

# Introducing a Pythonic RBAC API

Nov 6, 2019



# Why?

Because it was there



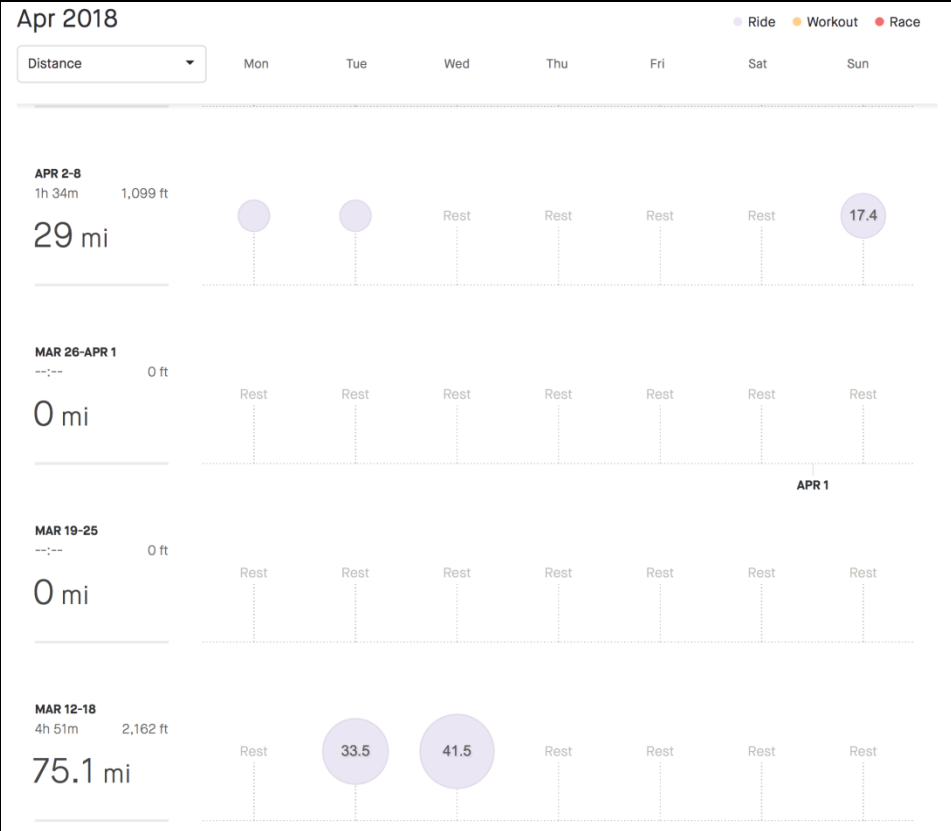
# Now Tell Us Really Why



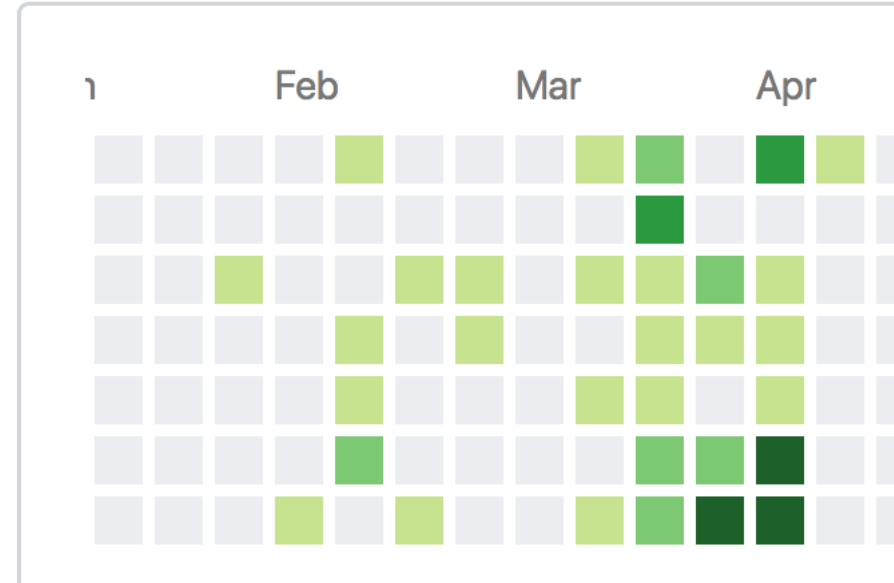
MARCH 21, 2018 by SHAWN MCKINNEY

## Distal Biceps Disruption

# Rehab == Coding



871 contributions in 2018





# April 2018

APRIL 7, 2018 *by* SHAWN MCKINNEY

## New Sheriff in Town

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☰ RBAC, SECURITY

🔑 ACCESS CONTROL, LDAP,  
RBAC, SECURITY

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💬 LEAVE A COMMENT

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And it don't need no stinking badges. Yeah, I'm mixing clichés, happens sometimes when coding long hours in a stretch. 😊

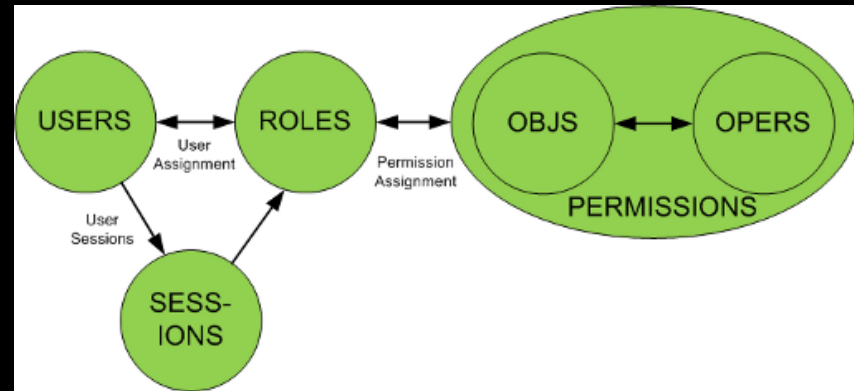
What I'm talking about is a new access management system, released to PyPI yesterday for the first time.

[py-fortress on PyPI](#)

Considering we just started coding a couple of months ago that's pretty good progress.

# They're Back

## Role-Based Access Control Standard



Kuhn, Ferraiolo and Sandhu

<https://www.facebook.com/ieeecomputersociety/posts>



# ANSI RBAC INCITS 359 Specification

## RBAC0:

- Users, Roles, Perms, Sessions

## ~~RBAC1:~~

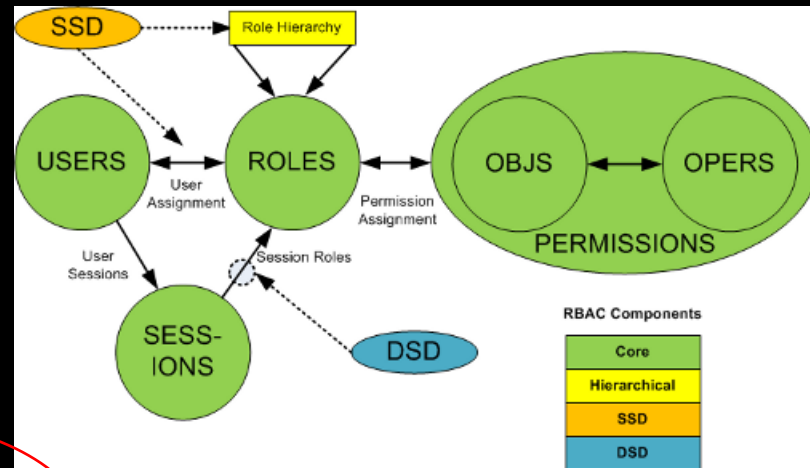
- ~~– Hierarchical Roles~~

## ~~RBAC2:~~

- ~~– Static Separation of Duties~~

## ~~RBAC3:~~

- ~~– Dynamic Separation of Duties~~



Not Yet

# RBAC Functional Model

APIs form three standard interfaces:

1. Admin ← Add, Update, Delete
2. Review ← Read, Search
3. System ← Access Control

Management and  
Config processes

Runtime  
processes



# RBAC Functional Model

## System Manager APIs:

[https://github.com/shawnmckinney/py-fortress/blob/master/pyfortress/impl/access\\_mgr.py](https://github.com/shawnmckinney/py-fortress/blob/master/pyfortress/impl/access_mgr.py)

1. `createSession` – authenticate, activate roles
2. `checkAccess` – permission check
3. `sessionPermissions` – all perms active for user
4. `sessionRoles` – return all roles active
5. `addActiveRole` – add new role to session
6. `dropActiveRole` – remove role from session

# About py-fortress

- Security access control APIs for the Python3 platform.
- Requires an LDAP server to store the policy data.
- Published to PyPI as py-fortress.
- Compliant with ANSI INCITS 359 RBAC0, a.k.a "Core RBAC".
- Sponsored by SYMAS
- Released under Apache License 2.0.

<https://github.com/shawnmckinney/py-fortress>



# More About py-fortress

- Data Format
  - Apache Fortress LDAP schema
- Error Mapping
  - Apache Fortress Exception ids
- Management Interfaces
  - Apache Fortress Web and Rest

<https://github.com/shawnmckinney/py-fortress>



# Contact Info

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