Preamble

http://bit.ly/2yZWVpX

First 10 minutes will be spent ensuring everyone has

1. `git` installed on their computer.
2. `Github` account setup & give username to speaker

Please sit in front of room if you haven't yet setup your environment

If you didn't bring a computer, make a friend instead

PDXData / PDSG

Thanks to New Relic for hosting this talk!

Intro to Git

http://bit.ly/2yZWVpX

This talk will not cover, or expect knowledge of, programming languages

1. Introduce collaborative demo
2. We will introduce vocabulary
3. Understand Simplest Workflow
4. Attendants will contribute to collaborative demo
5. Talk about access control

Your Project!

- After I assign you a letter-line pair,
- add them to a file `README.md`
- belonging to an **existing repository**
- in **alphabetical order**.
- Finally, share your changes

```
A is for Alice who fell down the stairs
B is for Basil assaulted by bears
C is for Clara who wasted away
...
Z is for Zillah who drank to much gin
```

What is Git?

- Source and version control
- Ledger of work
- Collaboration tool
- Workflow management software

competes with : **hg**, **svn**, **cvs**

What is Github?

- Git service provider
- Account management and access control
- Hosting platform
- Ticket tracker / project management tool

competes with : **GitLab**, **bitbucket**, **coding.net**

What to store (Github)?

- source code (language ambiguous)
- markdown / Jupyter / pdf
- small or static images & data-sets

What NOT to store?

- PASSWORDS, access tokens, secrets, or private keys
- compiled binaries
- large images & data-sets

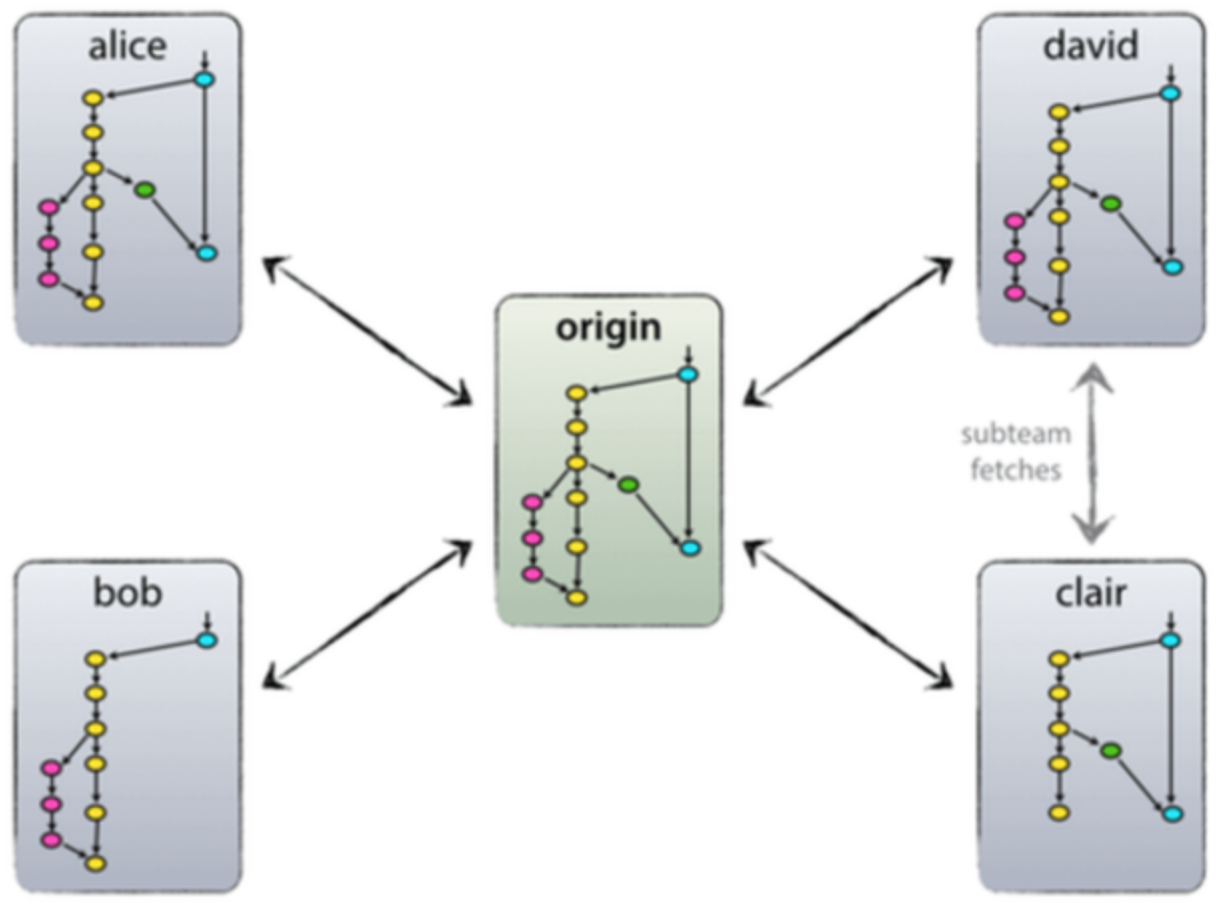
Passwords

```
$ cat secrets.json # this file should not be committed
{
    "password":"MySuperNeatoPassword!#"
}
```

```
import json

# this file should be commited

with open('secrets.json') as fd:
    pwd = json.load(fd)['password']

print(pwd)
```

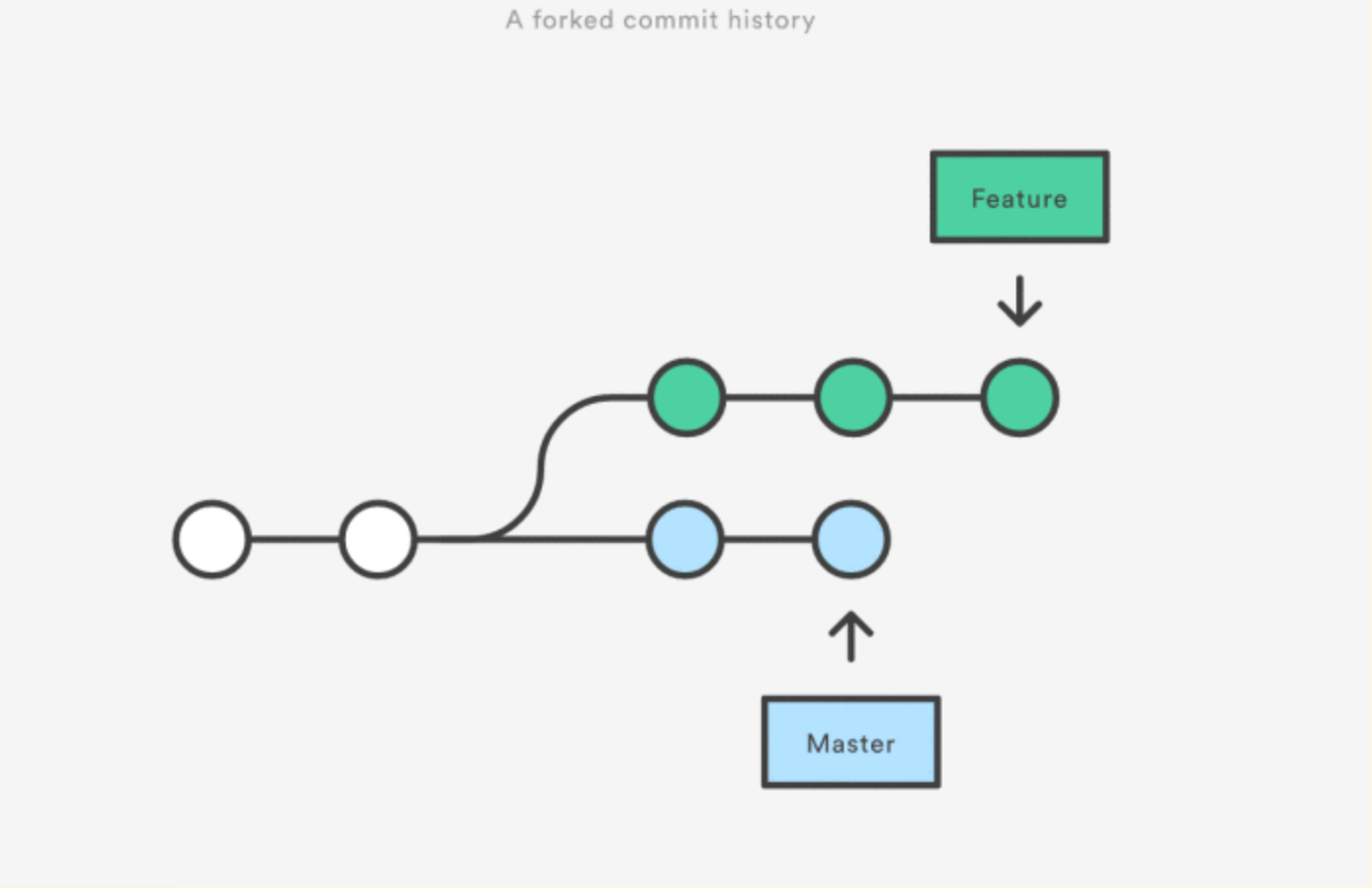
Vocabulary (I)

- `remote` labels alias another location



Vocabulary (II)

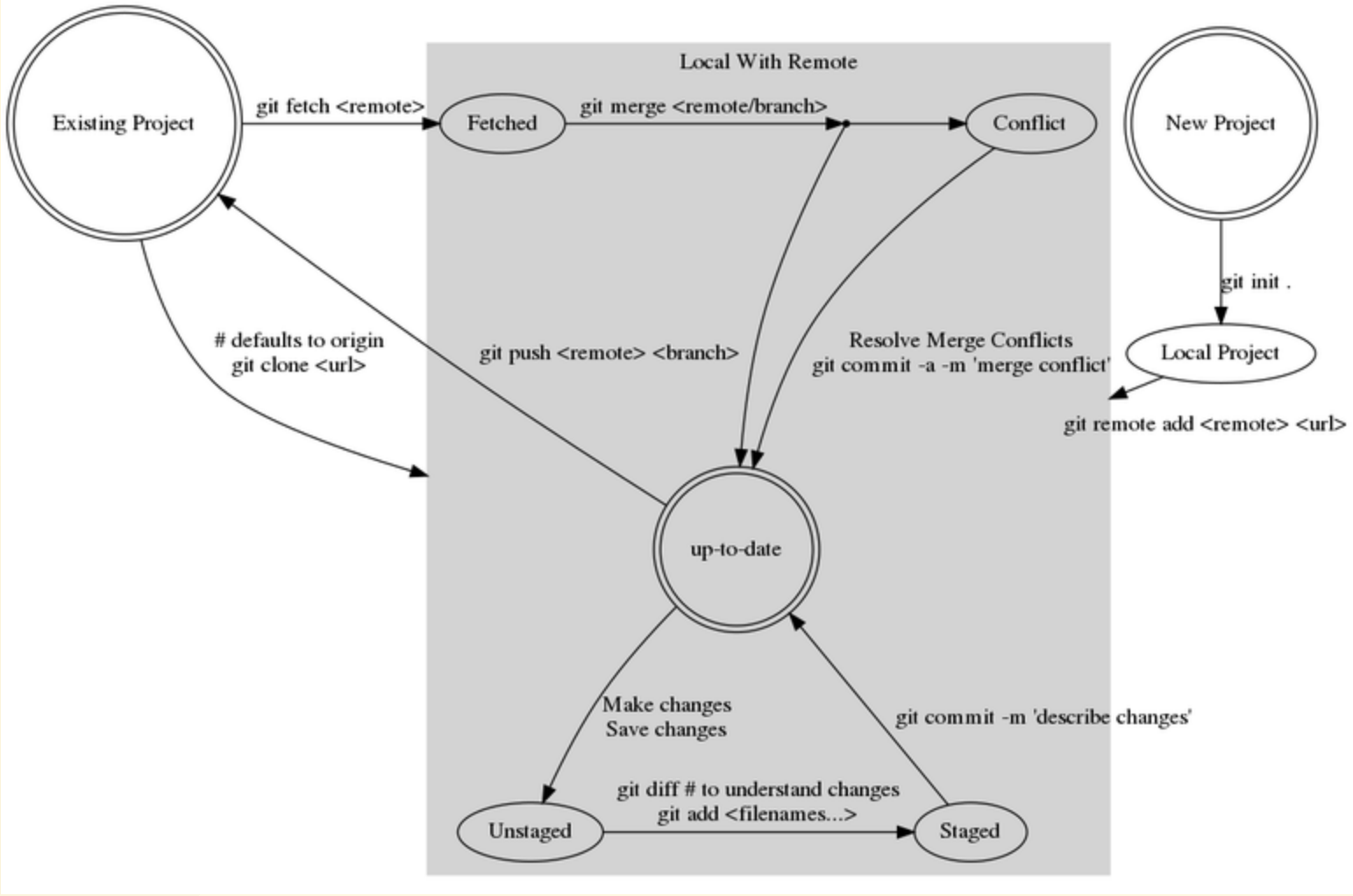
- `branch`

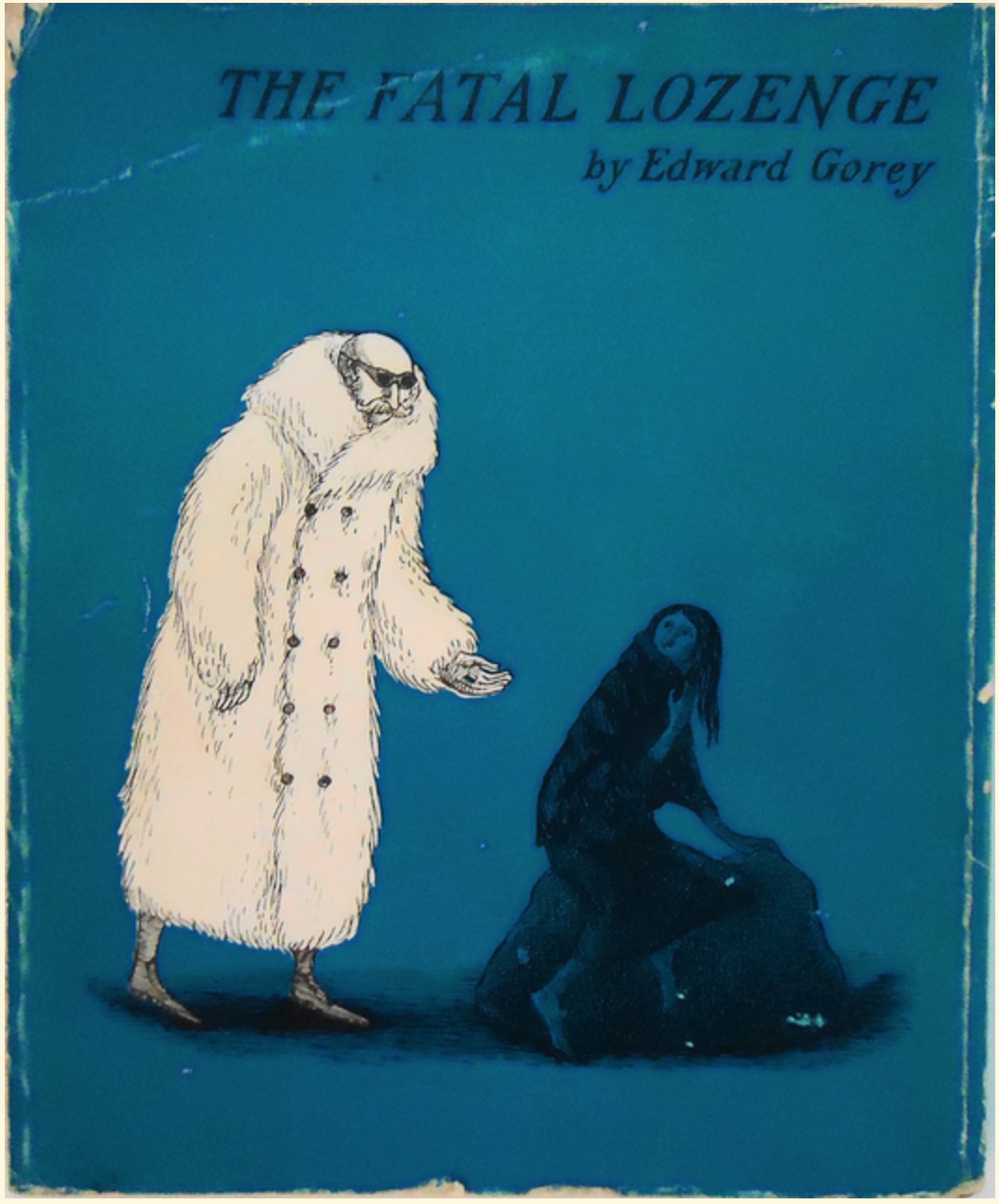


Vocabulary (III)

- `init` / `clone` - Starts Project
- `add`/`commit` and Commit History - Tracks Changes
- `fetch`/`merge` and Merge Conflicts
- `push` - Share Changes
- `diff`, `status`, `log` - What state am I in?

Workflow Map




THE FATAL LOZENGE
by Edward Gorey

Give me your Username in Exchange for A Ticket

Rules of the Game

- 10 people per repository team {Red, Blue, Black}
- No more than 80 characters per line
- This poem is expected ordered alphabetically
- Each ticket represents one letter of short story
- Your team is done when the remote repository is complete
- 15 minutes

Git Commands

- `status`, `diff`
- `clone`, `init`
- `fetch`, `merge`, `commit`, `push`, `fetch`

```
$ git clone https://github.com/PortlandDataScienceGroup/ABC
Cloning into 'ABC'...
remote: Counting objects: 500, done.
remote: Compressing objects: 100% (36/36), done.
remote: Total 500 (delta 27), reused 33 (delta 12), pack-re
Receiving objects: 100% (500/500), 6.72 MiB | 1.71 MiB/s, d
Resolving deltas: 100% (286/286), done.
Checking connectivity... done.
$
```

Github activities

- `fork`
- `pull request`
- Code reviews
- Create / destroy user and organization accounts
- Access control
- Create / destroy repository
- Issue creation / assignment / management
- Gists

Demo

Collaboration within a team is different than from outside, as a consiquence of access control

Lets respond to a open source git issue

Steps

1. Identify an issue
2. `fork` issue on Github
3. `clone` repository to local directory
4. `branch` to encapsulate our edits
5. Edit files, save and `commit` changes
6. `push` changes to branch on forked repository
7. `pull request` fork-branch on original repository