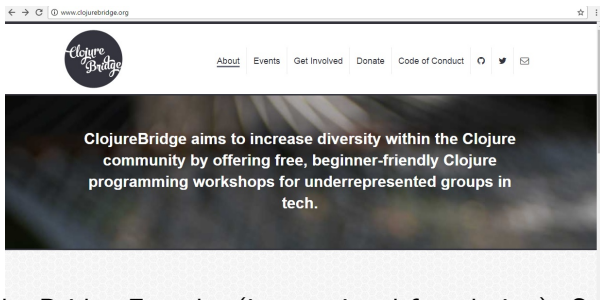


Clojurebridge: volunteer approach to increasing gender diversity

Elena Machkasova
University of Minnesota, Morris

June 22, 2017

What is Clojurebridge?



Part of the Bridge Foundry (international foundation). Some other bridges: RailsBridge, MobileBridge, GoBridge, ScalaBridge.

A one-day *programming* workshop for an underrepresented group.

Over 50 events, including: London (2), Berlin (4), Helsinki (2), Buenos Aires, Melbourne, Seoul, **Minneapolis (5), Boston (3)**.

Events vary in size: 20 - 100 learners.

Setup



- Volunteer organization
- Events sponsored by companies (mostly food costs)
- Wide range of participants: from no programming background to experienced programmers in other languages; two (or more) tracks by level
- Eligible: women, other underrepresented genders (trans*, non-binary); guests may be men

Setup (cont)



- Online exercises and tutorials (community-developed)
- Work in small groups (3-4) at one's own pace, instructors provide support as needed
- Career panel (women in tech)
- Time to socialize

Goals

What are the goals?

Goals

What are the goals?

...teaching Clojure?

Goals

What are the goals?

...teaching Clojure?

...teaching programming skills and functional concepts?

Goals

What are the goals?

...teaching Clojure?

...teaching programming skills and functional concepts?

...connecting people to resources?

Goals

What are the goals?

...teaching Clojure?

...teaching programming skills and functional concepts?

...connecting people to resources?

...role models?

Goals

What are the goals?

- ...teaching Clojure?
- ...teaching programming skills and functional concepts?
- ...connecting people to resources?
- ...role models?
- ...giving beginners more confidence?

Goals

What are the goals?

- ...teaching Clojure?
- ...teaching programming skills and functional concepts?
- ...connecting people to resources?
- ...role models?
- ...giving beginners more confidence?
- ...opportunity to discuss gender/representation issues?

Goals

What are the goals?

- ...teaching Clojure?
- ...teaching programming skills and functional concepts?
- ...connecting people to resources?
- ...role models?
- ...giving beginners more confidence?
- ...opportunity to discuss gender/representation issues?
- ...building community?

Goals

What are the goals?

- ...teaching Clojure?
- ...teaching programming skills and functional concepts?
- ...connecting people to resources?
- ...role models?
- ...giving beginners more confidence?
- ...opportunity to discuss gender/representation issues?
- ...building community?
- ...increasing awareness of gender barriers in tech?

Outcomes for participants:

Building a more diverse community? - **Yes, but slowly (Slowly, but yes?)**

Answering the needs for learning functional approaches? - **Yes: many participants have heard about FP and Clojure.**

Giving beginners more confidence - **likely (hands-on exercises; opportunities to ask questions; career panel)**

Connecting people to resources - **hopefully? (other meetups, slack, etc.)**

Opportunities for discussion of gender issues in tech - **likely (career panel, slack)**

Outcomes for participants:

Building a more diverse community? - **Yes, but slowly (Slowly, but yes?)**

Answering the needs for learning functional approaches? - **Yes: many participants have heard about FP and Clojure.**

Giving beginners more confidence - **likely (hands-on exercises; opportunities to ask questions; career panel)**

Connecting people to resources - **hopefully? (other meetups, slack, etc.)**

Opportunities for discussion of gender issues in tech - **likely (career panel, slack)**

Gender diversity in tech increases? - **No evidence**

Challenges for organizers

- Materials (mostly) aren't developed by professional educators
- Clojure isn't a beginner-friendly language
- All work is volunteer - takes time
- All work is volunteer - no one can require anything, no one is in charge
- Different organizers have different views and approaches
- Organizing is hard (including psychologically)
- Not much gender diversity among organizers
- Maintaining community: volunteer burnout; life happens

Benefits for organizers and community

We all get better at:

- Understanding beginners' needs
- Explaining FP approaches clearly at different levels
- Communicating across various boundaries
- Listening and being patient
- Being aware of stereotypes and biases
- Interactions between academia and industry

Benefits for me as an educator

My personal benefits in addition:

- Developing introductory materials for beginners (in programming and FP) and watching motivated group of people use them
- Being aware of my own stereotypes and biases
- Learning patience, communication, and great appreciation for people's volunteer efforts
- Learning more about industry (and the real world in general)

Resources

- Main Clojurebridge web site:
<http://www.clojurebridge.org/>
- Boston Clojurebridge materials:
<https://github.com/clojurebridge-boston>
- Minnesota Clojurebridge web site:
<http://clojurebridgemn.org/>