

# Rauf Denktaş

# University

Course: CMSE 326

A SOFTWARE QUALITY ASSURANCE & TESTING

Group number: 9

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Lab Coordinator: Nada KOLLAH

Group Member: Zeynep Pelin ÇOLAK

# OUTLINE

- INTRODUCTION
- PROJECT MANAGEMENT PLAN
- INFORMATION ABOUT THE WEB SITE
- TESTING STRATEGY
- DISCUSSION ON TEST RESULTS
- DISCUSSION on THE QUALITY of THE WEB SITES AND SUGGESTED
- CONCLUSION
- REFERENCES

# Introduction

Overall, the website of the Rauf Denktas University appears to be well-designed and informative. The homepage is visually appealing and provides quick access to important sections of the site, such as the academic programs, admissions process, and campus life. The navigation menu is well-organized and easy to use, making it simple to find the information you are looking for.



# Project Management

Tasks	Task Distribution	Name
Test Plan Preparation	Team Leader	Zeynep Pelin Çolak
Creation of Test Cases and Test Data	Tema Leader & QA Engineers	Zeynep Pelin Çolak
Execution of Test Studies	QA Engineers	Zeynep Pelin Çolak
Analysis of Test Results	QA Engineers	Zeynep Pelin Çolak
Bug Fixes	QA Engineers & Web Developers	Zeynep Pelin Çolak

# Timeline & Meeting

## First Meeting

Objective: Test plan preparation.

Agenda: Test plan preparation process, identification of test scenarios and test data, reporting process, work distribution.

Outcome: The first draft of the test plan will be prepared, each team member's responsibilities

## Second Meeting

Objective: Creation of test scenarios and test data.

Agenda: Identification of test scenarios and test data, necessary steps for applying test scenarios.

Outcome: Test scenarios and test data will be created, a shared understanding of test scenarios and test data will be established among team members.

## Third Meeting

Objective: Execution of the test work.

Agenda: Implementation of test scenarios, recording of results.

Outcome: Test work will be completed, results will be recorded, possible errors will be reported.

## Fourth Meeting

Objective: Analysis of test results.

Agenda: Analysis of test results, identification of possible errors, error correction process.

Outcome: Test results will be analyzed, errors will be identified, errors will be corrected, and the test will be repeated.

## Fifth Meeting

Objective: Reporting of test results and final delivery.

Agenda: Reporting of results, final delivery.

Outcome: Test results will be reported, final delivery will be made, and the project will be completed.

# INFORMATION ABOUT THE WEB SITE



[Home](#) [About RDU](#) [Academic](#) [Current Student](#) [Prospective Student](#) [Online Services](#) [Contact](#)

## 2021-2022 Academic Year Graduation Ceremony



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[www.rdu.edu.tr](http://www.rdu.edu.tr)



Admission and Enrollment Criteria



Tuition Fees and Scholarships



University Life



Online Services

# INFORMATION ABOUT THE WEB SITE

## News

[Read All News](#)



17/06/2022

Project Competition at Rauf Denktaş University



10/06/2022

RDU Acknowledged the Success of their  
Football Team



09/06/2022

Prof. Dr. Cem Tanova At Rauf Denktaş  
University



**Rauf Raif Denktaş**

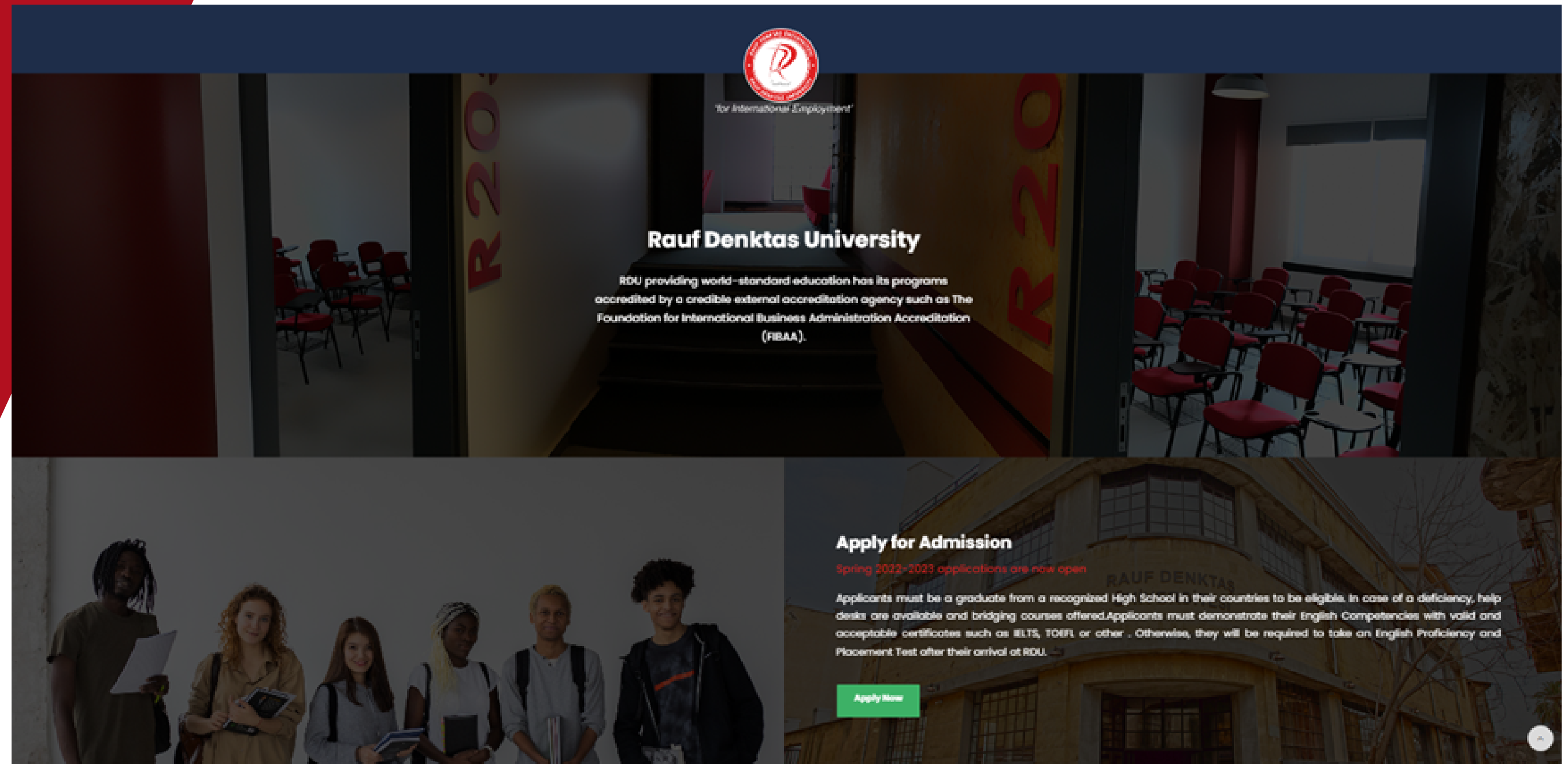
Founding President of the TRNC, Mr. Rauf Raif Denktaş

Rauf Raif Denktaş (1924-2012) was a prominent Turkish Cypriot politician and the founding president of the Turkish Republic of Northern Cyprus (TRNC).

Born in Paphos, Cyprus, Denktaş studied law in the United Kingdom and became a lawyer in 1947. He returned to Cyprus the same year to establish his own law firm. He was a co-founder of the Turkish Resistance Organization during the 1950s and played an active role in the Turkish Cypriot community's struggle for political rights and self-determination.



# INFORMATION ABOUT THE WEB SITE





# TESTING STRATEGY

Test Type	Description	Tools Used
Functional Tests	Verification of system requirements	Selenium
Performance Tests	Measuring system performance	Wordpage.test
Security Tests	Evaluation of system security	OWASP ZAP
Mobile Compatibility Tests	Tests on different platforms and browsers	Google Search Console
Speed Test	Evaluate the responsiveness of system performance	PageSpeed Insights

# TESTING DETAILS

Performance Test  
webpagetest.org

URL: <https://rdu.edu.tr/> DATE: 13.04.2023 17:45:02

## Webpage Performance Test Result

SETTINGS: MOTO G4 v112 4G Virginia USA Share

View: **Performance Summary** Tools: **Export** **Re-Run Test**

### Performance Summary

#### Is It Quick?

**Not bad...** This site took little time to connect and deliver initial code. It began rendering content with little delay. There were 38 render-blocking requests. The largest content rendered later than ideal.

Opportunities 9 Tips 9 Pro Experiments 16

#### Is It Usable?

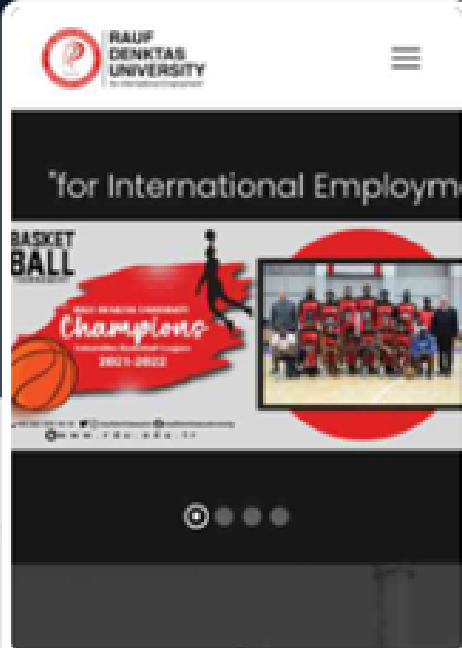
**Needs Improvement.** This site had major layout shifts. It took a long time to become interactive. It had 2 accessibility issues, none serious. Some HTML was generated after delivery, potentially delaying usability.

Opportunities 3 Tips 3 Pro Experiments 3

#### Is It Resilient?

**Not bad...** This site had many render-blocking 3rd party requests that could be a single point of failure. It had no security issues. Some HTML was generated after delivery, which can cause fragility.

Opportunities 2 Tips 2 Pro Experiments 8



# TESTING DETAILS

Performance Test  
webpagetest.org

## Page Performance Metrics

(Based on Median Run by: [Speed Index](#))

[Note:](#) Metric availability will vary.

First View (Run 2)

Time to First Byte

**1.121s**

When did the content start downloading?

Start Render

**2.600s**

When did pixels first start to appear?

First Contentful Paint

**2.614s**

How soon did text and images start to appear?

Speed Index

**8.326s**

How soon did the page appear usable?

Largest Contentful Paint

**15.279s**

When did the largest visible content finish loading?

Cumulative Layout Shift

**.852**

How much did the design shift while loading?

Total Blocking Time

**2.896s**

How long was content blocked from user input?

Page Weight

**13,002 KB**

How many bytes were downloaded?

Visual Page Loading Process ([Explore](#))



[Compare First Views](#)

[Plot Full Results](#)

## Real-World Usage Metrics

Compare this WebPageTest run with browser-collected performance data for this site.

(Collected anonymously by Chrome browser from March 15, 2023 to April 11, 2023 | [Full Report](#))

First Contentful Paint (FCP)

**2.90s (Fair)**

At 75th percentile of visits.



.28s worse than this WPT test run's first view (2.61s). [Why?](#)

Largest Contentful Paint (LCP)

**4.78s (Poor)**

At 75th percentile of visits.



10.50s better than this WPT test run's first view (15.28s). [Why?](#)

Cumulative Layout Shift (CLS)

**0.86 (Poor)**

At 75th percentile of visits.



0.008 worse than this WPT test run's first view (0.852). [Why?](#)

Time to First Byte (TTFB)

**1.83s (Poor)**

At 75th percentile of visits.



.71s worse than this WPT test run's first view (1.12s). [Why?](#)

Interaction to Next Paint (INP)

**.19s (Good)**

At 75th percentile of visits.

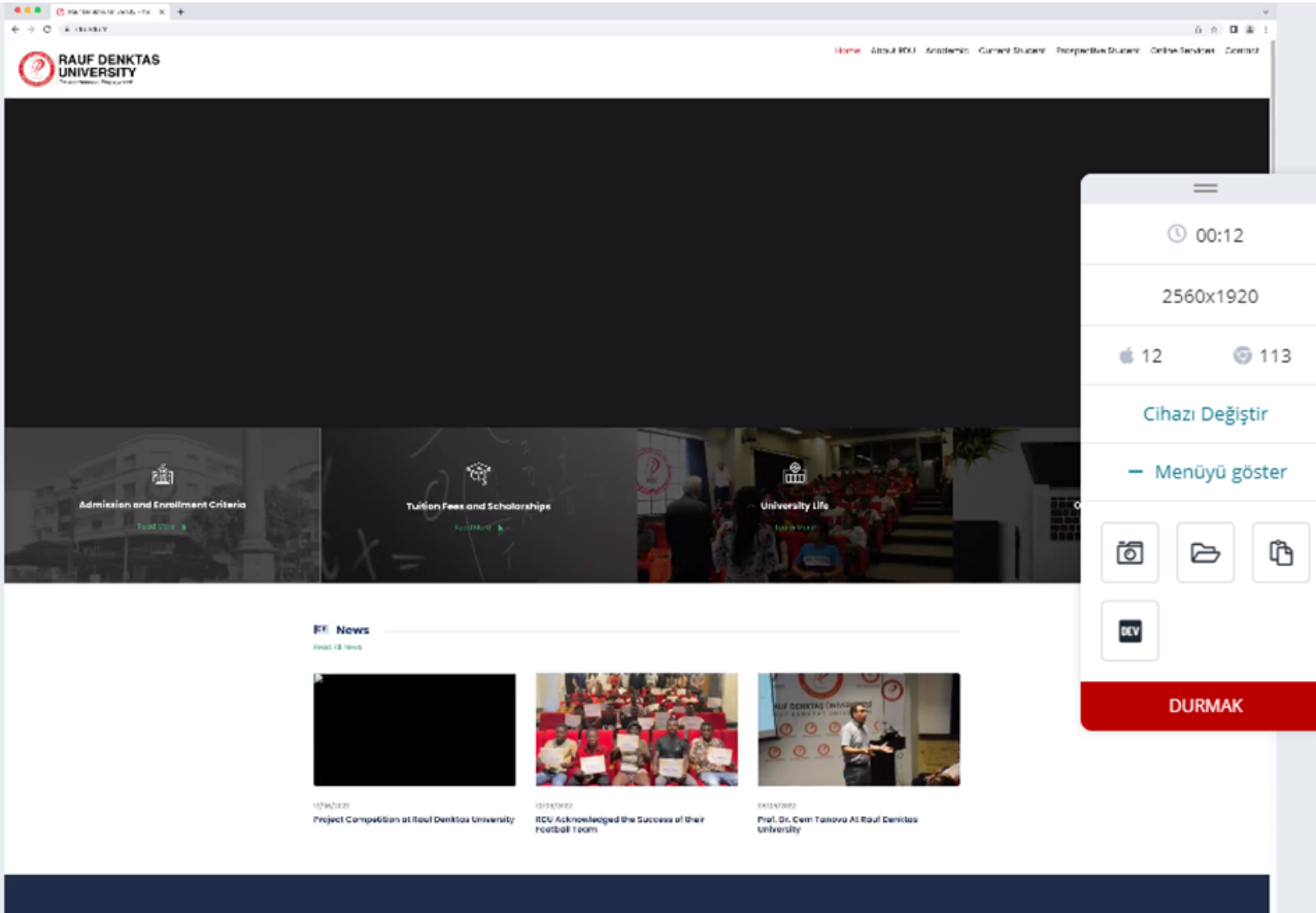


Field metric only, no WPT test run data.

# TESTING DETAILS

Browser  
Compatibility Test

BrowserStack



## Browser Compatibility Test Results (BrowserStack):

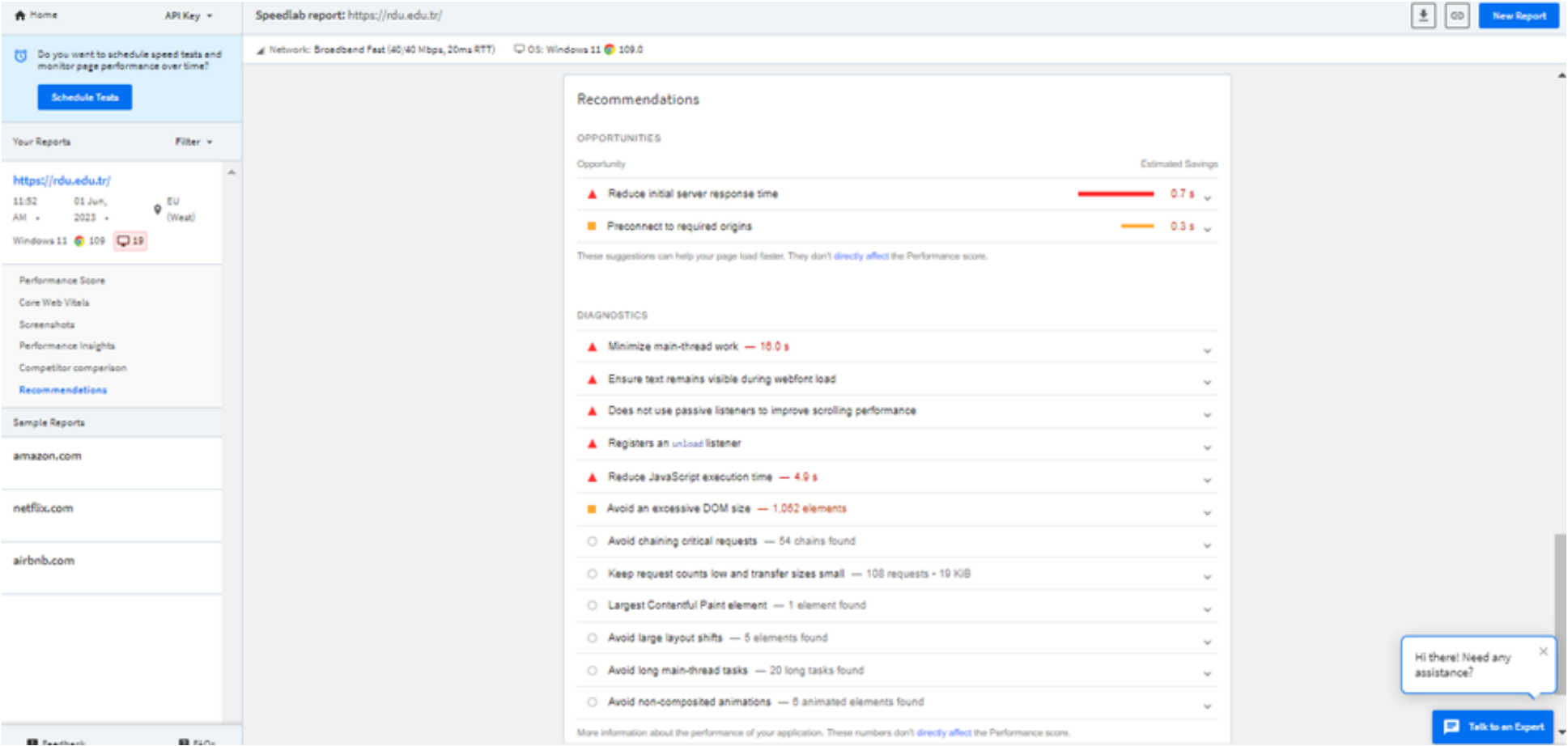
Browser: Internet Explorer 11

Version: 11.0  
Compatibility: Passed  
Browser: Google Chrome

Version: 94.0  
Compatibility: Passed  
Browser: Mozilla Firefox

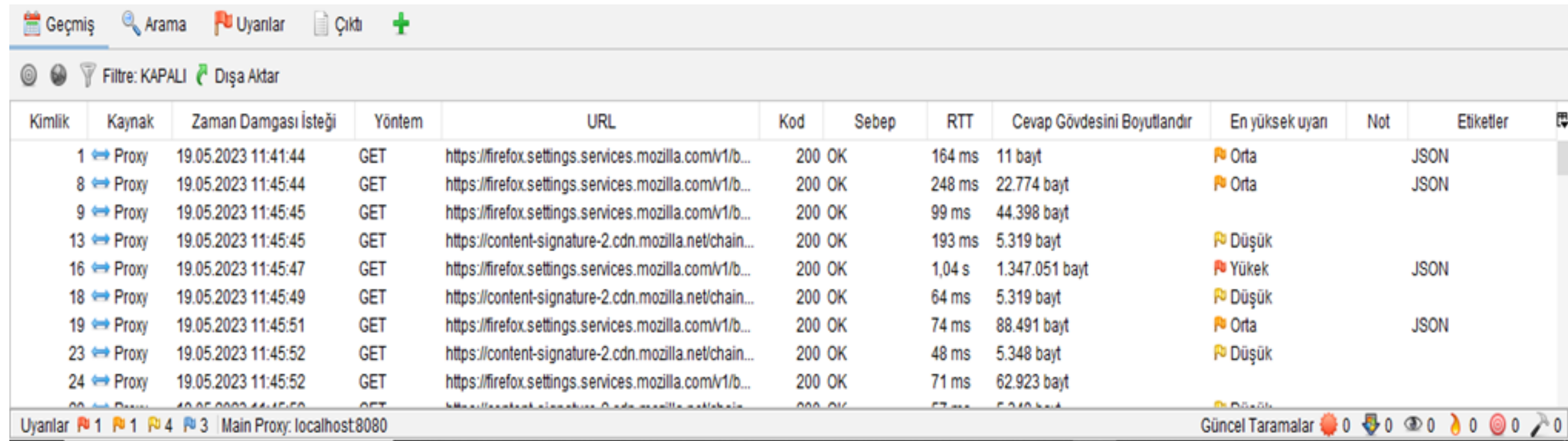
Version: 92.0  
Compatibility: Passed  
Browser: Apple Safari

Version: 15.0  
Compatibility: Passed  
Browser: Microsoft Edge



# Security Test

# Owasp Zap





# TESTING DETAILS

Speed Test

PageSpeed Insights



Önemli Web Verileri Değerlendirmesi: **Başarısız Oldu**

Görünümü daralt

## Largest Contentful Paint (LCP)

3,8 sn.

Sayfa Yükleme

İyi (≤ 2,5 sn.)	%58
İyileştirme gerekli (2,5 sn. - 4 sn.)	%19
Kötü (> 4 sn.)	%23

75. Yüzdelik Dilim - 3,8 sn.

Core Web Vital

## First Input Delay (FID)

3 ms.

Sayfa Yükleme

İyi (≤ 100 ms.)	%99
İyileştirme gerekli (100 ms. - 300 ms.)	%1
Kötü (> 300 ms.)	%0

75. Yüzdelik Dilim - 3 ms.

Core Web Vital

## Cumulative Layout Shift (CLS)

0,02

Sayfa Yükleme

İyi (≤ 0,1)	%80
İyileştirme gerekli (0,1 - 0,25)	%0
Kötü (> 0,25)	%19

75. Yüzdelik Dilim - 0,02

Core Web Vital

## DİKKATE DEĞER DİĞER METRİKLER

## First Contentful Paint (FCP)

2,1 sn.

Sayfa Yükleme

İyi (≤ 1,8 sn.)	%71
İyileştirme gerekli (1,8 sn. - 3 sn.)	%19
Kötü (> 3 sn.)	%10

75. Yüzdelik Dilim - 2,1 sn.

## Interaction to Next Paint (INP)

52 ms.

Sayfa Yükleme

İyi (≤ 200 ms.)	%98
İyileştirme gerekli (200 ms. - 500 ms.)	%2
Kötü (> 500 ms.)	%1

75. Yüzdelik Dilim - 52 ms.

Pending Core Web Vital

## Time to First Byte (TTFB)

1,2 sn.

Sayfa Yükleme

İyi (≤ 0,8 sn.)	%42
İyileştirme gerekli (0,8 sn. - 1,8 sn.)	%49
Kötü (> 1,8 sn.)	%8

75. Yüzdelik Dilim - 1,2 sn.

Deneyisel

Son 28 günlük veri toplama dönemi

Farklı masaüstü cihazlar

Birçok örnek (Chrome Kullanıcı Deneyimi)

# TESTING DETAILS

Functional Test

Selenium

Selenium IDE - rdu*			
Project: rdu*			
Tests ▾	+	▶ ▶ ⌂ ⌚ ▾	
Search tests...	🔍	https://rdu.edu.tr	
rdu*		Command	Target   Value
	7	select window	handle=\${root}
	8	click	css=.kingster-top-bar-background
	9	click	linkText=About RDU
	10	click	linkText=Founding President
	11	click	linkText=Academic
	12	click	linkText=Academic Calendar
	13	click	linkText=Current Student

Selenium IDE - rdu*			
Project: rdu*			
Tests ▾	+	▶ ▶ ⌂ ⌚ ▾	
Search tests...	🔍	https://rdu.edu.tr	
rdu*		Command	Target   Value
	14	click	css=.gdlr-core-pbf-column:nth-child(2) .gdlr-core-image-overlay
	15	click	css=.gdlr-core-pbf-column:nth-child(3) .gdlr-core-image-overlay
	16	click	linkText=Prospective Student
	17	click	css=.gdlr-core-pbf-column:nth-child(3) .gdlr-core-image-overlay
	18	click	css=.gdlr-core-content
	19	select window	handle=\${win6056}
	20	close	

# Discussion on Test Results

In the tests conducted by BrowserStack, it has been observed that the Rauf Denktaş University website ....

In tests using Webpagetest.org, it was determined that the Rauf Denktaş University website ....

In terms of usability, it has been observed that there are major layout changes on the website ....

In terms of flexibility, there are many 3rd party requests blocking requests on the website





# DISCUSSION on THE QUALITY of THE WEB SITES AND SUGGESTED

Errors and solutions found on the Rauf Denktaş  
University website:  
Performance Improvements  
Usability Improvements  
Browser Compatibility



In conclusion, while the Rauf Denktaş University website demonstrates compatibility, security, and acceptable performance, there are areas that need attention. ...

# CONCLUSION

# REFERENCES

[1] Selenium: <https://www.selenium.dev/>

[6] WCAG: <https://www.w3.org/WAI/standards-guidelines/wcag/>

[7] Google Lighthouse:

<https://developers.google.com/web/tools/lighthouse>

[9] BrowserStack: <https://www.browserstack.com/>

[10] Sauce Labs: <https://saucelabs.com/>

[11] <https://tr.myservername.com/web-application-testing-complete-guide>

[12]

<https://www.venusajans.com/haberler/1/haberler/1008/hazirlattiginiz-web-sitesinin-kalitesini-nasil-anlarsiniz.aspx>

[13] <https://sherpa.blog/sozluk/kalite-kontrol-quality-assurance-qa-testleri>

[14]

<https://support.google.com/webmasters/answer/9012289?hl=tr>

**Thank you  
Listening  
and  
Wacthing!**