "/home/test/miniconda3/envs/tfdbg-1.15/lib/python3.6/site-packages/tensorflow_core/python/client/session.py", line
e 1350, in _run_fn
    target_list, run_metadata)
File "/home/test/miniconda3/envs/tfdbg-1.15/lib/python3.6/site-packages/tensorflow_core/python/client/session.py", line
e 1443, in _call_tf_sessionrun
    run_metadata)
KeyboardInterrupt
^C
(tfdbg-1.15) test@DESKTOP-50QJ7CF: /mnt/c/Users/clarker/Documents/tfmodels/squeezenet$ python src/predict_squeezenet.py -
-model_dir data --data_format NCHW --image data/cifar10_images/test/ship/
```

GPU AMD Radeon(TM) Vega 9 Graphics

3D 15%

Dedicated GPU memory usage 2.0 GB

Shared GPU memory usage 3.0 GB

Utilization	Dedicated GPU memory	Driver version:
15%	0.7/2.0 GB	Driver date:
GPU Memory	Shared GPU memory	DirectX version:
0.8/5.0 GB	0.1/3.0 GB	Physical location:
		Hardware reserved me...

Force Monitor

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Check out our docs, Github and blog:
<https://aka.ms/wsldocs>
<https://github.com/Microsoft/wsl>
<https://aka.ms/cliblog>

Thanks for joining

Any questions?