



Google App Engine
Mano Marks
Developer Advocate

Problems building web applications

Why Google App Engine?

The App Engine Components

What's Next

Questions?

Typical Web application requirements



...and if you're app becomes popular...





Google App Engine



Run your web applications on Google Infrastructure



Easy to start.
Easy to scale.

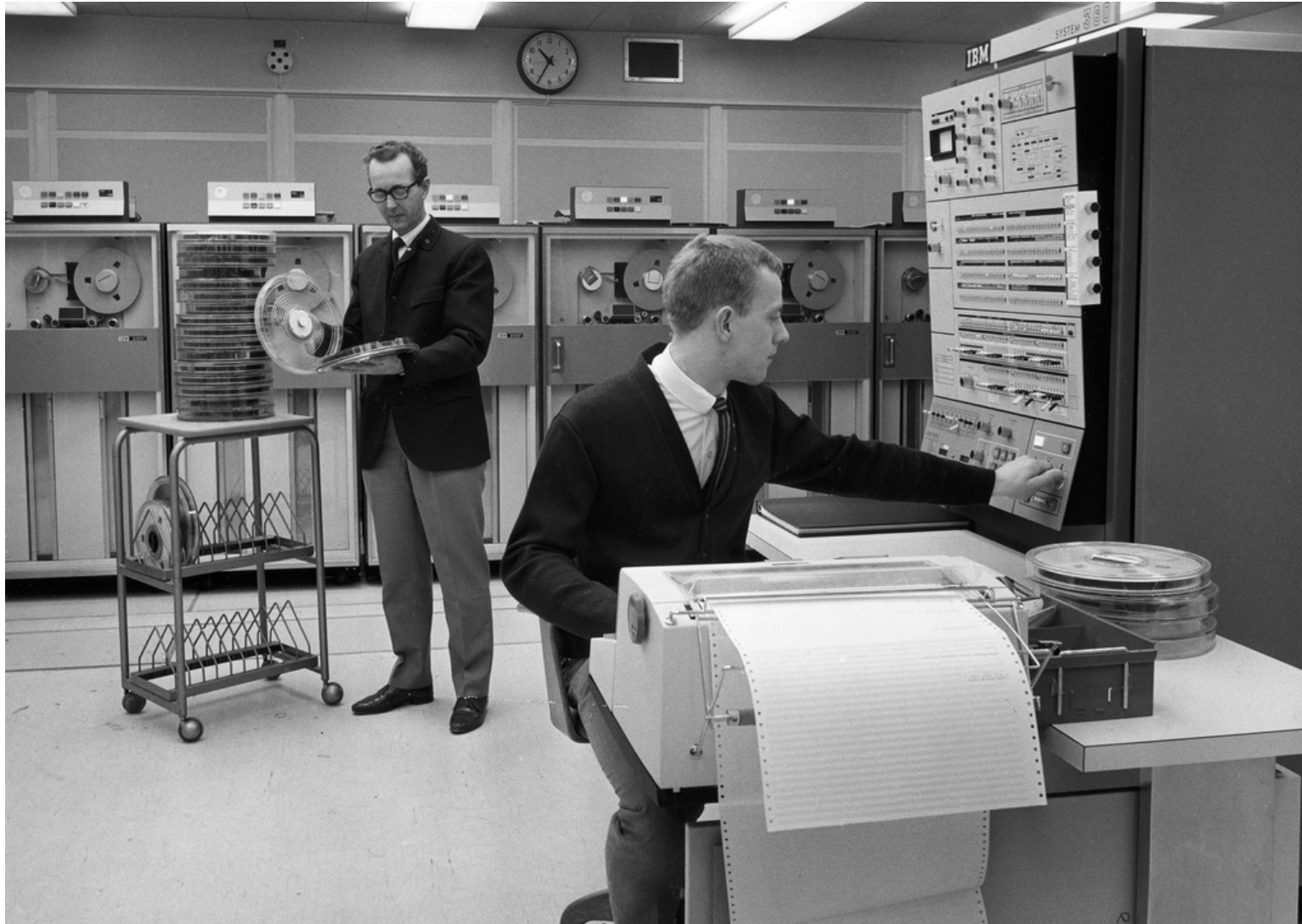




The Components



1. Scalable Serving Architecture



creative commons [licensed](#) photograph from [cote](#)



Request Handlers

```
class MyHandler(webapp.RequestHandler):

    def get(self):
        messages = db.GqlQuery('SELECT * FROM Message '
                                'ORDER BY when DESC').fetch(100)

        values = {
            'messages': messages
        }
        self.response.out.write(
            template.render('main.html', values))

    def post(self):
        message = Message(who=self.request.get('who'),
                           content=self.request.get('content'))

        message.put()
        self.redirect('/')
```



HTML Template

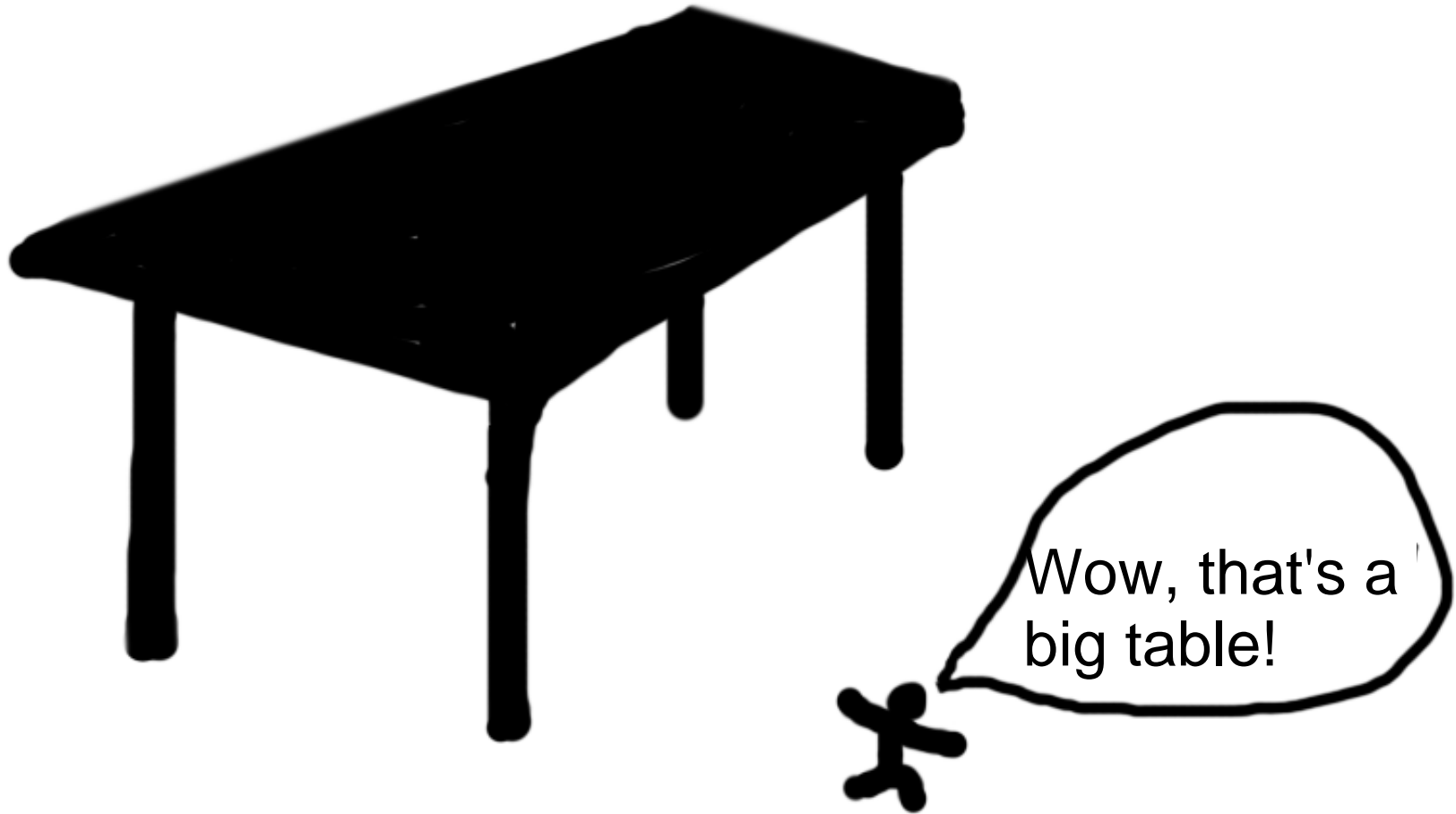
```
<h1>My Guestbook</h1>
```

```
<form method="post" action="/message">  
  From:<input name="who"/>  
  Message:<input name="content"/>  
  <input value="Sign Guestbook" type="submit"/>  
</form>
```

```
{% for message in messages %}  
<div>  
  {{message.content}} from {{message.who}} at {{message.when}}  
</div>  
{% endfor %}
```



2. Distributed Datastore





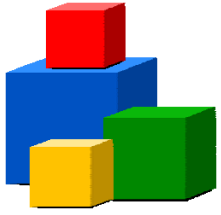
Datastore Model Class

```
class Message(db.Model):  
  
    content = db.StringProperty(required=True)  
  
    who = db.StringProperty()  
  
    when = db.DateTimeProperty(auto_now_add=True)
```



GQL Query

```
db.GqlQuery("SELECT * FROM Message "  
            "WHERE who = `Mano`"  
            "ORDER BY when DESC").fetch(100)
```

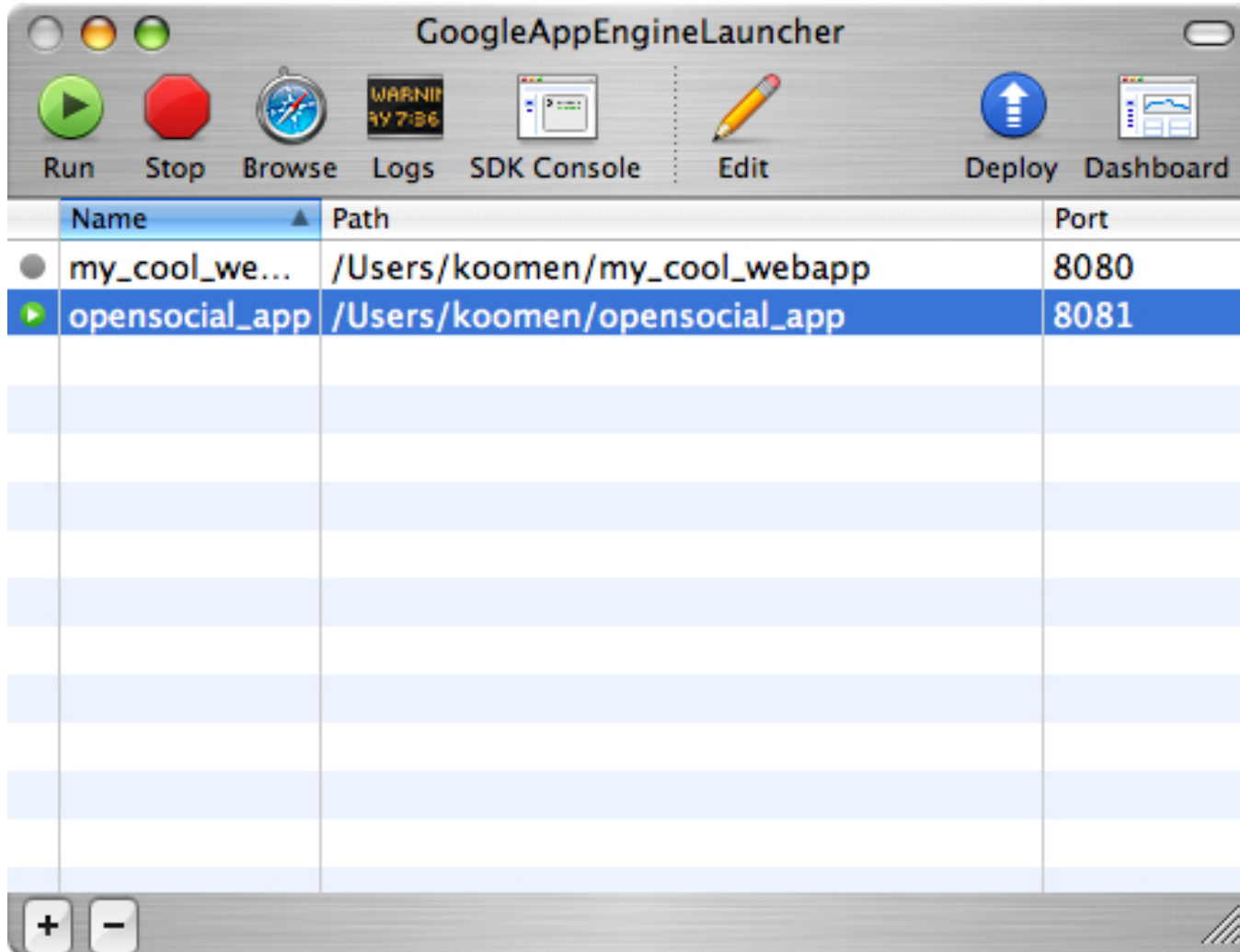


3. Python Runtime & Libraries





4. Software Development Kit





5. Web-based Admin Console

docs ▾ 2.9 ▾ [« Show All Applica](#)

Dashboard

- [Logs](#)
- Datstore**
 - [Indexes](#)
 - [Data Viewer](#)
- Administration**
 - [Application Settings](#)
 - [Developers](#)
 - [Versions](#)

Resources

- [Documentation](#)
- [Developer forum](#)
- [Downloads](#)

Charts ⓘ

Requests/Second ▾

Application Quotas ⓘ

CPU Used	<div style="width: 0.3%;"></div>	5.49 of 1487.89 Gigacycles (0%)
Data Sent	<div style="width: 0.06%;"></div>	0.41 of 614.40 Megabytes (0%)
Data Received	<div style="width: 0.001%;"></div>	0.01 of 614.40 Megabytes (0%)
Emails Sent	<div style="width: 0%;"></div>	0.00 of 600.00 Emails (0%)
Megabytes Stored	<div style="width: 0%;"></div>	0.00 of 1073.74 Megabytes (0%)

Popular URIs since 12am PST ⓘ	
URI	Requests
/	809
/favicon.ico	113

URIs with Errors since 12am PST ⓘ	
URI	Errors % request
/docs/tools/configuring	3 (100%)
/docs/datastore/keys	2 (100%)



Other Capabilities

Memcache

Send E-Mail

Make HTTP Requests

Authenticate with Google Accounts

Image Manipulation

Transactions





Some things you're not used to

- **Relations are possible**
 - **By reference**
 - **Parent Child**
- **Schema-less**
- **Many small queries more efficient**
- **Everything revolves around the request and response**
- **No cron jobs**



Free to Get Started

500 MB Storage

11 GB Bandwidth / day

~ 5 Million Pageviews / month



Always

Free to Get Started

500 MB Storage

11 GB Bandwidth / day

~ 5 Million Pageviews / month



What's Next?

More Languages

Purchase Additional Capacity

Large upload/download support

Offline Processing



Questions?



Thank you!

<http://code.google.com/>