

Test Execution Report (Release)

Test Project: PWA- Progressive Web App

Test Plan: Pinterest as a PWA Test Plan

Release: Version 0.0

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Table of Contents

1.1.Universal - Verification

PWA-1: Installation on a Computer

PWA-2: Application Update on a Computer

PWA-3: Uninstallation from a Computer

PWA-4: Installation on Samsung Galaxy A52

PWA-5: Update on Samsung Galaxy A52

PWA-6: Uninstallation on Samsung Galaxy A52

1.2.Security

PWA-7: Verification of TLS Protocol on a Computer Application

1.3.Responsiveness

PWA-8: Page Adaptation to Screen Size

1.4.Connectivity Independence

PWA-9: Offline Mode Verification on a Smartphone

1.5.Performance

PWA-10: Page Load Speed on Browsers

PWA-11: Page Load Speed on a Smartphone

1.6.Reactivity

PWA-12: User Action Response Speed - Computer

PWA-13: User Action Response Speed - Smartphone

1.7.Push Notifications

PWA-14: Push Notification Verification on a Computer

PWA-15: Push Notification Verification on a Smartphone

1.8.Application Icon

PWA-16: Manifest File and Service Worker Verification

Test Project: PWA - Progressive Web App

The project involves creating:

- * a test plan (including assumptions consistent with PWA principles),
- * test cases (each corresponding to one of the main PWA principles),
- * a test execution report for the Pinterest application.

1. ID – PWA

2. Introduction - Pinterest is a visual search engine for ideas like recipes, home decor, fashion inspiration, and more. The application is available at Pinterest. The tests were conducted with an active user account: login - zadanie.drugie.test@interia.pl and password - Testpinterest1!.

3. Tested Elements:

- Installation + update + uninstallation,
- Security
- Responsiveness
- Connectivity independence
- Performance
- Reactivity
- Push notifications
- Application icon.

4. Test Approach – Experience-based testing,

5. Test Tasks – Verification tests for PWA compliance, tests in multiple environments, and preparation of the report.

6. Test Environment:

- Smartphone
- Web browser – Chrome, Firefox, Opera,
- Computer with Windows 10 Pro operating system.

1.1.Test Set : Universal - Verification

Test Case PWA-1: Installation on a Computer

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Navigate to Pinterest in Chrome.2. Log in with: login - zadanie.drugie.test@interia.pl, password - Testpinterest1!3. From the dropdown menu on the right, select "Install Windows app".4. Microsoft Store window appears - click "Install".5. In the window from step 4, click "Open".	Pinterest installed on the computer.
2	<ol style="list-style-type: none">1. Navigate to Pinterest in Firefox.2. Log in with: login - zadanie.drugie.test@interia.pl, password - Testpinterest1!3. From the dropdown menu on the right, select "Install Windows app".4. Microsoft Store window appears - click "Install".5. In the window from step 4, click "Open".	Pinterest installed on the computer.
3	<ol style="list-style-type: none">1. Navigate to Pinterest in Opera.2. Log in with: login - zadanie.drugie.test@interia.pl, password - Testpinterest1!3. From the dropdown menu on the right, select "Install Windows app".4. Microsoft Store window appears - click "Install".5. In the window from step 4, click "Open".	Pinterest installed on the computer.

Execution Result: **Positive**

Test Case PWA-2: Application Update on a Computer

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Launch the Pinterest application on the computer.2. Right-click anywhere on the page and select "Inspect".3. From the top bar, select "Application".4. On the left, select "Service Workers".5. Expand #18 Activate in "Update Cycle".	Confirmation of auto-update via Service Workers.

Execution Result: **Positive**

Test Case PWA-3: Uninstallation from a Computer

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Search for the Pinterest application on the computer.2. Right-click the application and select "Uninstall".3. Search for the Pinterest application again.	Uninstallation of the application along with related information.

Execution Result: **Positive**

Test Case PWA-4: Installation on Samsung Galaxy A52

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Open the Play Store on the smartphone.2. Search for Pinterest.3. Install the application.4. Locate the application on the phone and log in using user credentials.	Installation of Pinterest on the smartphone and successful login.

Execution Result: **Positive**

Test Case PWA-5: Update on Samsung Galaxy A52

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Launch the application on the smartphone.2. Go to "My Profile".3. From the menu on the right, select "Settings".4. Choose "Personalization tool".5. Go to the "Interests" tab.6. Change the interests to different ones.	Upon launching the application on the computer, the new interests (those selected on the smartphone) will be displayed..

Execution Result: **Positive**

Test Case PWA-6: Uninstallation on Samsung Galaxy A52

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Search for the Pinterest application on the smartphone.2. Long press the application icon until the options menu appears.3. Select "Uninstall" and confirm with "OK".4. Go to the Play Store and search for the Pinterest application. The status should indicate "Install".	The application has been uninstalled from the smartphone.

Execution Result: **Positive**

1.2.Test Set: Security

Test Case PWA-7: Verification of TLS Protocol on a Computer Application

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Launch the Pinterest application on the computer.2. Right-click anywhere on the page and select "Inspect".3. From the dropdown menu on the right, select "More tools" and then "Security".4. Click "View certificate".5. Go to the "Details" tab and select "Version" in "Certificate Fields".	Confirmation of application security.

Execution Result: **Positive**

1.3.Test Set: Responsiveness

Test Case PWA-8: Page Adaptation to Screen Size

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Open Firefox and search for "Pinterest".2. Launch the site from the search results.3. Right-click anywhere on the page and select "Inspect".4. Press Ctrl+Shift+M on the keyboard.5. Click "Device" and select Galaxy Note 20.6. Click "Rotate" and then "Rotate" again.7. Go back to step 5 and select iPhone 11 Pro.8. Repeat step 6.9. Go back to step 5 and select "Edit list..." and check 1080p Full HD Television. Exit the window.10. Select the above product.11. Repeat step 6.	The layout and appearance of the page automatically adapt to the size of the device on which it is displayed..

Execution Result: **Positive**

Execution Note: Rotation option works when selecting a television. This function is not realistic in everyday use.

1.4.Test Set: Connectivity Independence

Test Case PWA-9: Offline Mode Verification on a Smartphone

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Open the Chrome browser and type "Pinterest" in the search bar.2. Open the website from the search results.3. Right-click anywhere on the page and select "Inspect".4. Press Ctrl+Shift+M on the keyboard.5. Click on "Dimensions" and select Galaxy S20 Ultra, then click on "No throttling" and choose Offline.6. Scroll to the bottom of the page and then back to the top. Click on any pin, return using the back arrow, select another pin, and click "Save".	The ability to navigate the application when there is no network access..

Execution Result: **Positive**

1.5.Test Set: Performance

Test Case PWA-10: Page Load Speed on Browsers

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Navigate to https://pl.pinterest.com in the Opera browser.2. Right-click anywhere on the page and select "Inspect element".3. From the top menu, select "Performance" and then use the Ctrl+E combination.4. Refresh the browser page and once it reloads, press Stop.5. Verify the page load time.	The page load speed of https://pl.pinterest.com using PWA technology is 5.6 seconds.

Execution Result: **Positive**

Test Case PWA-11: Page Load Speed on a Smartphone

#:	Operation Description:	Expected Results:
1	Launch Android Studio and take measurements on the Pixel 6Pro device.	The page load speed of https://pl.pinterest.com using PWA technology is 5.6 seconds.

Execution Result: **Positive**

1.6.Test Set: Reactivity

Test Case PWA-12: User Action Response Speed - Computer

#:	Operation Description:	Expected Results:
1	1. Navigate to the website https://pl.pinterest.com in the Opera browser.	User action response time: 5.6 seconds
	2. Right-click anywhere on the page and select "Inspect Element."	
	3. From the top menu, select "Performance" and then use the Ctrl+E key combination.	
	4. Select any pin and click on it, wait for 5 seconds, and then click "Save." Afterward, click the back button.	
	5. Verify the time from clicking on the pin until the page loads after going back.	

Execution Result: **Positive**

Test Case PWA-13: User Action Response Speed - Smartphone

#:	Operation Description:	Expected Results:
1	Launch Android Studio and take measurements on the Pixel 6Pro device.	User action response time: 5.6 seconds

Execution Result: **Positive**

1.7.Test Set: Push Notifications

Test Case PWA-14: Push Notification Verification on a Computer

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Launch the application on the computer.2. From the dropdown menu on the right, select "Customize your updates."3. From the left menu, select "Notifications."4. Click "Edit" next to "By push notifications."5. Go to the "Push notifications" tab.6. If the message "Disable for all" is displayed, proceed to the next step. If the message "Enable push notifications" is displayed, click the message and "Save."7. Go to the main page of the application.8. Save any pin.	The application sends a notification about saving the pin.

Execution Result: **Positive**

Test Case PWA-15: Push Notification Verification on a Smartphone

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">1. Open the app on your smartphone.2. Go to the first icon from the right.3. From the menu on the right side, select "Settings."4. Go to "Notifications."5. Go to "Push Notifications."6. If you see the message "Turn off all," proceed to the next step. If you see the message "Turn on push notifications," click on it and select "Save."7. Go to the main page of the app.8. Save any pin.	The application sends a notification about saving the pin.

Execution Result: **Positive**

1.8. Test Set: Application Icon

Test Case PWA-16: Manifest File and Service Worker Verification

#:	Operation Description:	Expected Results:
1	<ol style="list-style-type: none">Open the Pinterest application on your computer.Right-click anywhere on the page and select "Inspect."From the top menu bar, select "Application."From the left menu, select "Manifest" and click on "manifest.json" in the window.From the left menu, select "Service Workers" and click on "sw.js" in the window.	Verification of the manifest.json file and Service Workers.

Execution Result: **Positive**

Conclusions:

The total time for test planning, execution of test cases, and report creation was approximately 6 hours. During the testing of the Pinterest application, it was observed that after installation, the application occupies minimal space on the device, approximately 2MB.

While generating the Lighthouse report, differences were noticed between browsers, as shown in attachment 1.

The website <https://pl.pinterest.com> is built using Progressive Web App (PWA) technology, meeting the minimum requirements, including a manifest.json file, service worker, having an icon that displays correctly on various devices, and maintaining an encrypted connection. Analyzing attachment 1, optimization of parameters could be undertaken to ensure full compliance of the application with PWA technology.

Attachment no. 1

