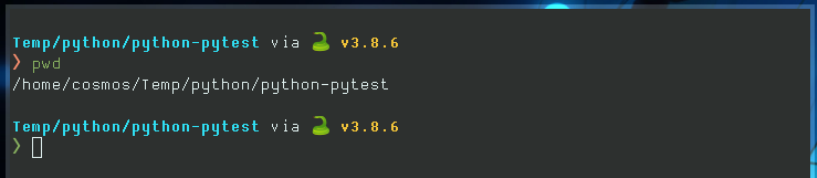


An exploratory study on user *dotfiles* management

Wenhan Zhu (Cosmos)

A terminal window with a dark background. The prompt is 'Temp/python/python-pytest via' followed by a green icon of a person and 'v3.8.6'. The user enters 'pwd' and the output is '/home/cosmos/Temp/python/python-pytest'. The prompt then changes to 'Temp/python/python-pytest via' followed by the same green icon and 'v3.8.6'. The user enters a space character, and the prompt changes to a green '>' followed by a white box.



```
Temp/python/python-pytest via  v3.8.6  
> pwd  
/home/cosmos/Temp/python/python-pytest  
  
Temp/python/python-pytest via  v3.8.6  
> 
```

Figure 1: Customized ZSH prompt

A terminal window with a dark background. The prompt is 'zephyr%'. The user enters 'pwd' and the output is '/home/cosmos/Temp/python/python-pytest'. The prompt then changes to 'zephyr%' followed by a white box.

```
zephyr% pwd  
/home/cosmos/Temp/python/python-pytest  
zephyr% 
```

Figure 2: Default ZSH prompt

Definition of *dotfiles*

*User-specific application configuration is traditionally stored in so called **dotfiles** (files whose filename starts with a dot).
— ArchLinux Wiki ¹*

¹<https://wiki.archlinux.org/index.php/Dotfiles>

Dotfiles Are Meant to Be Forked

August 20, 2010

I'm a big fan of customizing your dotfiles. "Dotfiles" are the funky little files in your *nix-based home directory that allow you to customize your nerdery: change how your prompt looks, set up your \$PATH, adjust settings for Ruby's IRB, completely change everything about Vim, and about a billion and a half other things. They're

Zach Holman

code + startups + investing.

Previously: [During](#), [GitHub](#)
& [Gild](#).

Follow me at [@holman](#).

Figure 3: Advocate for *dotfiles* sharing.²

²<https://zachholman.com/2010/08/dotfiles-are-meant-to-be-forked/>



Your unofficial guide to dotfiles on
GitHub.

[Home](#)

[Tutorials](#)

[General-purpose utilities](#)

[Tool-specific frameworks](#)

[Tool-specific frameworks](#)

GitHub ♥ ~/

Why would I want my dotfiles on GitHub?

- *Backup, restore*, and *sync* the prefs and settings for your toolbox. Your dotfiles might be the most important files on your machine.
- *Learn* from the community. Discover new tools for your toolbox and new tricks for the ones you already use.
- *Share* what you've learned with the rest of us.

Figure 4: Dotfiles community on GitHub ³

³<https://dotfiles.github.io/>

Software Configuration Engineering in Practice Interviews, Survey, and Systematic Literature Review

Mohammed Sayagh¹, Nouredine Kerzazi, Bram Adams², and Fabio Petrillo³

Abstract—Modern software applications are adapted to different situations (e.g., memory limits, enabling/disabling features, database credentials) by changing the values of configuration options, without any source code modifications. According to several studies, this flexibility is expensive as configuration failures represent one of the most common types of software failures. They are also hard to debug and resolve as they require a lot of effort to detect which options are misconfigured among a large number of configuration options and values, while comprehension of the code also is hampered by sprinkling conditional checks of the values of configuration options. Although

Figure 5: Study on software configurations

Improving user-space software development

Improving code completion with program history by *Romain Robbles and Michele Lanza* ASE 2010

```
if (condition) {  
    System.out.println("Strong");  
} else {  
    S|  
}
```

System	Tab	18%
System.out.println("	Tab+2	17%
System.out.println("Weak");	Tab+3	2%
System.out.	Tab+4	18%
System.out.println	Tab+5	18%

Figure 6: Tabnine autocompletion ⁴

⁴<https://www.tabnine.com/blog/deep/>

THE CATHEDRAL



Change in open source software community

The screenshot shows the GitHub search interface for the query 'dotfiles'. The top navigation bar includes the GitHub logo, the search term 'dotfiles', and links for 'Pull requests', 'Issues', 'Marketplace', and 'Explore'. On the left, a sidebar lists search filters: 'Repositories' (141K), 'Code' (728K), 'Commits' (395K), and 'Issues' (54K). The main content area displays '141,703 repository results'. The first result is for the repository 'holman/dotfiles' by '@holman', described as '@holman does dotfiles'. It features tags for 'shell', 'dotfiles', and 'zsh', a star rating of 5.9k, a green 'Shell' icon, 'MIT license', and a note 'Updated 2 days ago'.

Filter	Count
Repositories	141K
Code	728K
Commits	395K
Issues	54K

141,703 repository results

[holman/dotfiles](#)
@holman does dotfiles

[shell](#) [dotfiles](#) [zsh](#)

☆ 5.9k Shell MIT license Updated 2 days ago

Figure 7: dotfiles repositories on GitHub

Data collection

All GitHub repos matching exactly the name `dotfiles` with the following criteria

- ▶ 5 stars
- ▶ 5 commits in the `dotfiles` repository
- ▶ 10 commits in other repositories

Result: **3305** total *dotfiles* repositories.

Who hosts their *dotfiles* on GitHub?

- **Name**

Gorilla (Twitter: @gorilla0513)

- **Job**

Ueno zoo(My home) guardian

- **Vim experience**

1year



Figure 8: A gorilla *vim* user

Table 1: Owners of *dotfiles* repositories

Occupation	Count
Developers	79
System Admin	3
Students	6
Researchers	3
Unknown	9
Total	100

Distribution of repository size (K bytes)

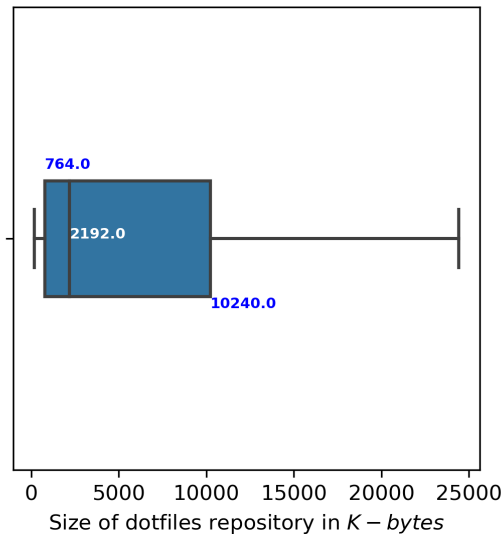


Figure 10: *dotfiles* repository repo sizes

Distribution of number of files in the repository

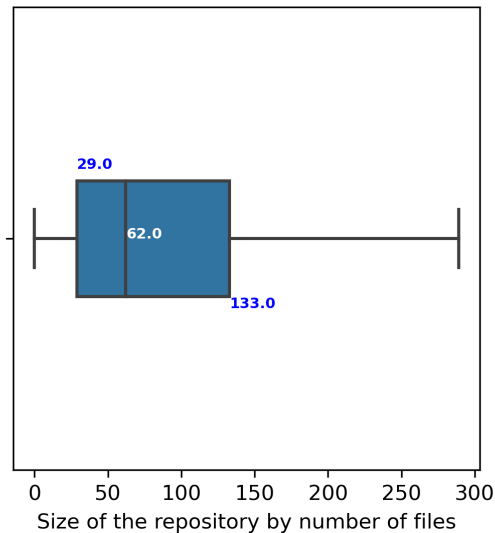


Figure 11: *dotfiles* repositories file counts

Distribution of number commits in the repositor

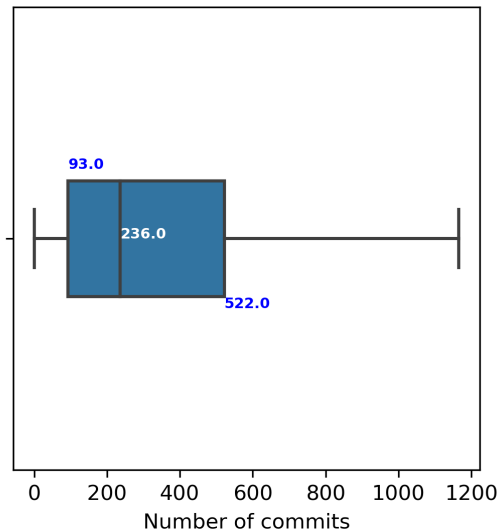


Figure 12: Commits in *dotfiles* repositories

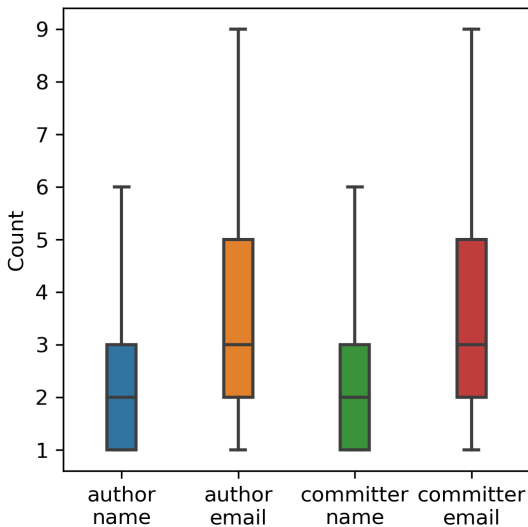


Figure 13: Contributors to *dotfiles* repositories

Thank you! Any suggestions