

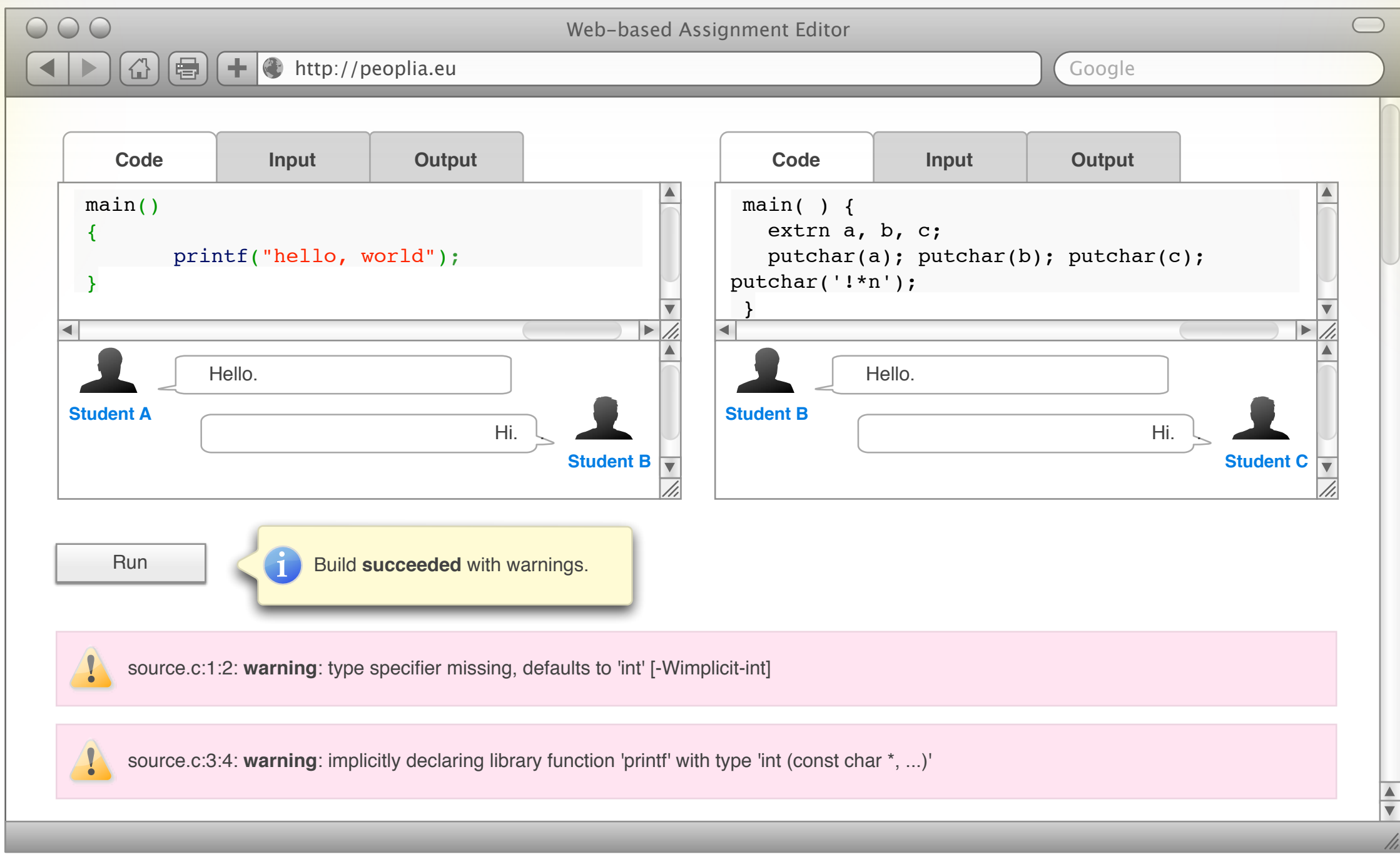
# Method for Social Programming and Code Review

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## Goals

- Automatic reviewer assignment
- Live peer code review
- Social awareness among course participants
- Collaboration to improve the learning experience
- Learning by teaching



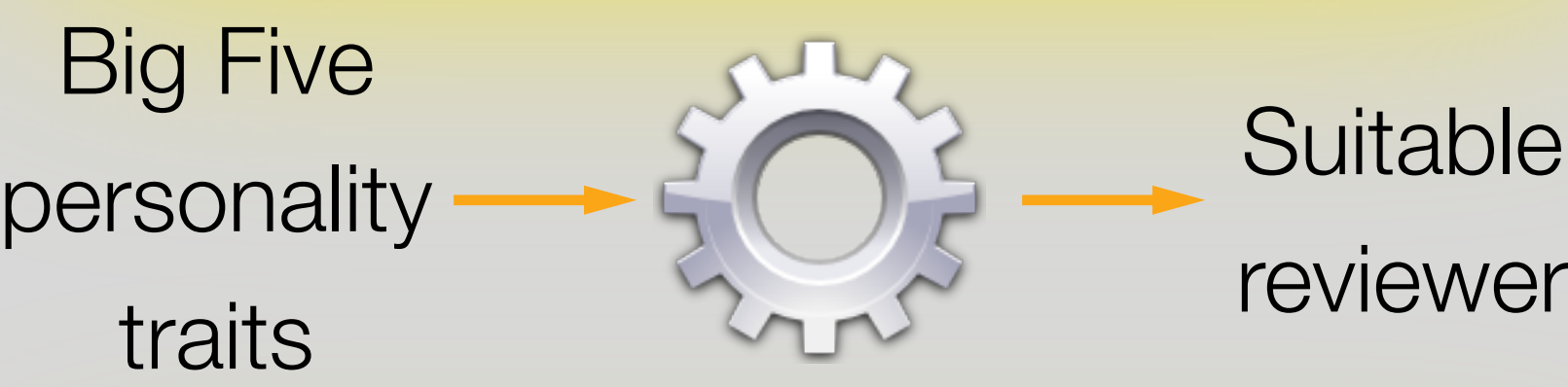
Real-time code review using a shared live view of the code

## User Model

- Big Five personality traits
  - Openness
  - Conscientiousness
  - Extraversion
  - Agreeableness
  - Neuroticism
- User actions
- Reviewing abilities: deliver, receive

## The Method

- Rasch model
  - Ability — item difficulty
  - Deliver — item reviewing difficulty
  - Receive — item difficulty of receiving help



- Based on the output of the model
  - Selection of suitable reviewers
- Social Coding
  - Group progress visualisation

## Experiment 1

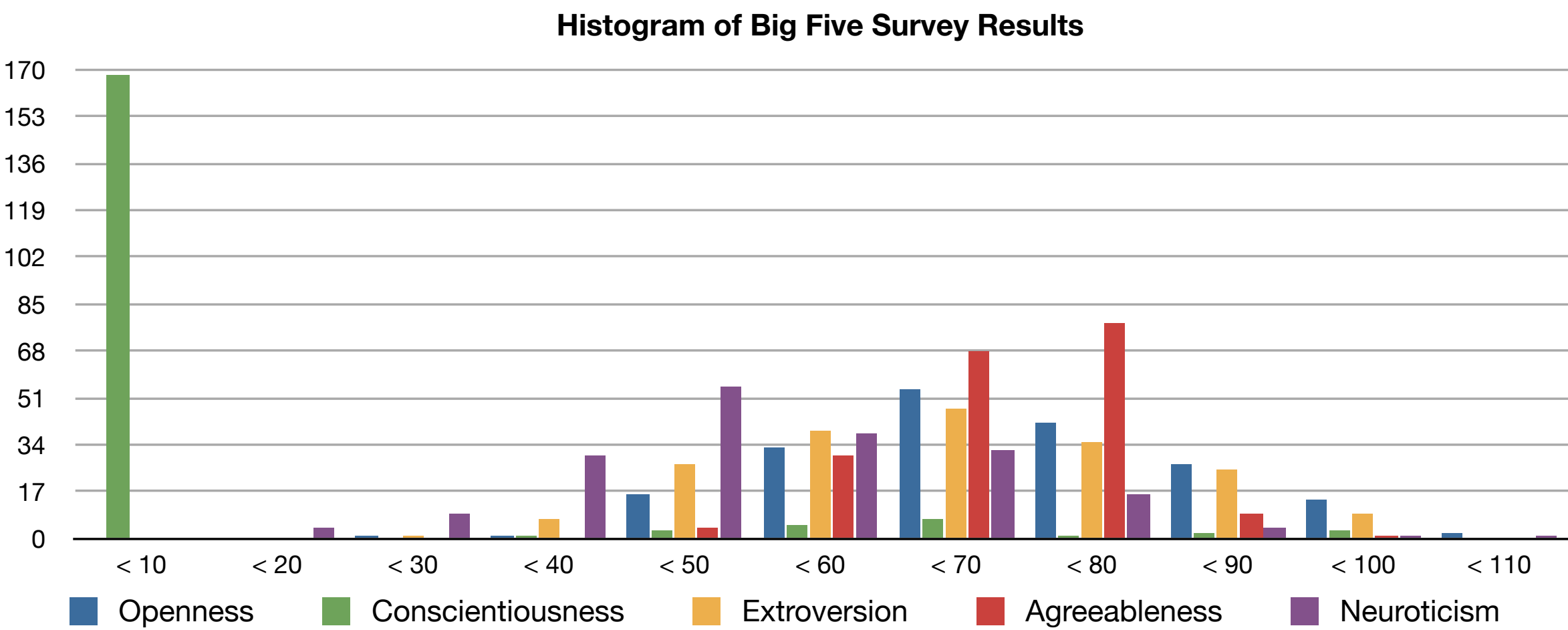
- 172 students
- Automatic reviewer assignment
- Split screen
- Students focused on their own tasks, unwilling to participate

## Experiment 2

- 79 students
- Request-based reviewing
- Too few requests generated
- “I don’t need help.”
- Positive response to progress visualisation

## Experiment 3

- ~ 80 students
- Request-based reviewing
- Automatic requests after repeated failed builds
- More engagement



With the majority of students working on task 2

2 students	11 students	4 students	2 students	1 student
Task 1	Task 2	Task 3	Task 4	Finish

Later, with the majority of students working on task 4

	2 students	4 students	11 students	3 students
Task 1	Task 2	Task 3	Task 4	Finish

User A

User B

Progress Visualisation