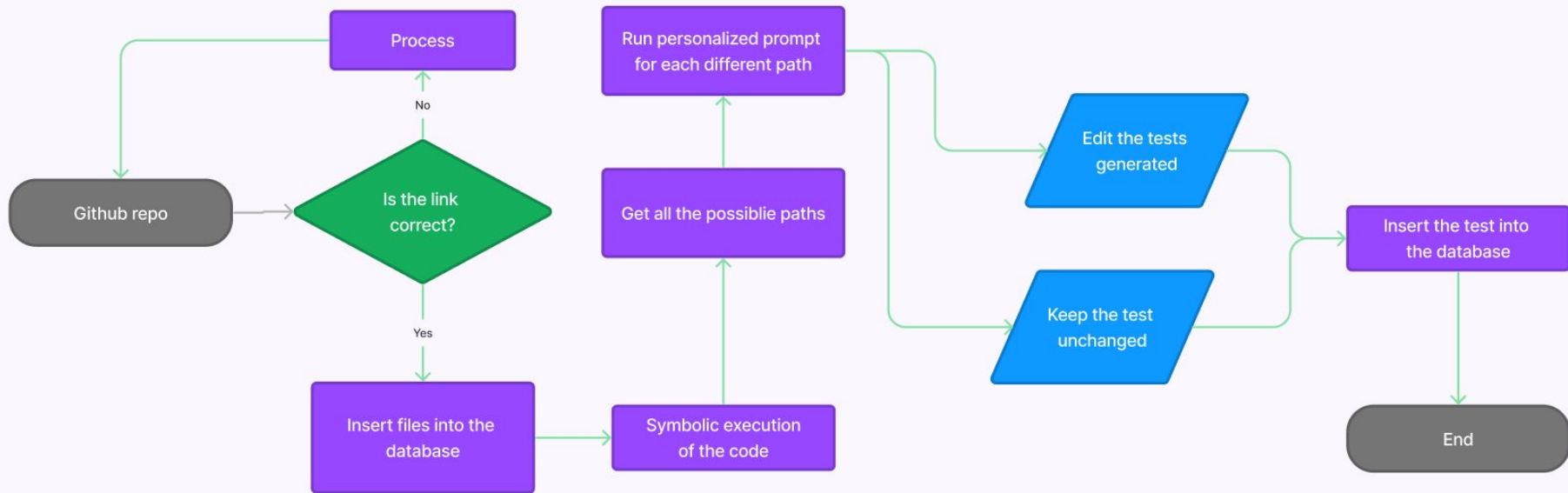


Smart test generation

C. Daniel, P. Soare, M. Andrei, J.Claudiu

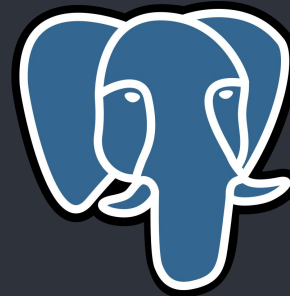
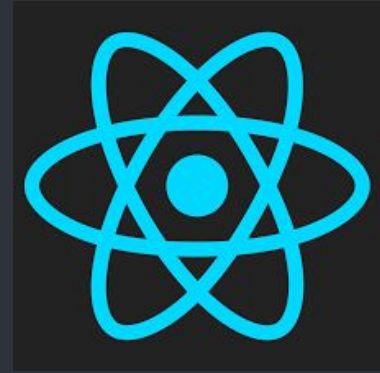
}

1



14

Tech stack



```
1 01 {  
2  
3
```

```
4  
5 [Symbolic execution  
6 python]  
7  
8
```

```
9  
10 [Automatic test running]  
11  
12
```

```
13 }  
14
```

Why it helps; {

'Abstract Syntax Tree', 'Semantic Behaviour'

```
x = 1.5  
y = 1  
if x == 1:  
    y = 2  
else:  
    y += x
```

Deadended elements:

Path number: 1

x = 1.5

y = 1

if x == 1:

Completed:

Path number: 1

x = 1.5

y = 1

if x == 1:

y += x

More complex example; {

```
10  def test(x,y):
11      return x + y
12
13  x = 0
14  z = 0
15  while x < 5:
16      y = 0
17      while y < 3:
18          z += test(x,y)
19          y += 1
20      x += 1
21
22  z = z
```

No. of deadended elements: 26
No. of completed elements: 1

}

What about the 'database?' {

The screenshot shows the Genezio dashboard for a project named 'smart-test-generation'. The left sidebar contains navigation links for Projects, Databases, Documentation, Join Discord, and Support. The main content area displays project details and a section for linking a database.

PROJECT INFORMATION

Project: smart-test-generation Test Project Authentication Collaboration Actions

Environment: prod
Region: eu-west-2
Created: Apr 13, 2024 at 2:38 PM
Updated: Apr 14, 2024 at 8:02 AM

Database Integration

Link a Database

Choose Database

Link Database

Linked Databases

#	Database Name	Database Region	Database Type	URL
1	smart-test-generation	aws-eu-central-1	postgres-neon	Connect

What about the 'database?' {

The screenshot shows a database management tool with a sidebar on the left and a main table area. The sidebar has a search bar and a list of items: 'Functions', 'Tables', 'doctrine_m...n_versions', 'project' (highlighted with a red box), 'project_files' (highlighted with a red box), and 'project_prompts'. The main table area displays a table with columns: 'id', 'project_id', 'name', 'file_path', 'test_file', 'testable', 'created_at', and 'extens'. The table contains 20 rows of data, each representing a project file. The first row is: 168, 123, robots.txt, /Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d..., NULL, TRUE, 2024-0..., txt. The last row is: 190, 123, bundle, /Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d..., NULL, TRUE, 2024-0..., EMPTY. At the bottom of the table, it says '1 of 433 rows selected'.

project				project_files			
id	project_id	name	file_path	test_file	testable	created_at	extens
168	123	robots.txt	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	txt
169	123	README.md	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	md
170	123	application_mailer.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
171	123	skill_category.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
172	123	application_record.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
173	123	skill.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
174	123	application_job.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
175	123	skills_controller.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
176	123	application_controller.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
177	123	mailer.html.erb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	erb
178	123	mailer.text.erb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	erb
179	123	connection.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
180	123	channel.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
181	123	skill_test.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
182	123	skill_category_test.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
183	123	skills.yml	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	yml
184	123	skill_categories.yml	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	yml
185	123	test_helper.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
186	123	skills_controller_test.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
187	123	connection_test.rb	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	rb
188	123	rake	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	EMPTY
189	123	setup	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	EMPTY
190	123	bundle	/Users/webmarmureanu/PROJECTS/smart_unit_tests_api/var/projects/123/TES+nou+cu+id+d...	NULL	TRUE	2024-0...	EMPTY


```
1
2
3   Thank{
4
5
6   you!;
7
8   |
9
10
11  }
12
13
14
```