GitHub Persona Research

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Method

What are user personas?

Personas are fictional characters designers (and others) use to reflect the different types of users. They capture the essences of real users.

- Personas are created from user data

- Personas focus on who users are and what they do with products: user characteristics, needs, motivations, etc.

- Companies become more user-centric by using personas to guide both design and business decisions

Meaningful personas should align with business objectives

2 main measurable objectives for GitHub in education:

User retention and activity

- More active users may have a greater lifetime value on average

- Active users contribute to a stronger GitHub community by engaging other users and sharing valuable content

New student users via instructors

- Instructors who implement GitHub in the classroom may introduce new users who continue to use GitHub in the future. Student users are valuable, especially if they continue using GitHub as industry professionals

- This measure is tied to instructor user retention and likely influenced by how students are introduced to GitHub in the classroom. For example, instructors who are able to convey the value of using GitHub may be more likely to have students who continue using GitHub in the future.

Overview

Relying on a combination of quantitative and qualitative data, we uncovered how users vary in motivations, needs, demographics, behavior, pain points, etc.

- Generated insights and identified gaps in our knowledge using the data we have

- Collected additional data to fill in the gaps

- Research efforts are ongoing: findings will be updated and should be re-validated in the future

Data collection

- This research relied on a combination of data sources

  - Quantitative and qualitative data from past surveys

  - User interviews

  - Conversations with team members

  - Learning outcomes research

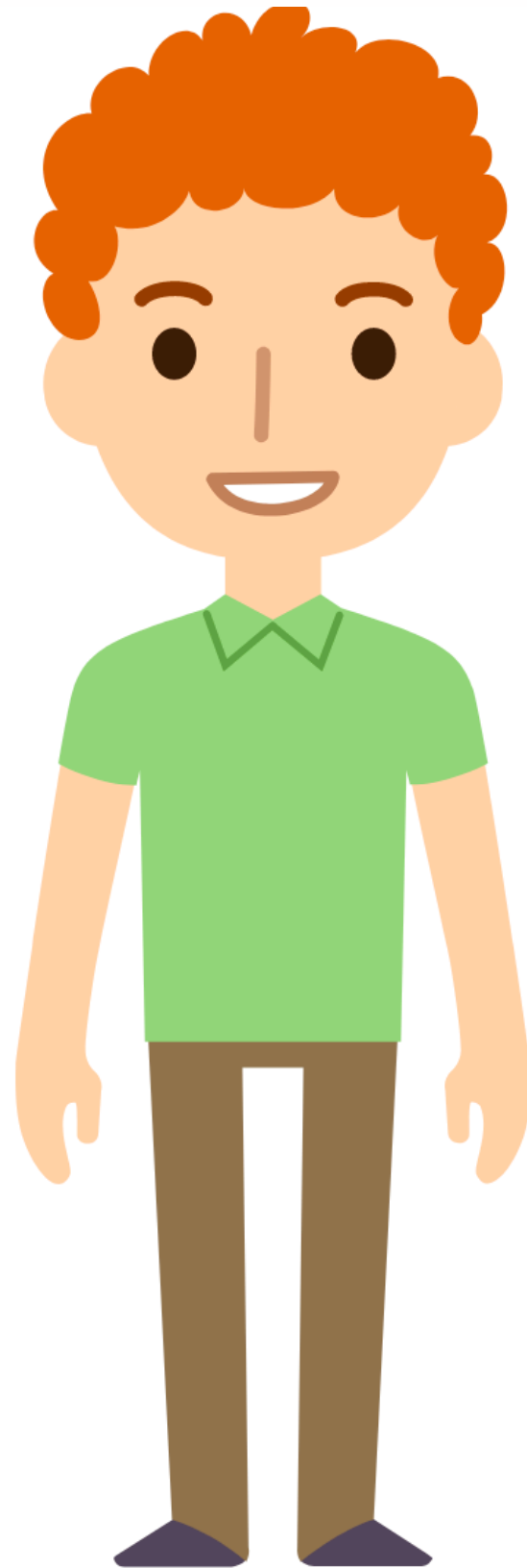 - Data from ongoing longitudinal study

Student personas

(high school students not included)

Overview: Zach the zealous programming student

A passionate student programmer who aims to create a positive impact via code.

Majors in CS and has been coding since middle school. Very certain of future career path.

Contributes to open-source projects and collaborates on several personal projects.

Would quit GitHub if it betrays the open-source model or if community moves.

Zach the zealous programming student

Age 20
Sophomore
San Jose State University

Coding experience
★ ★ ★ ★ ⯪

A passionate student programmer who aims to create a positive impact via code.
•**Hobbies:** Coding for a large side-project that will help students study more efficiently, video games
•**Goals:** To continue learning and contributing to meaningful projects.
•**+/-:** Likes when he fixes a bug. Dislikes code that is not maintainable.

Majors in CS and has been coding since middle school. Very certain of future career path.
•**Languages:** java, python, C++
•**Industry experience:** Internships directly related to his desired roles in the future.

"Programming is half my life."

Zach the zealous programming student

Familiarity with GitHub
★ ★ ★ ★ ★

Created GitHub account before college because he heard others mention it and was curious → Browsed other people's projects on GitHub but didn't see much value in being a more active user → Started sharing his own projects on GitHub and learning more about GitHub features → Collaborating with others via GitHub and using more social features to interact with the developer community

"…people in my class didn't have GitHub experience, so I was definitely a resource for them. I'm totally okay with helping…it's really cool"

When using GitHub in the classroom:
Was more familiar with GitHub than peers, and served as a resource for other students learning to use GitHub.
Unmet need on GitHub:
Experiences difficulty browsing through entire projects to find specific pieces of code. Wants better search features on GitHub.
Enjoys:
Tracking contributions to a project and his own contribution graph

Zach the zealous programming student

Contributes to open-source projects and collaborates on several personal projects.
•Values open-source community

Would quit GitHub if it betrays the open-source model or if community moves to a different platform.

"Sharing is caring…whenever you have something and you're able to…let other people use it…I always think it's the right thing to do…"

Overview: Carrie the career-oriented student

A student focused on practical tools and experience for future CS-related career.

Majors in CS and does not identify as a "hardcore coder." Considering manager or business-oriented roles.

Collaborates on projects that can boost portfolio. Regularly delegates during projects.

Would quit GitHub if it is not used by employers, or unimportant to future job.

Carrie the career-oriented student

Age 21
Junior
UCLA

Coding experience
★ ★ ★

"I'm not like a hardcore CS person..."

A student focused on practical tools and experience for future CS-related career.
•**Hobbies:** Tennis, leader of a school organization, building own website
•**Goals:** To find a good job, learn more about her ideal career path. Currently considering CS-related management and "hybrid" positions
•**+/-:** Likes when a project is completed. Dislikes when documentation is unclear or nonexistent

Majors in CS and does not identify as a "hardcore coder." Considering manager or business-oriented roles.
•**Languages:** swift, javascript, html
•**Industry experience:** Internship related to her desired roles in the future, but still exploring other paths

Carrie the career-oriented student

Familiarity with GitHub
★ ★ ★

Created GitHub account because other students were using it → Uploaded projects to GitHub to supplement internship applications → Maintaining one or two personal projects for hiring managers to view

"...I like coding, but my favorite part is delegating and finding the best way to meet deadlines."

When using GitHub in the classroom:
Was slightly less familiar with GitHub than peers. Felt nervous about gap in familiarity.
Unmet need on GitHub:
Values project management, and hopes for better project deadline and story points features
Enjoys:
Creating issues for others when collaborating so everyone knows what they're working on

Carrie the career-oriented student

"I actually don't know how much GitHub is used after graduation and at work...not sure if it's used in the workspace."

Collaborates on projects that can boost portfolio. Regularly delegates during projects.
•Collaborations on personal projects motivated by upcoming job/internship search
•Uses scrum method

Would quit GitHub if it is not used by employers, or unimportant to future job.
•Does not currently perceive GitHub as a particularly valuable tool beyond its value in the hiring process and for project management

Overview: Frank the student in a non-CS field

A student researcher who values tools that help with data analysis and data storage.

Neuroscience major learning R and hoping to attend graduate school where he will conduct quantitative research.

Does not collaborate on coding projects.

Would quit GitHub if he does not see it as a valuable tool in his non-CS field.

Frank the student in a non-CS field

Age 21
Junior
Boston University

Coding experience
★

"I'm pretty nervous about not having any programming experience, but the professor makes me feel comfortable."

A student researcher who values tools that help with data analysis and data storage.
•**Hobbies:** Intramural sports and reading about neuroscience
•**Goals:** To attend graduate school where he will focus on conducting quantitative research. Hopes to learn more about coding that supports data analysis.
•**+/-:** Likes learning tools that are relevant to future career track

Neuroscience major learning R and hoping to attend graduate school where he will conduct quantitative research.
•**Languages:** no programming background, learning R and Python
•**Experience:** research position in a lab

Frank the student in a non-CS field

Familiarity with GitHub
★

"I think GitHub may be useful for the research I might conduct in the future…"

| Created GitHub account for data analysis course | → | Interacts with a limited set of features within GitHub to facilitate R coding | → | Using GitHub as a tool for storing data and data analyses using R |

Does not collaborate on coding projects right now.

Would quit GitHub if he does not see it as a valuable tool in his non-CS field.
•More likely to continue using GitHub if he perceives it as an integral part of his research process (e.g., data storage, statistical analyses)

Overview: Natalia the non-traditional student

A student who resumed her education and is motivated to display coding skills to hiring managers.

Graduated from college with a non-CS degree years ago and now returning to school to become a developer.

Collaborates on projects that can boost portfolio and are typically assigned by instructor.

Would quit GitHub if it is no longer an industry standard or part of the hiring process.

Natalia the non-traditional student

Age 31
Brown University

Coding experience
★ ★

A non-traditional student motivated to display coding skills to hiring managers.
•**Hobbies:** Has little time for hobbies but enjoys meeting other programmers and learning more about the developer community
•**Goals:** To successfully switch careers and grow professionally as a programmer
•**+/-:** Likes using tools with a low barrier to entry and dislikes difficulty when searching for reliable documentation

Graduated from college with a non-CS degree years ago and now re-attending college to become a developer.
•**Languages:** python, javascript
•**Industry experience:** Seeks out mentors to help with career coaching

Natalia the non-traditional student

Familiarity with GitHub
★ ★ ★

Created GitHub account when she was learning about the developer community and teaching herself how to code.

Interacted with multiple GitHub features after re-entering college because GitHub is viewed as an industry standard.

Displaying work on GitHub to show experience and passion for coding. Using account as a portfolio when applying to jobs.

Collaborates on projects that can boost portfolio and are typically assigned by instructor.
•Uses GitHub as an opportunity to demonstrate commitment to the CS field.

Would quit GitHub if it is no longer an industry standard or part of the hiring process.

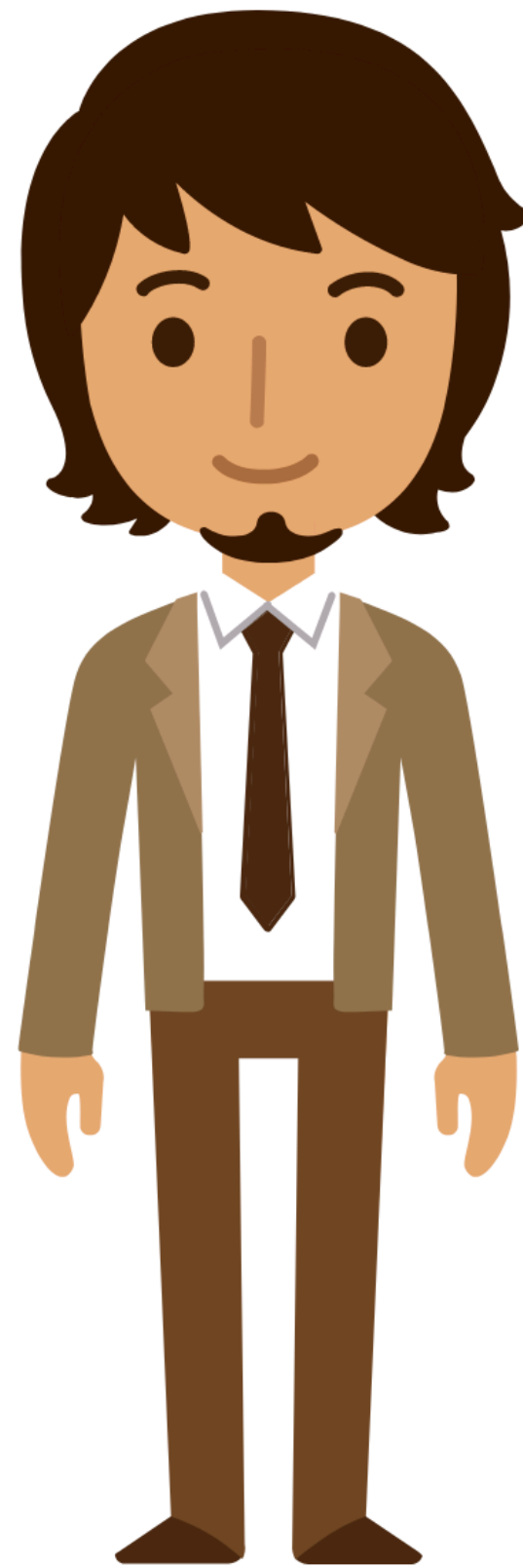# Breakdown of users by persona: Hypotheses

- Zach (zealous programmer): 10% of student users

- Carrie (career oriented): 20% of student users

- Frank (non-CS field): 15% of student users

- Natalia (non-traditional): 55% of student users

Instructor personas

Eric the efficiency-focused instructor

Instructor who is motivated to use GitHub in the classroom to promote efficiency
•Hopes to use GitHub to make grading and collecting assignments easier and less time-consuming.

Uses a limited set of GitHub features. Relies on GitHub to deliver course content and students submit assignments via GitHub
•Values instructor guides, a smaller learning curve, and classroom management tools

Eric the efficiency-focused instructor

Would quit using in classroom if he does not feel GitHub is saving him time or effort
• GitHub takes too long to set up or students take longer to learn GitHub.

Students gain exposure to GitHub, but only interact with a small set of features.
•A portion of his class may not see much value in GitHub because of limited exposure

Lisa the learning outcomes-focused instructor
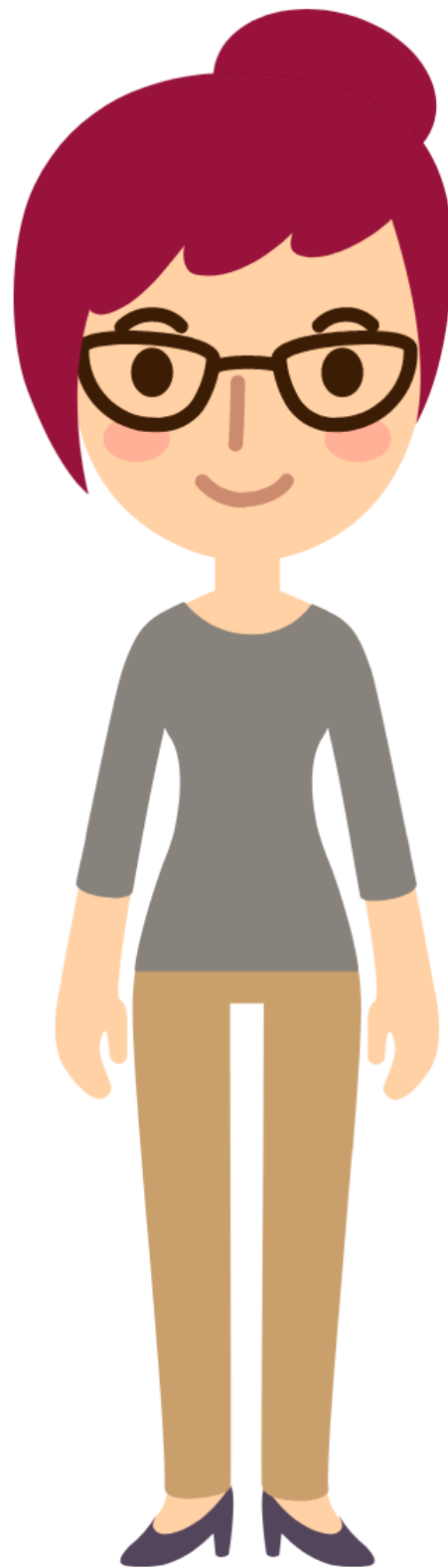
Instructor who uses GitHub to boost student learning outcomes
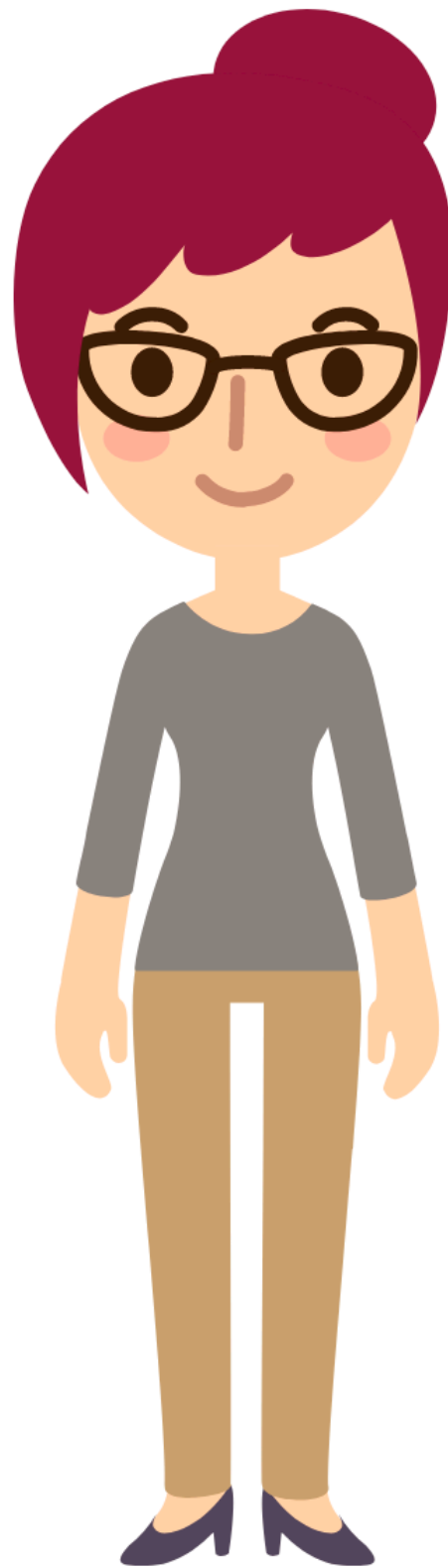•Hopes to weave GitHub into classroom workflow to improve students' learning experiences

Uses GitHub to facilitate collaborations in the classroom and provides line-by-line feedback on assignments via GitHub
•Students use GitHub to complete group projects

Lisa the learning outcomes-focused instructor

Would quit using in classroom if GitHub does not match classroom workflow or needs
•GitHub should complement classroom activities

Students develop a good understanding of how GitHub fits in with a project workflow.
•Knowledge of GitHub features that facilitate collaborations

Tammy the tool-focused instructor

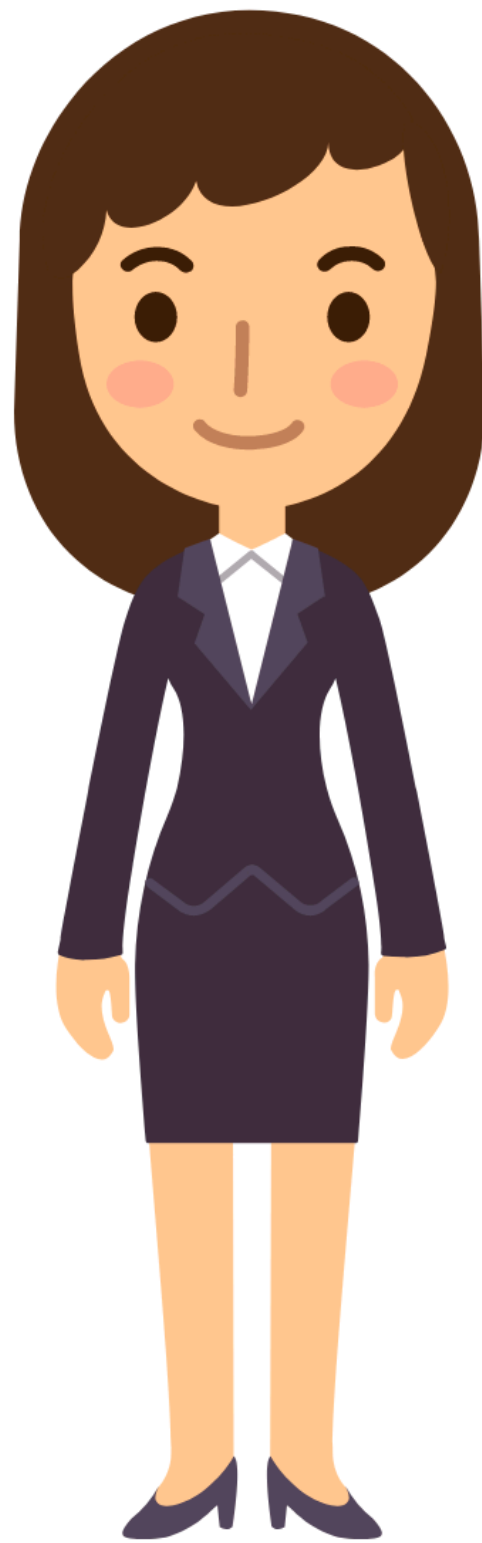Instructor values teaching students how to use important coding tools
•Teaches both CS majors and non-CS majors

Introduces class to a wide range of GitHub features and assigns projects designed to promote understanding of GitHub as a tool
•Values coding tools and introduces other ones throughout the course

Tammy the tool-focused instructor

Would quit using in classroom if GitHub is no longer a key industry tool
•Instructor prioritizes teaching the use of tools that may be an integral part of students' future careers.

Students are exposed to a range of GitHub features relevant to their future careers, but may not develop a deep understanding of how GitHub facilitates larger coding projects

Bob the community-focused instructor

Instructor is a developer and volunteers part-time to give back to the bootcamp community. Mentors students on how to use GitHub when applying to jobs
•Collaborative instructor and needs community of people with similar backgrounds to share resources

Instructor emphasizes GitHub's value as an industry standard, and relies on GitHub to connect with similar others and share resources
•Mentors students and emphasizes "tech literacy"
•May use GitHub to connect with other bootcamp instructors and share teaching resources

Bob the community-focused instructor

Would quit using in classroom if GitHub is no longer an industry standard.

Students gain an understanding of the developer community through using GitHub and recognizes value of GitHub as an industry standard. A portion of students may feel motivated to explore more advanced features of GitHub during the course.

Breakdown of users by persona: Hypotheses

- Eric (efficiency-focused): 35% of instructor users

- Lisa (learning outcomes-focused): 40% of instructor users

- Tammy (tool-focused): 10% of instructor users

- Bob (community-focused): 15% of instructor users

Next steps

Next steps

- Continue validating and refining personas

  - Update findings as we learn more about users

- Become more user-centric by using personas to guide both design and business decisions

- Re-validate personas periodically as features and users change