



Boston University
Electrical & Computer Engineering
EC463 Capstone Senior Design Project

First Prototype Testing Plan



Reproducibility, Reusability, Readability

Crowdsourcing platform for rating and improving research code:
Reproducibility, Reusability, Readability (RE3)

Submitted to

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by

Team #5
RE3

Team Members

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Required Materials

Hardware:

- Computer/Laptop - *Thats is it!*

Software:

- Front End
 - React JS web application
 - Tailwind CSS
 - Firebase JavaScript SDK
- Backend:
 - Google Firebase
 - Firestore
 - Storage
 - Authentication
 - Python Scripts
 - Upload all snippets to google storage
 - Read in user snippet ratings into json

Set Up:

Since our project is just software based all of the set up required is cloning the git repository with the following command:

```
'git clone https://github.com/BostonUniversitySeniorDesign/21-05-Re3.git'
```

Following that command simply go to the re-3-client folder inside the cloned repository, and run 'npm install', followed by 'npm start' in the terminal. The browser should open the website for our application on localhost:3000 and we can start testing it. Also, a python script is run beforehand to populate the storage with code snippets that will be displayed on the web page for users to evaluate (in terms of readability).

In bullet points:

1. Clone the main branch from
<https://github.com/BostonUniversitySeniorDesign/21-05-Re3.git>
2. To open the project on a web browser, follow the following steps:
 - 2.1. cd 21-05-Re3/re3-client
 - 2.2. npm install
 - 2.3. npm start
3. Run the python script, *upload_snippet.py*
 - 3.1. Check google storage to find snippet files.

Testing Procedure:

1. Register user by clicking on *Login* button
2. Complete onboarding survey after successfully completing login
3. Click on the *Download* button on the top right hand corner to download the currently displayed file.
4. Click on any of the numbers below the text box to rate the snippet
5. Continue rating snippets until all 100 have been rated.
6. Run python script *upload_and_fetch.py* to extract user ratings for all snippets into a json file.

Measurable Criteria:

The criteria for successful running and output is as follows:

1. User should be directed to *Home Page* when the project is opened in a web browser
2. *Login Button* should direct a user to the login page
 - a. If the user is registering, he should be redirected to the *Onboarding Page*.
 - b. On clicking the *continue button* on the *Onboarding Page* the following information should be stored in the firestore under:

users → uid → { currentSnippet, email, isOnboarded, experience, name }
 - c. If the user logs in again after signing out, he should be redirected to the *Rating Page* instead of the *Onboarding Page*
3. User should be registered in google firebase authentication (uid, name and email)
4. The text box displaying the code snippet should transition to the next snippet when the user clicks on a rating
5. Each rating should be updated on firestore under:

ratings → snippet# → user_uid : rating
6. The *Download File button* should download the current snippet on the user's computer.
7. When the user clicks on the *Sign out button* they should be redirected to the *Login Page*
8. If the user enters an invalid url, they should be directed to the *NotFound Page*.

What should you expect?

Hi Jyotsna!

We need some information before you can continue.

How much programming experience do you have?

0-1 years

1-3 years

3-5 years

5 years

Continue

Onboarding Page

| | | |
|------------------------------|--------------------------------|------------------------------|
| 🏠 > users > JdT92PI2N3h3c... | | |
| re3-fb | users | JdT92PI2N3h3ciDKUrrbReMGXnE3 |
| + Start collection | + Add document | + Start collection |
| ratings | 1XZSwqit2HbWrKPD38tA67xBcsX2 | + Add field |
| users > | EScz3T0DtdMXpjtTBLw0uMExuXn2 | currentSnippet: 1 |
| | JdT92PI2N3h3ciDKUrrbReMGXnE3 > | email: "jyotsnap@bu.edu" |
| | Qyz2dJpvpl0grx15EDmtgnWrX1c2 | experience: "3-5 years" |
| | ZUrW24W4IsNazns61HmdWZG8TVz2 | isOnboarded: true |
| | | name: "Jyotsna Penumaka" |

User Info is stored on Firestore after Onboarding

Download File Sign out

How would you rate the readability of this code?

```

1 # Regression test for funnel plot asymmetry (as reported in Section SI.6)
2 regtest(memodel)
3
4 ### Regression Models for Studies in the United States (Section SI.8) ###
5
6 # Subset data to just studies in the U.S.
7 usdat <- subset(dat, country=="US")
8
9 # Reproduce the overall response rate (0.536) for studies in the U.S. as reported in the supporting information (Section SI.8)
10 usremodel<- rma(treat.effect, sei=standard.err, data = usdat)
11 summary(usremodel)
12
13 # Reorder minority.sender variable with Non-minority as baseline
14 usdat$minority.sender <- as.factor(usdat$minority.sender)
15 usdat$minority.sender <- relevel(usdat$minority.sender, ref="Non-minority")
16

```

Dashboard (Rating snippets page)

| | | |
|--|--|--|
| <div> <div>re3-fb</div> <div>ratings</div> <div>snippet1</div> </div> | | |
| <div> <div>+ Start collection</div> <div>ratings</div> <div>users</div> </div> | <div> <div>+ Add document</div> <div>snippet1</div> <div> <div>snippet10</div> <div>snippet11</div> <div>snippet12</div> <div>snippet13</div> <div>snippet14</div> <div>snippet15</div> <div>snippet16</div> </div> </div> | <div> <div>+ Start collection</div> <div>+ Add field</div> <div> <div>07HUNduaUUeGEPLyKIVpyh3Dpy02: 6</div> <div>1XZSwqit2HbWrKPD38tA67xBcsX2: 9</div> <div>EScz3T0DtdMXpjtBLw0uMExuXn2: 6</div> <div>JdT92P12N3h3ciDKUrrbReMGXnE3: 5</div> <div>04W2ocCAQ7NzxhnThdeCj6vd6Bm1: 3</div> <div>QeaaAkysuKehPxoF0a9T4UB7JZz2: 10</div> <div>0vz2dJvnl0qv15EDvtaWvY1e2: 2</div> </div> </div> |

Rating is stored on Firestore after user finishes rating a snippet