



**Școala
informală
de IT**

Test Report

Project Name: Pinterest

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App description

Pinterest is a social site where you can collect and share images of anything you find interesting. You can also visually discover new interests by browsing the collections of other **Pinterest users**.

Pinterest consists mainly of "pins" and "boards". A pin is an image that has been linked from a website or uploaded. Users can follow and unfollow other users as well as boards, which would fill the "home feed".

Why this application?

The reason why I chose to test this application is because I've been using it since I was young, and I've been a fan of it ever since. So I was curious if, as someone who really enjoys it, I could think of some improvements, or even to see if, with the knowledge that I now have, I could find some bugs in the app.

What was tested?

During this project, I chose to test the following functionalities: login, search, post, save, messaging, notifications, boards, pins.

1.1. Test Environment

Link to all environments:

- **GitHub** – The main purpose of GitHub.com is to facilitate the version control and issue tracking aspects of software development. Labels, milestones, responsibility assignment, and a search engine are available for issue tracking. For version control, Git (and by extension GitHub.com) allows pull requests to propose changes to the source code.

(<https://github.com/CarlaHotico/testaresoftware.git>)

- **Cypress** - Cypress is a JavaScript test automation solution for web applications. It enables teams to create web test automation scripts. This solution aims to enable frontend developers and test automation engineers to write web tests in the de-facto web language that is JavaScript.

(<https://www.cypress.io/>)

- **Postman** - Postman is a popular API client that makes it easy for developers to create, share, test and document APIs. This is done by allowing users to create and save simple and complex HTTP/s requests, as well as read their responses. The result - more efficient and less tedious work. (<https://www.postman.com/>)



- **TestLink** - Test-link is most widely used web based open source test management tool. It synchronizes both requirements specification and test specification together. User can create test project and document test cases using this tool. (<https://testlink.scoalainformala.ro/login.php>)

- **Chrome Dev Tools** - Chrome DevTools is a set of web developer tools built directly into the Google Chrome browser. DevTools can help you edit pages on-the-fly and diagnose problems quickly, which ultimately helps you build better websites, faster.

- **Lighthouse** - Lighthouse is an open-source, automated tool for improving the quality of web pages. You can run it against any web page, public or requiring authentication. It has audits for performance, accessibility, progressive web apps, SEO and more. You can run Lighthouse in Chrome DevTools, from the command line, or as a Node module.

For UI tests I used Cypress framework using JavaScript code.
For API test and performance I used the Postman tool.

Test Environment	Software Details	Comments
Production	Browsers: Chrome, Edge, Explorer	
	Mobile: Chrome, Internet Samsung	
	OS: Windows 10.0.19041.572, Android 10	
	Devices: Laptop, Mobile	DevTool app for mobile
		- Mobile app + mobile Web



1.2. Test Specification

Equivalence partition and boundary values applied for specified functionalities:

Functionality	Boundary	Equivalence part	
Search bar	0,1,∞	C1:0 – not valid C2:1-∞ - valid	Cannot search without any character Any char number between 1 and ∞ allowed
Username	0,1,∞	C1:0 – not valid C2:1-∞ - valid	Field cannot be empty Any char number between 1 and ∞ allowed
Password	0,1,∞	C1:0 – not valid C2:1-∞ - valid	Field cannot be empty Any char number between 1 and ∞ allowed

Mind Maps

Links to both Mind Maps:

Initial web app Mind Map:

<https://github.com/CarlaHotico/testaresoftware/blob/master/Pinterest%20-%20initial%20mindmap.xmind>

Test specification Mind Map:

<https://github.com/CarlaHotico/testaresoftware/blob/master/Pinterest%20test%20specification.xmind>



1.3. Test Case ID for manual tests	Description
TM-QA08-356	Create account
TM-QA08-516	Create another account with the same email
TM-QA08-382	Edit profile
TM-QA08-272	Login valid username+password
TM-QA08-343	Login valid username+ invalid password
TM-QA08-344	Login invalid username+ valid password
TM-QA08-345	Login invalid username+ invalid password
TM-QA08-509	Login with no input
TM-QA08-279	Save picture
TM-QA08-286	Download photo
TM-QA08-287	Create board
TM-QA08-377	Edit board
TM-QA08-351	Follow new account
TM-QA08-371	Write message



TM-QA08-552	Show notifications for new messages
TM-QA08-373	Show notifications while in mobile app
TM-QA08-391	Show notifications on the website
TM-QA08-374	Receive notifications by email
TM-QA08-378	Receive push notifications
TM-QA08-370	Autocomplete forms
TM-QA08-379	Field validation
TM-QA08-381	Optional and mandatory fields
TM-QA08-365	Search bar-valid
TM-QA08-367	Search-random string of characters
TM-QA08-393	Search bar-empty
TM-QA08-395	Min number of characters
TM-QA08-397	Search bar with numbers
TM-QA08-420	Suggestions
TM-QA08-611	Misspelled word recognition
TM-QA08-376	Share board



TM-QA08-549	Share pin
TM-QA08-392	Upload new picture- web application
TM-QA08-553	Upload new picture- mobile application
TM-QA08-291	Delete board
TM-QA08-277	Logout
TM-QA08-551	End-to-end test : Log in -> Log out
TM-QA08-282	Responsive design test
TM-QA08-511	Mobile browser-Chrome
TM-QA08-512	Mobile browser-Internet Samsung
TM-QA08-515	Mobile application
TM-QA08-348	Browser-Explorer
TM-QA08-346	Browser-Chrome
TM-QA08-347	Browser-Edge
TM-QA08-357	Email account validation
TM-QA08-510	Password is hidden
TM-QA08-612	Fake email address



TM-QA08-385	Response time - Postman
TM-QA08-384	Lighthouse report

1.4. Automated tests Cypress

From the 49 total manual tests, I have automated 16 tests (about 30%), focusing on these functionalities:

- Log in
- Search
- Board
- End to end

1.5. API Tests

API testing is a type of software testing that involves testing application programming interfaces (APIs) directly and as part of integration testing to determine if they meet expectations for functionality, reliability, performance, and security. API testing is used to determine whether APIs return the correct response (in the expected format) for a broad range of feasible requests, react properly to edge cases such as failures and unexpected/extreme inputs, deliver responses in an acceptable amount of time, and respond securely to potential security attacks.

Smoke tests:

Smoke testing is preliminary testing to reveal simple failures severe enough to, for example, reject a prospective software release. Smoke tests are a subset of test cases that cover the most important functionality of a component or system, used to aid assessment of whether main functions of the software appear to work correctly.

End to end tests:

End-to-end testing is a Software testing methodology to test an application flow from start to end. The purpose of End to end testing is to simulate the real user scenario and validate the system under test and its components for integration and data integrity.



2.1. Executed Manual Test Cases

Functionality	Total	Pass	Failed	Blocked	Not Run	Defects
Account	3	3	0	0	0	
Login	5	5	0	0	0	
Save pin	1	1	0	0	0	
Pic download	1	1	0	0	0	
Board	3	3	0	0	0	
Follow	1	1	0	0	0	
Inbox	2	2	0	0	0	
Notifications	4	3	1	0	0	Notifications by email were a bit slow; these came a few hours late
Forms	3	3	0	0	0	
Search	8	7	1	0	0	
Share	2	2	0	0	0	
Upload	2	2	0	0	0	
Log out	1	1	0	0	0	
Smoke test	1	1	0	0	0	
Responsive design test	1	1	0	0	0	
Compatibility	6	5	1	0	0	
Security	3	3	0	0	0	The app allowed me to create an account with an invalid email address, but when tested again, it recognised the 2nd fake email.
Performance	2	1	1	0	0	
TOTAL	49	45	4	0	0	



2.2. Postman API tests

Collection Runner

File Edit View Help

Collection Runner Run Results My Workspace Run In Command Line Docs

14 tests 0 failed Pinterest No Environment just now

Run Summary Export Results Retry New

POST Log In https://ro.pinterest.com/... / Log In 200 OK 224 ms 25.634 KB

Status code is 200

Response time is less than 800ms

OPTIONS Search https://sessions.bugsnap... / Search 200 OK 192 ms 348 B

Status code is 200

Response time is less than 800ms

GET View pin https://ro.pinterest.com/236... / View pin 200 OK 51 ms 13.207 KB

Status code is 200

Response time is less than 800ms

POST Create board https://ro.pinterest.com/... / Create board 200 OK 195 ms 88.778 KB

Status code is 200

Response time is less than 800ms

POST Share pin https://ro.pinterest.com/... / Share pin 200 OK 217 ms 88.767 KB

Status code is 200

Response time is less than 800ms

Console

Type here to search

2:46 PM 18-Nov-20

2.3. Cypress tests

testesoftware

Chrome is being controlled by automated test software.

< Tests 7 34.41

cypress/integration/pinterest/Search.spec.js

Search tests

- ✓ TM-QA08-272:Login
- ✓ TM-QA08-365:Search bar-valid + TM-QA08-420:Suggestions
- ✓ TM-QA08-367:Search-random string of characters
- ✓ TM-QA08-395:Min number of characters
- ✓ TM-QA08-396:Search bar with special characters
- ✓ TM-QA08-397:Search bar with numbers

testesoftware

Chrome is being controlled by automated test software.

< Tests 3 26.02

cypress/integration/pinterest/Board.spec.js

Board tests

- ✓ TM-QA08-272:Login
- ✓ TM-QA08-287:Create board
- ✓ TM-QA08-377:Edit board

testesoftware

Chrome is being controlled by automated test software.

< Tests 5 20.16

cypress/integration/pinterest/End to end.js

End to end test

- ✓ TM-QA08-272:Login
- ✓ TM-QA08-279:Save picture
- ✓ TM-QA08-376:Share board
- ✓ TM-QA08-382>Edit profile
- ✓ TM-QA08-277:Logout

testesoftware

Chrome is being controlled by automated test software.

< Tests 5 03.46

cypress/integration/pinterest/Login.spec.js

Login tests

- ✓ TM-QA08-343:Login valid username+ invalid password
- ✓ TM-QA08-344:Login invalid username+ valid password
- ✓ TM-QA08-345:Login invalid username+ invalid password
- ✓ TM-QA08-509:Login with no input
- End to end test
- ✓ TM-QA08-272:Login

https://ro.pinterest.com/ 1000 x 660 (100%)

Home Following Search

Images of hands with painted nails and a green watering can.

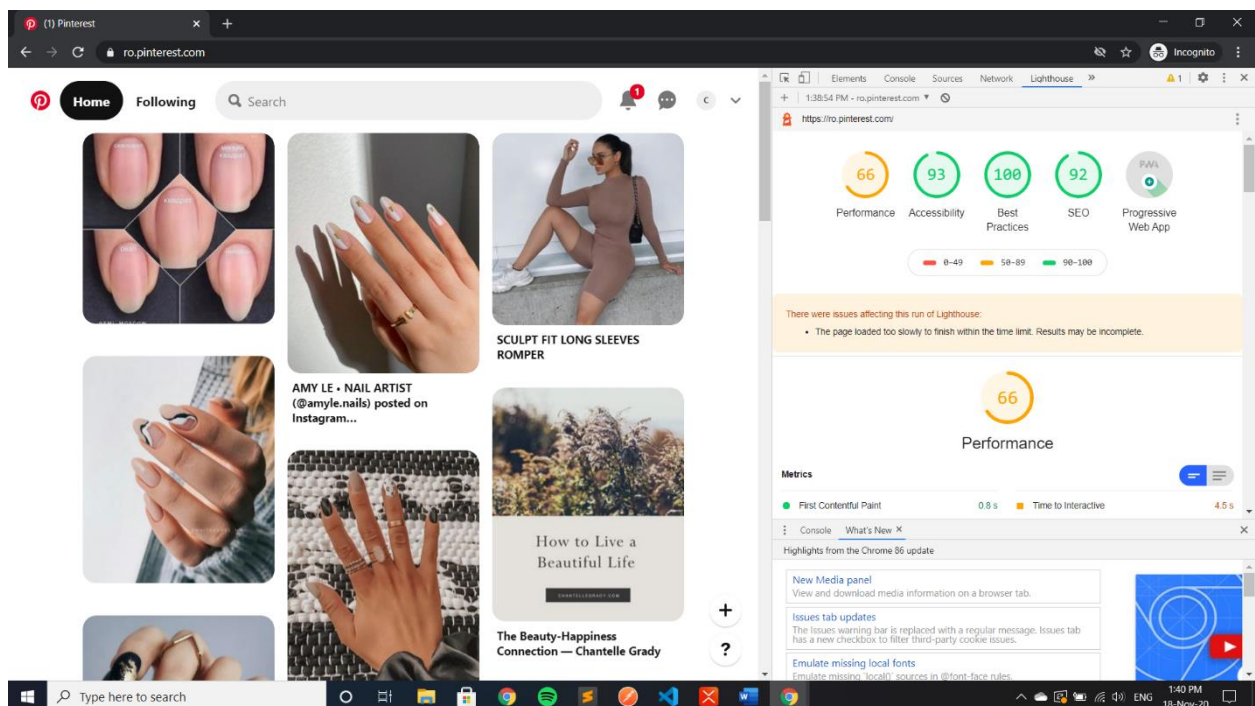


2.4. Lighthouse report

Lighthouse is an open-source, automated tool for improving the performance, quality, and correctness of your web apps.

When auditing a page, Lighthouse runs a barrage of tests against the page, and then generates a report on how well the page did. From here you can use the failing tests as indicators on what you can do to improve your app.

<https://github.com/CarlaHotico/testaesoftware/blob/master/Lighthouse%20report-Pinterest.pdf>



C. Bugs and improvements

3.1. Bugs

Defect ID	Defect summary	Severity
1	Push notifications not working	Moderate
2	Search bar allows special characters	Moderate
3	Internet Explorer – not functional	Moderate
4	Special character and number allowed for fields such as: First Name, Last Name, Location etc.	Moderate



Defect ID	Defect summary	Severity
5	Account validation email-if button is not clicked, the account does not become inactive	Major

3.2. Improvements

Defect ID	Defect summary	Severity
6	Faster email notifications	Major
7	Limited number of characters that are allowed in a field	Moderate
8	Back-to-top button	Minor
9	Add Like button for easier pin saving	Moderate



The testing process was limited due to the lack of requirements, but I was able to test a few key functionalities.

In total I have 49 test cases, all of which have been manually tested. Out of these, I have managed to automate 16, about 30%.

There were 44 manual tests that passed and 4 that failed.

The 16 automated tests all passed.

There are also 14 API tests that passed using the Postman tool.

I have found 5 bugs that have to do with the notifications, validation emails, browser compatibility, text fields for forms that should not allow special characters or numbers, and special character searches. The bug with major severity, the account validation email, should be resolved because it relates to security.

There are 4 improvements:

- notifications by emails that arrive too late;
- text box limits - it is recommended that the number of characters in a text box to be limited to 255 to increase the search processing time;
- a back-to-top button that would make navigating easier for the user;
- a "Like" button that would save your pins quicker.

The test were performed on 2 devices: a laptop with Windows 10 and a Samsung mobile phone with Android. The app was tested on the following browsers on Windows 10: Internet Explorer, Google Chrome, Microsoft Edge. On the mobile phone I tested the mobile application from Google Play as well as the web application on 2 browsers: Internet Samsung and Google Chrome.