

How Python helped a Healthcare company grow

Waqas Younas

About me

- Learned Python 10 years ago
- Engineering at QC Technologies

Health-care company

- Send appointment reminders to patients via email, text and IVR.
- Why?
- Because patients attend to their appointments if reminded.
So what?
- More revenue for doctors and clinics.

Problem



Step 1

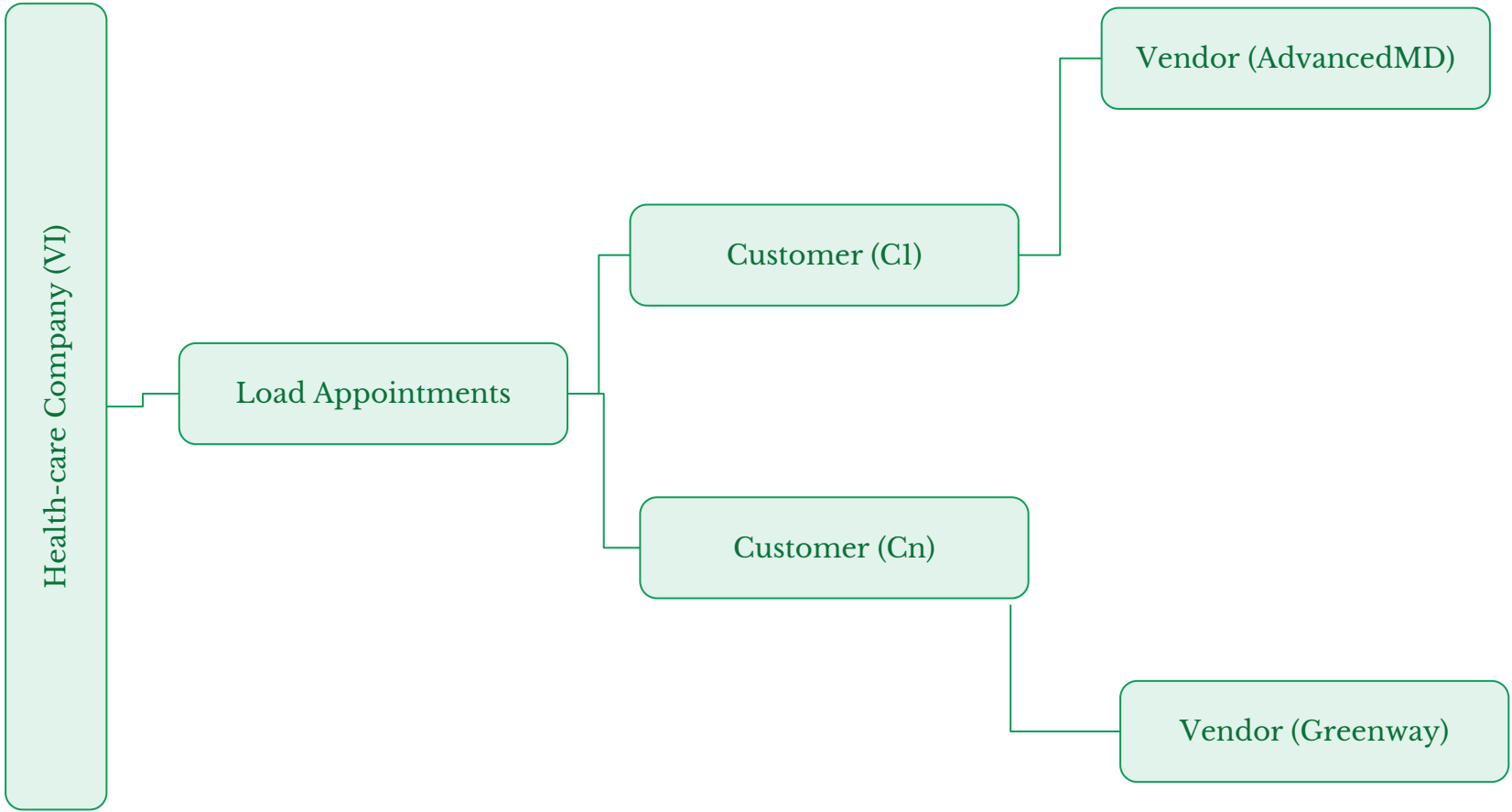
Load
Appointments

Step 2

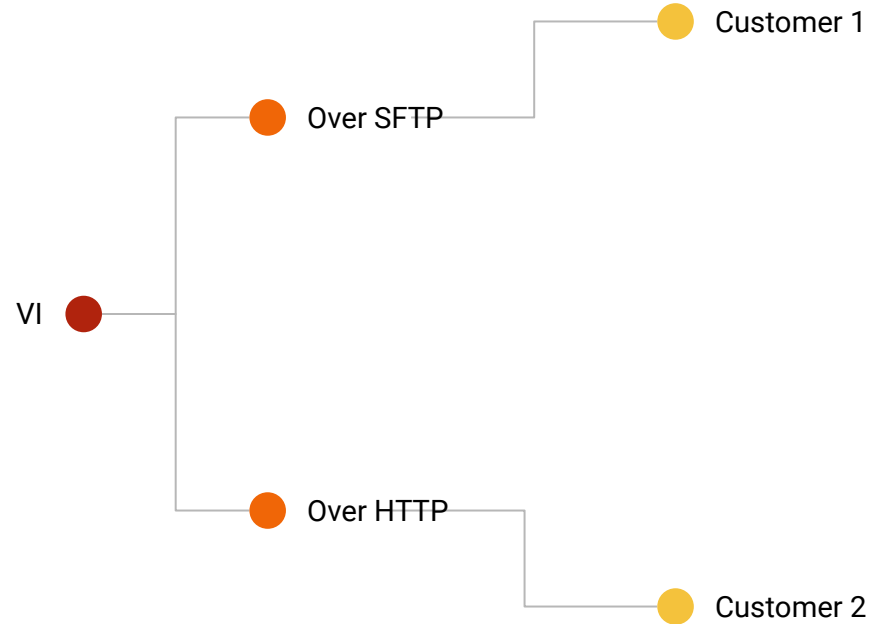
Process
Appointments

Step 3

Send
automated
reminders to
patients via
IVR, text and
email



Load Appointments



How Python helped?

- For SFTP, we found a wonderful Python library called *Paramiko*.
- Same code ran for 5 years without any issues on many different OSs.
- For Http, we used beautiful library called *Requests*.

Processing appointments

- Had to manage different implementation of various vendors.
- Leverage OOP.
- Also, Python's data model made it possible to write shorter and more meaningful code.

Processing appointments

Date model made it possible to write code such as:

```
If appt_with_doc_a > appt_with_doc_b:
```

Do this

```
elif appt_with_doc_a == appt_with_doc_c:
```

Do that

Processing appointments

- Let's say you've to (unfortunately) write code to that needs to say:

```
If federer > nadal:
```

```
    Do celebrate
```

```
else:
```

```
    Well, can still celebrate
```

- `__gt__`, `__lt__`, `__eq__` makes this possible. Learning more about data model helps.

Sending reminders

- GIL
- Gevent made it possible. Same code. Still running after 6 years after having sent hundreds of millions of appointment reminders.

Testing

Scenarios and Unittest.

Without scenarios you've

```
def test_a(self):
```

 Test this

```
def test_b(self):
```

 Test that

```
def test_c(self_c):
```

 Test this and that

Testing

With scenarios we had

```
Scenarios = [ scenario_one, scenario_two, scenario_three,  
scenario_four...hundreds of scenarios here]
```

```
Def run_scenarios():
```

```
    Here we run scenarios
```

That's all folks!

Learn Python. It can help the economy as well like it did in our case (across continents). It changed lives, literally.

Twitter: @wyounas