Secure Chatting Program

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Outline

1. Tools / Frameworks
2. Development Method
3. Flow of the Program
4. Testing procedures
5. Target Audience

Our Github Link

Tools & Frameworks

First of all we have used for Development

M. MongoDB
E. Express
R. React
N. NodeJs

(Mongoose, Socket.io, Scrypt, Axios)

Testing

Google Lighthouse, Cypress, Cypress-Chrome-Reader

Tools & Frameworks

Non Functional

Google Lighthouse

1.Overall Performance
2.Accessibility

3.Best Practices

4.SEO (Search Engine Optimization Advices)

5.PWA (Progressive Web Application)

Functional

-Cypress

1.Record Keystrokes

2.Implement Scenarios

3.Test Features

4.Get Results

Development Method

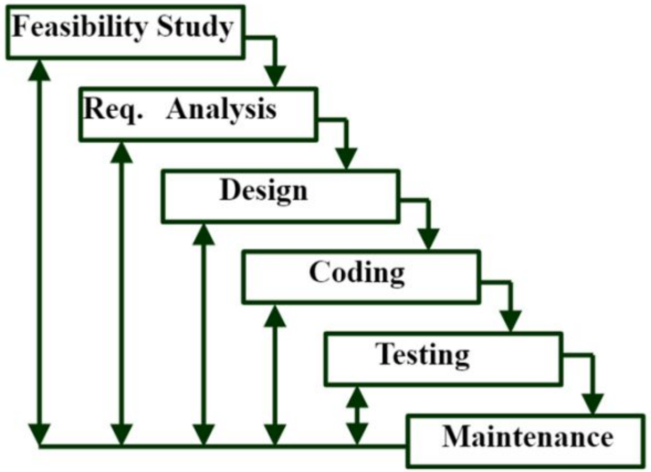
Iterative Waterfall

-Creating Accurate applications.

-Providing a less buggy experience.

-Repeating and refining features.

-Beneficial for a small team like us



Development Method

METHODOLOGY

We developed our project using the Waterfall Iterative methodology. The reason we chose this methodology was to finish coding quickly after the analysis and design phase, and to be able to easily return to the coding phase in case of errors when we test.

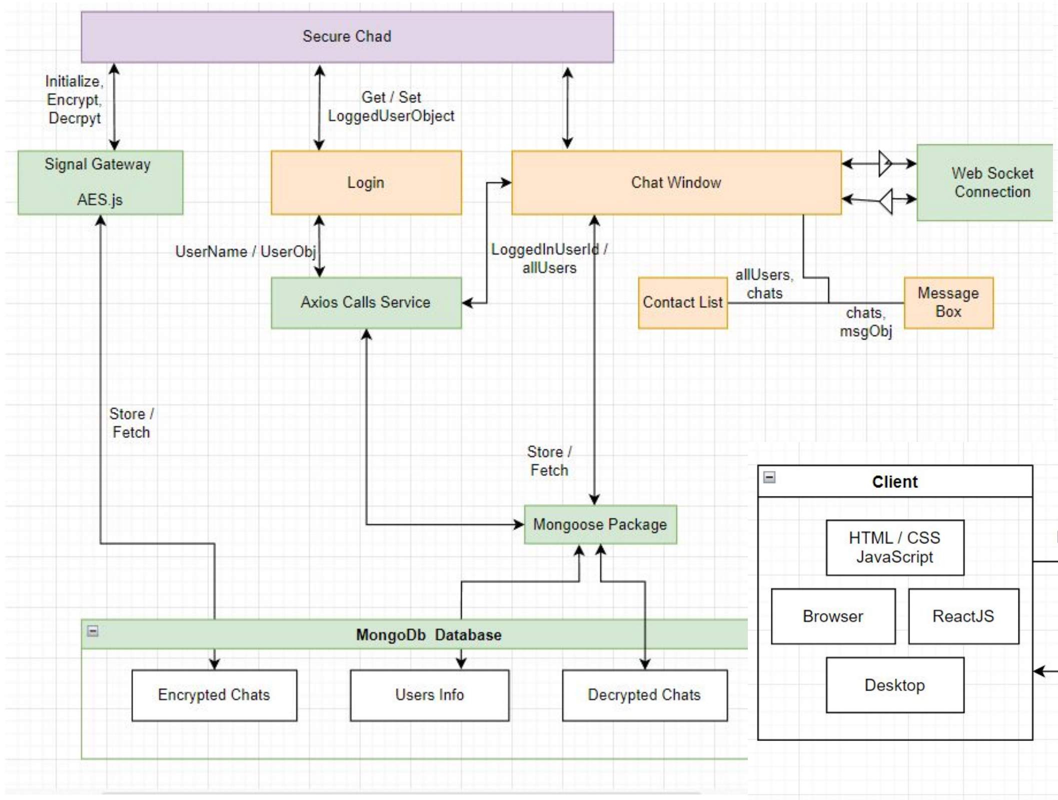
PLANNING -> ANALYSIS -> DESIGN -> REALIZATION (CODING) -> DEPLOYMENT -> MAINTENANCE

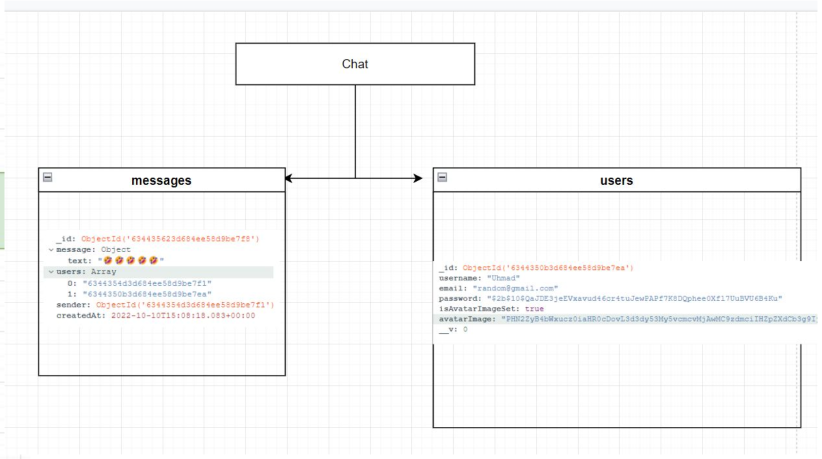
ORGANIZATION

On the project organization side, everyone is aware of the overall functioning of the system and has authority over it. In the analysis and planning part we have identified three main parts: the connection and functioning of the system with the database, the communication and message management between users, and finally the security part based on encryption and decryption.

AXIOS, MONGODB, GENERAL OPERATION -> Ahmet
SOCKET.IO, EXPRESS, GENERAL OPERATION -> Emre
AES ENCRYPTION AND DECRYPTION, GENERAL PROCEDURE -> ŞÜKRÜ

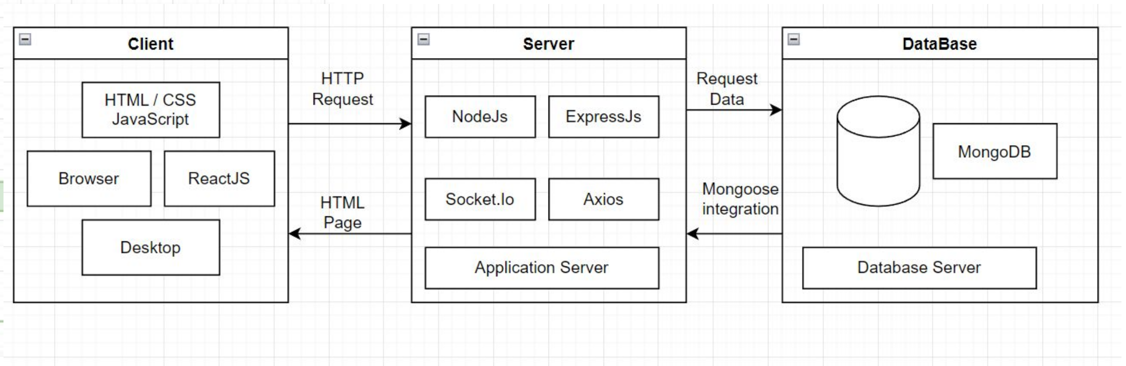
Flow Of the Program





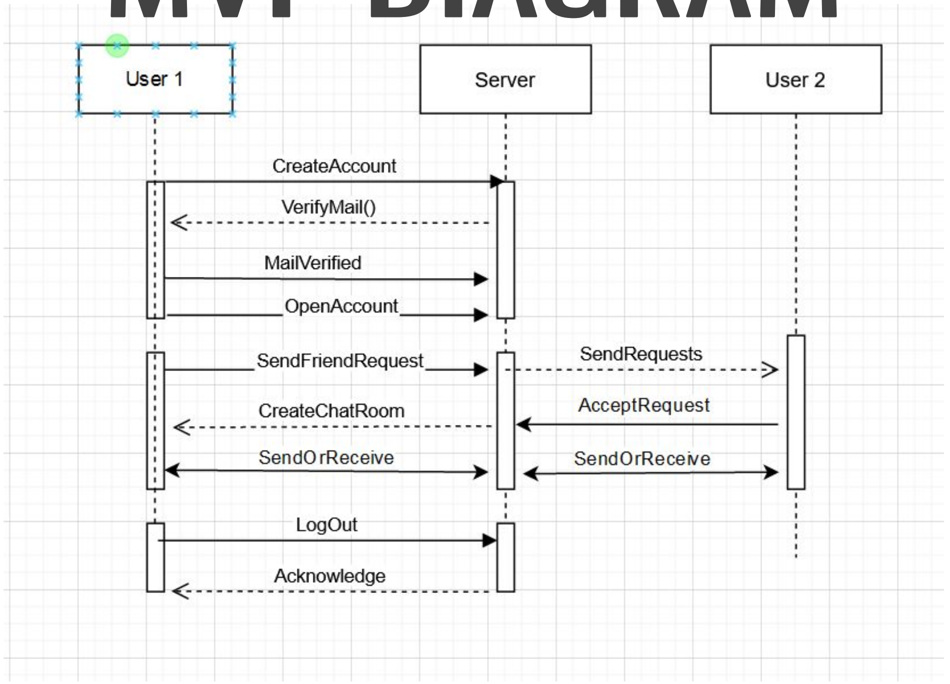
```
_id: ObjectId('634435623d684ee58d9be7f8')
⌄ message: Object
    text: "🤣🤣🤣🤣🤣"
⌄ users: Array
    0: "6344354d3d684ee58d9be7f1"
    1: "6344350b3d684ee58d9be7ea"
  sender: ObjectId('6344354d3d684ee58d9be7f1')
  createdAt: 2022-10-10T15:08:18.083+00:00
```

```
_id: ObjectId('6344350b3d684ee58d9be7ea')
username: "Uhmad"
email: "random@gmail.com"
password: "$2b$10$QaJDE3jeEVxavud46cr4tuJewPAPf7K8DQphee0Xf17UuBVU6B4Ku"
isAvatarImageSet: true
avatarImage: "PHN2ZyB4bWxucz0iaHR0cDovL3d3dy53My5vcmcvMjAwMC9zdmciIHZpZXdCb3g9I
__v: 0
```



Flow Of the Program

MVP DIAGRAM



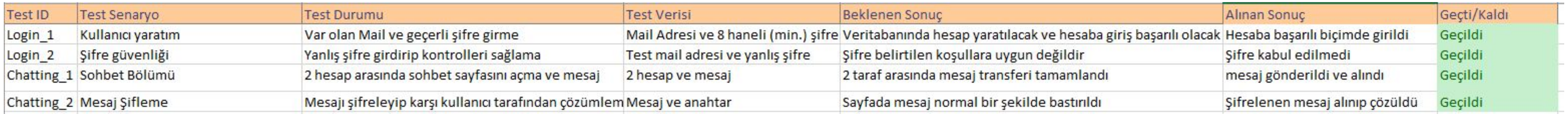
Testing Procedures

Non Functional

Our non-functional testing was done in Google's platform called “Lighthouse” . This platform recorded our MERN stack app’s performance on various categories and gave an overall score as well as the let downs of our code and gave insight about how to fix said issues

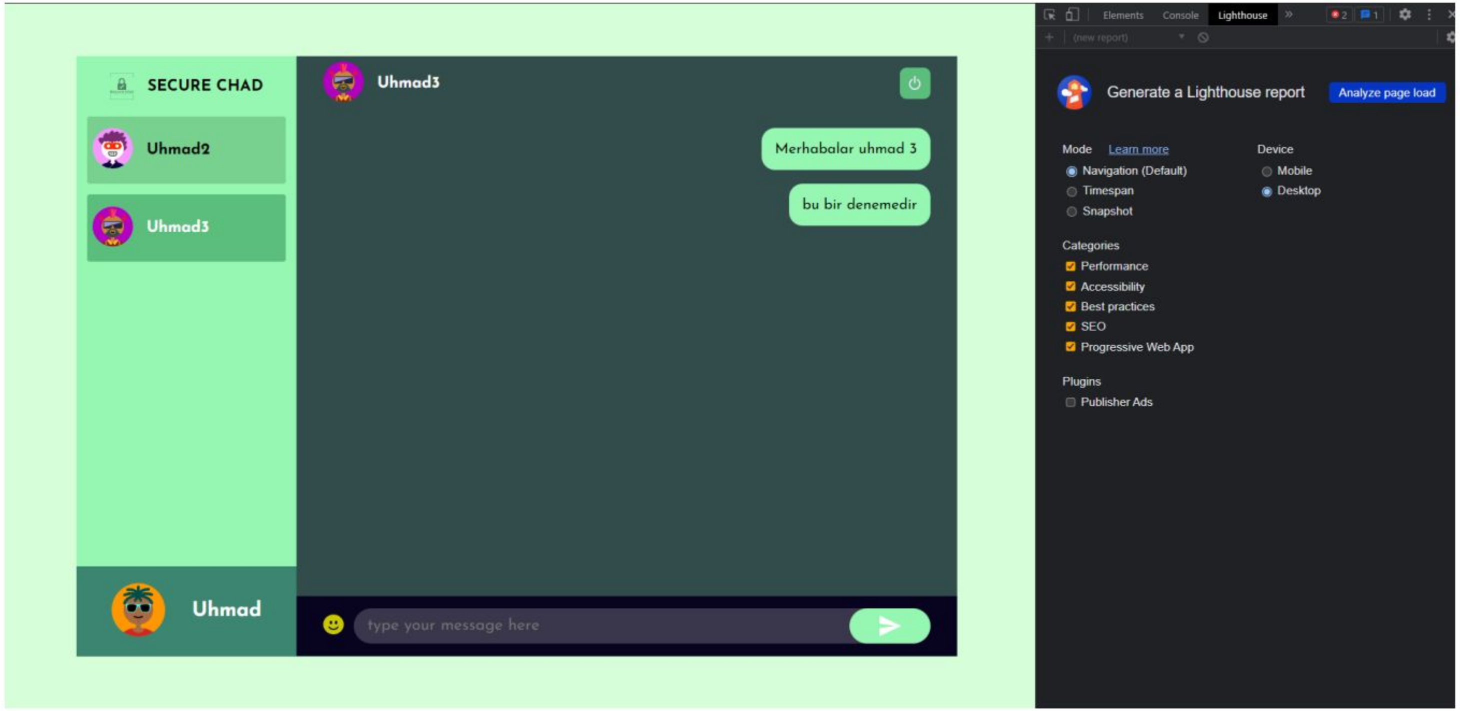
Functional

Our functional test begins. First of all we used Google Chrome’s Record functionality to record keystrokes and clicks on the webpage so we can export a json file in order to integrate with the Cypress software. We are also using a package called Cypress-Chrome-Recorder on github this essentially gets the export from the chromes json file and converts the file to cypress format to use it in our testing.



Test ID	Test Senaryo	Test Durumu	Test Verisi	Beklenen Sonuç	Alınan Sonuç	Geçti/Kaldı
Login_1	Kullanıcı yaratım	Var olan Mail ve geçerli şifre girme	Mail Adresi ve 8 haneli (min.) şifre	Veritabanında hesap yaratılacak ve hesaba giriş başarılı olacak	Hesaba başarılı biçimde girildi	Geçildi
Login_2	Şifre güvenliği	Yanlış şifre girdirip kontrolleri sağlama	Test mail adresi ve yanlış şifre	Şifre belirtilen koşullara uygun değildir	Şifre kabul edilmedi	Geçildi
Chatting_1	Sohbet Bölümü	2 hesap arasında sohbet sayfasını açma ve mesaj	2 hesap ve mesaj	2 taraf arasında mesaj transferi tamamlandı	mesaj gönderildi ve alındı	Geçildi
Chatting_2	Mesaj Şifleme	Mesajı şifreleyip karşı kullanıcı tarafından çözümlem	Mesaj ve anahtar	Sayfada mesaj normal bir şekilde bastırıldı	Şifrelenen mesaj alınıp çözüldü	Geçildi

Testing Procedures (Lighthouse [Nonfunctional])



Merhabalar uhmad 3

bu bir denemedir

Generate a Lighthouse report

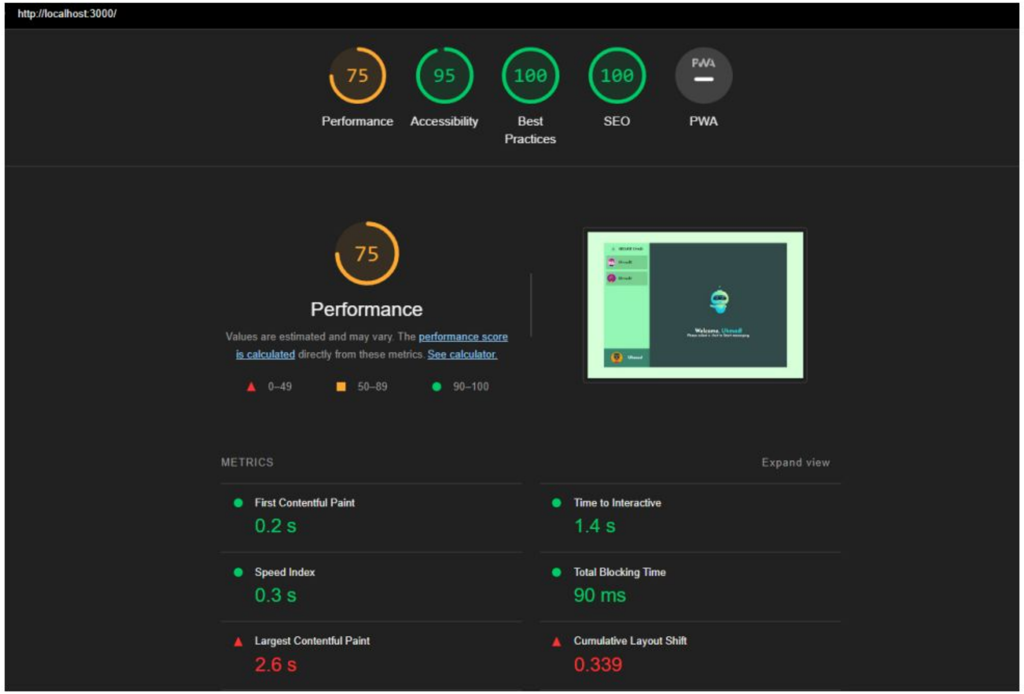
Mode
- [✓ Navigation (Default)]
- Timespan
- Snapshot

Device
- Mobile
- [✓ Desktop]

Categories
- [✓] Performance
- [✓] Accessibility
- [✓] Best practices
- [✓] SEO
- [✓] Progressive Web App

Plugins
- [ ] Publisher Ads

Testing Procedures (Lighthouse [Nonfunctional])


http://localhost:3000/

75 Performance

95 Accessibility

100 Best Practices

100 SEO

PWA

75

Performance

Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.

▲ 0–49 ■ 50–89 ● 90–100

METRICS Expand view

● First Contentful Paint
0.2 s

● Time to Interactive
1.4 s

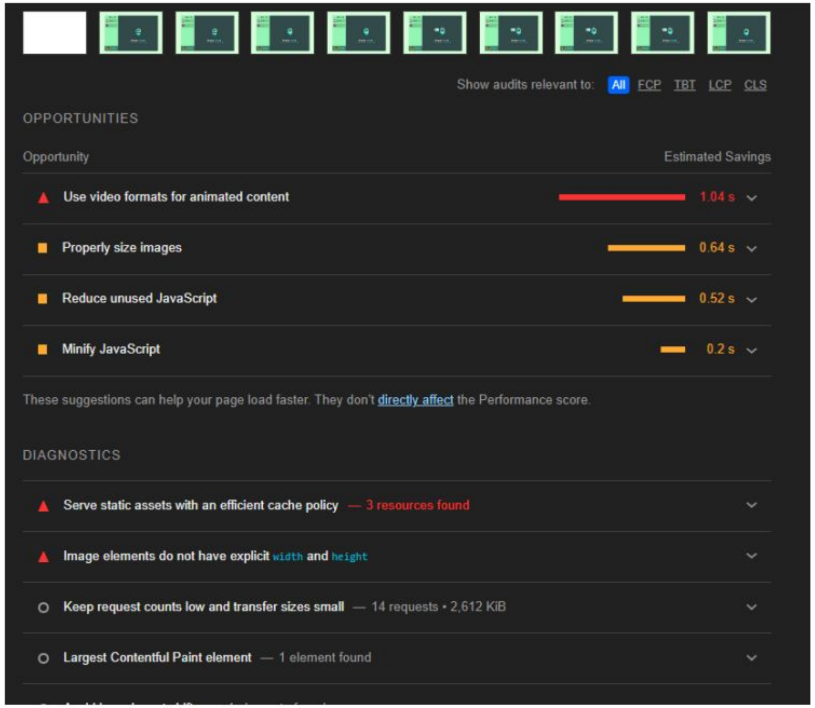
● Speed Index
0.3 s

● Total Blocking Time
90 ms

▲ Largest Contentful Paint
2.6 s

▲ Cumulative Layout Shift
0.339

Testing Procedures (Lighthouse [Nonfunctional])



Show audits relevant to: All FCP TBT LCP CLS

OPPORTUNITIES

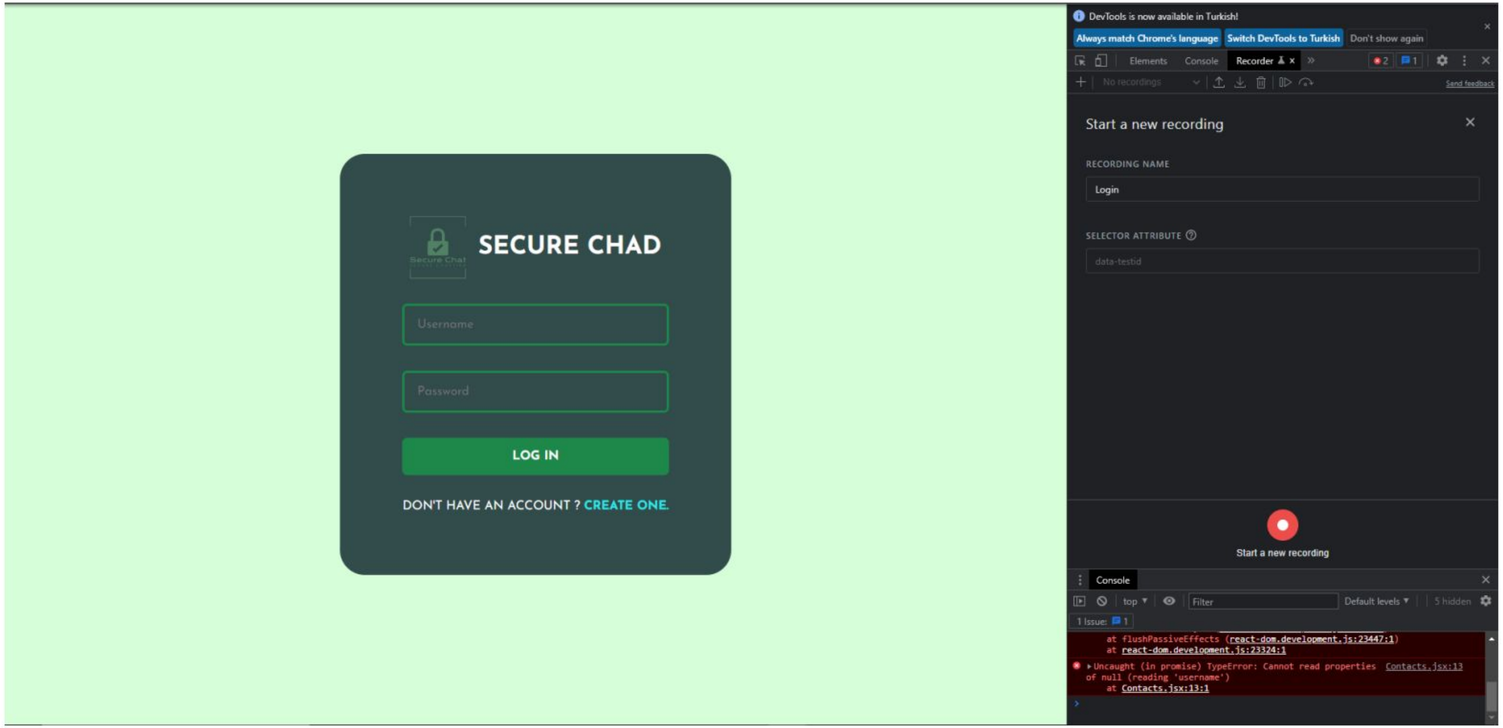
Opportunity	Estimated Savings
▲ Use video formats for animated content	1.04 s
■ Properly size images	0.64 s
■ Reduce unused JavaScript	0.52 s
■ Minify JavaScript	0.2 s

These suggestions can help your page load faster. They don't directly affect the Performance score.

DIAGNOSTICS

- ▲ Serve static assets with an efficient cache policy — 3 resources found
- ▲ Image elements do not have explicit `width` and `height`
- ○ Keep request counts low and transfer sizes small — 14 requests • 2,612 KiB
- ○ Largest Contentful Paint element — 1 element found

Testing Procedures (Cypress [Functional])

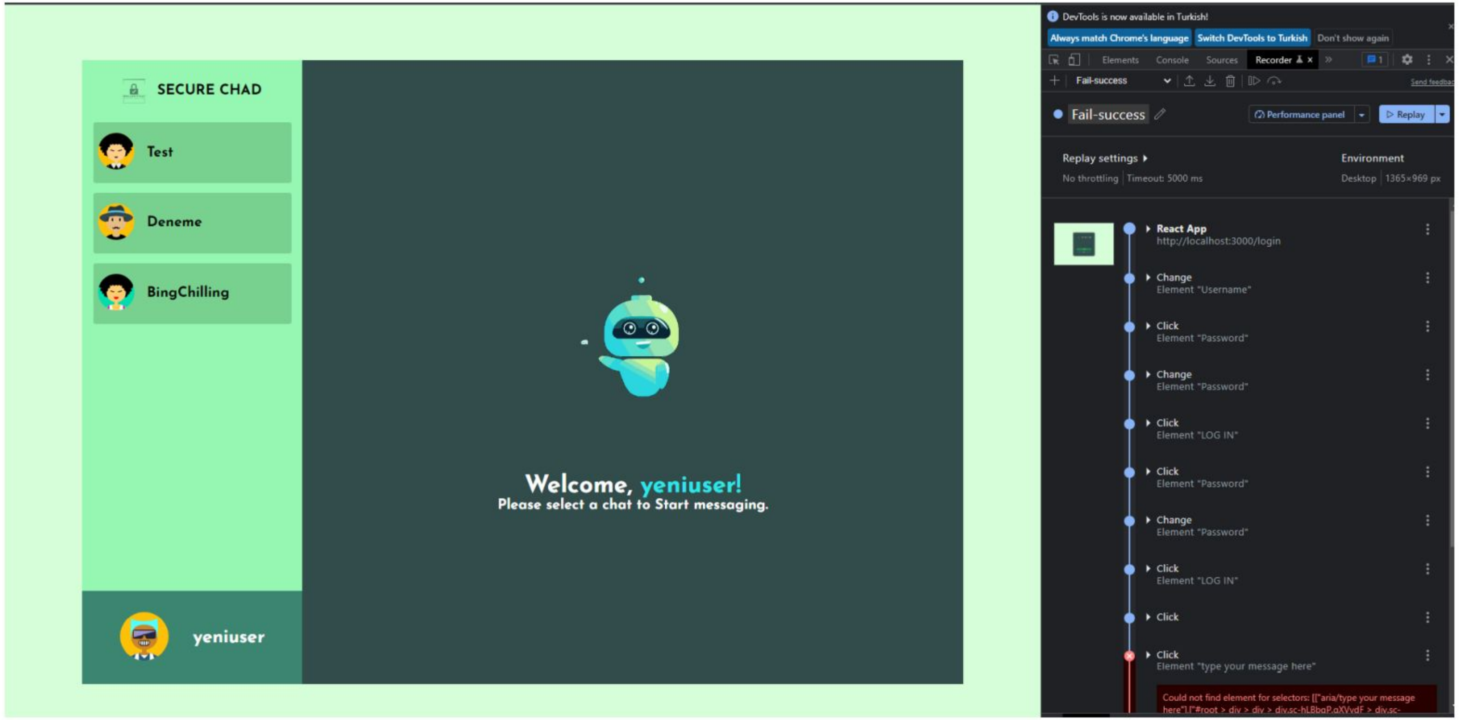


RECORDING NAME: Login

SELECTOR ATTRIBUTE: data-testid

```
    at flushPassiveEffects (react-dom.development.js:23447:1)
    at react-dom.development.js:23324:1
▸Uncaught (in promise) TypeError: Cannot read properties   Contacts.jsx:13
of null (reading 'username')
    at Contacts.jsx:13:1
```

Testing Procedures (Cypress [Functional])



Fail-success

Replay settings
No throttling | Timeout: 5000 ms

Environment
Desktop | 1365×969 px

React App
http://localhost:3000/login

Change
Element "Username"

Click
Element "Password"

Change
Element "Password"

Click
Element "LOG IN"

Click
Element "Password"

Change
Element "Password"

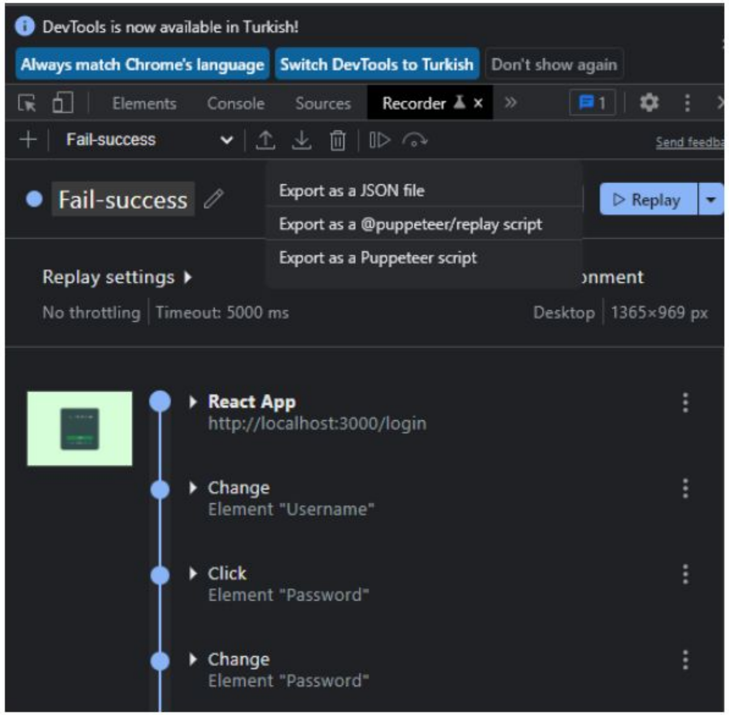
Click
Element "LOG IN"

Click

Click
Element "type your message here"

```
Could not find element for selectors: [["aria/type your message
here"],["#root > div > div > div.sc-hLBbgP.gXVvdF > div.sc-
```

Testing Procedures (Cypress [Functional])


DevTools is now available in Turkish!

Always match Chrome's language | Switch DevTools to Turkish | Don't show again

Elements | Console | Sources | Recorder

Fail-success

Send feedba

Fail-success

Export as a JSON file

Export as a @puppeteer/replay script

Export as a Puppeteer script

Replay

Replay settings

No throttling | Timeout: 5000 ms

onment

Desktop | 1365×969 px

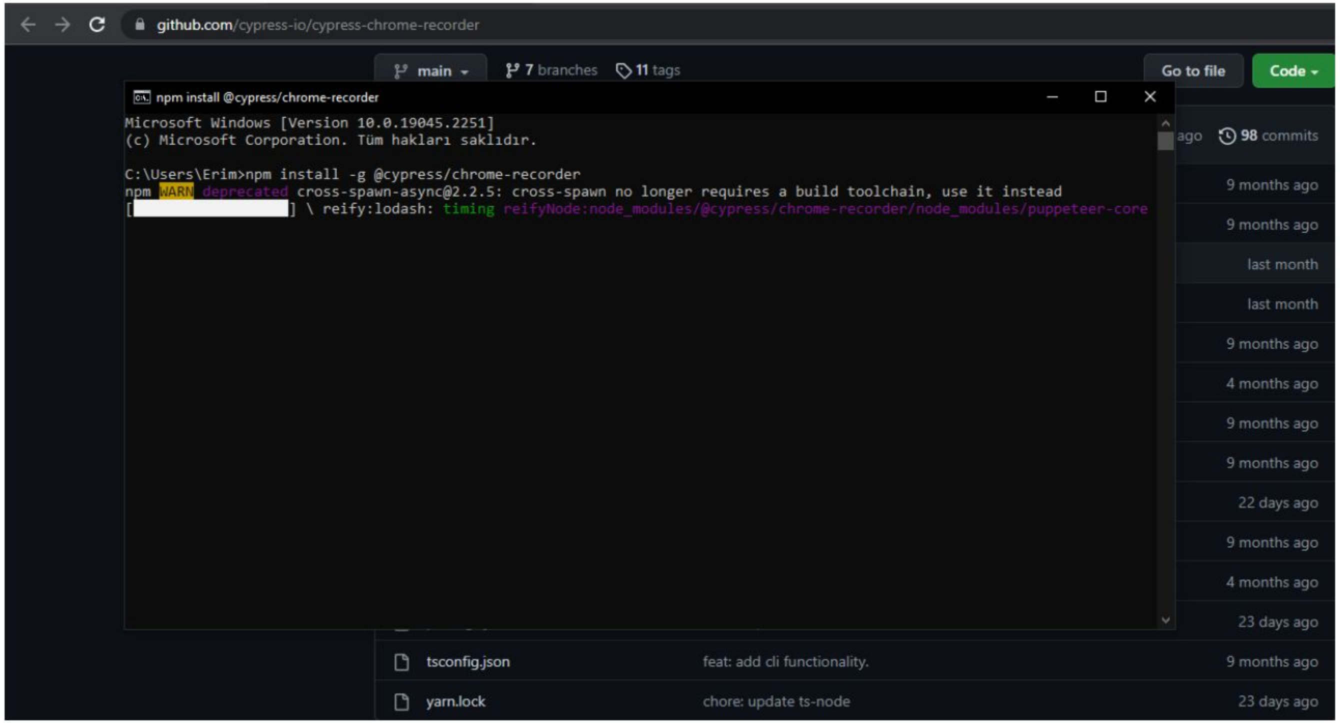
React App
http://localhost:3000/login

Change
Element "Username"

Click
Element "Password"

Change
Element "Password"

Testing Procedures (Cypress [Functional])

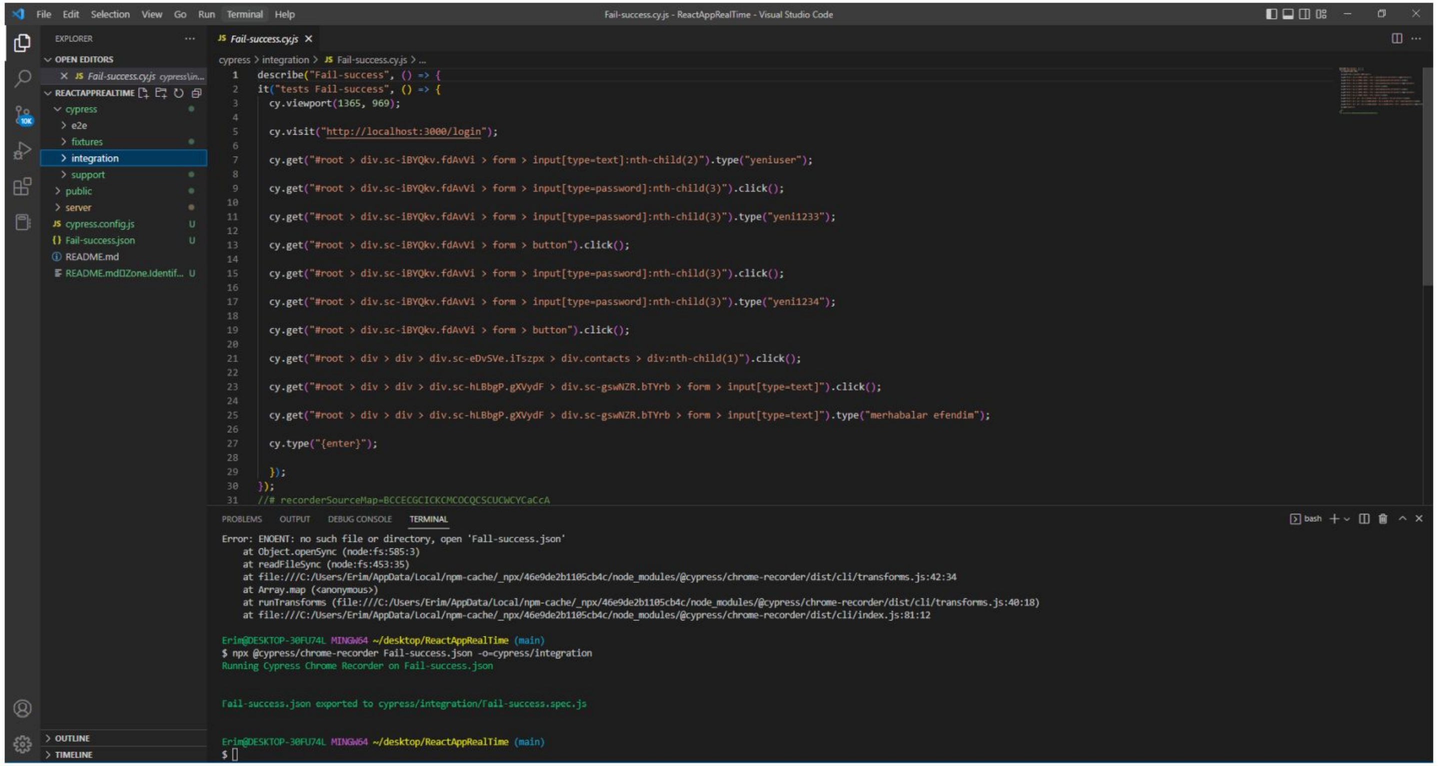


github.com/cypress-io/cypress-chrome-recorder
main
7 branches
11 tags
Go to file
Code
98 commits
npm install @cypress/chrome-recorder

```
Microsoft Windows [Version 10.0.19045.2251]
(c) Microsoft Corporation. Tüm hakları saklıdır.

C:\Users\Erim>npm install -g @cypress/chrome-recorder
npm WARN deprecated cross-spawn-async@2.2.5: cross-spawn no longer requires a build toolchain, use it instead
[                  ] \ reify:lodash: timing reifyNode:node_modules/@cypress/chrome-recorder/node_modules/puppeteer-core
```

		ago
		9 months ago
		9 months ago
		last month
		last month
		9 months ago
		4 months ago
		9 months ago
		9 months ago
		22 days ago
		9 months ago
		4 months ago
		23 days ago
tsconfig.json	feat: add cli functionality.	9 months ago
yarn.lock	chore: update ts-node	23 days ago

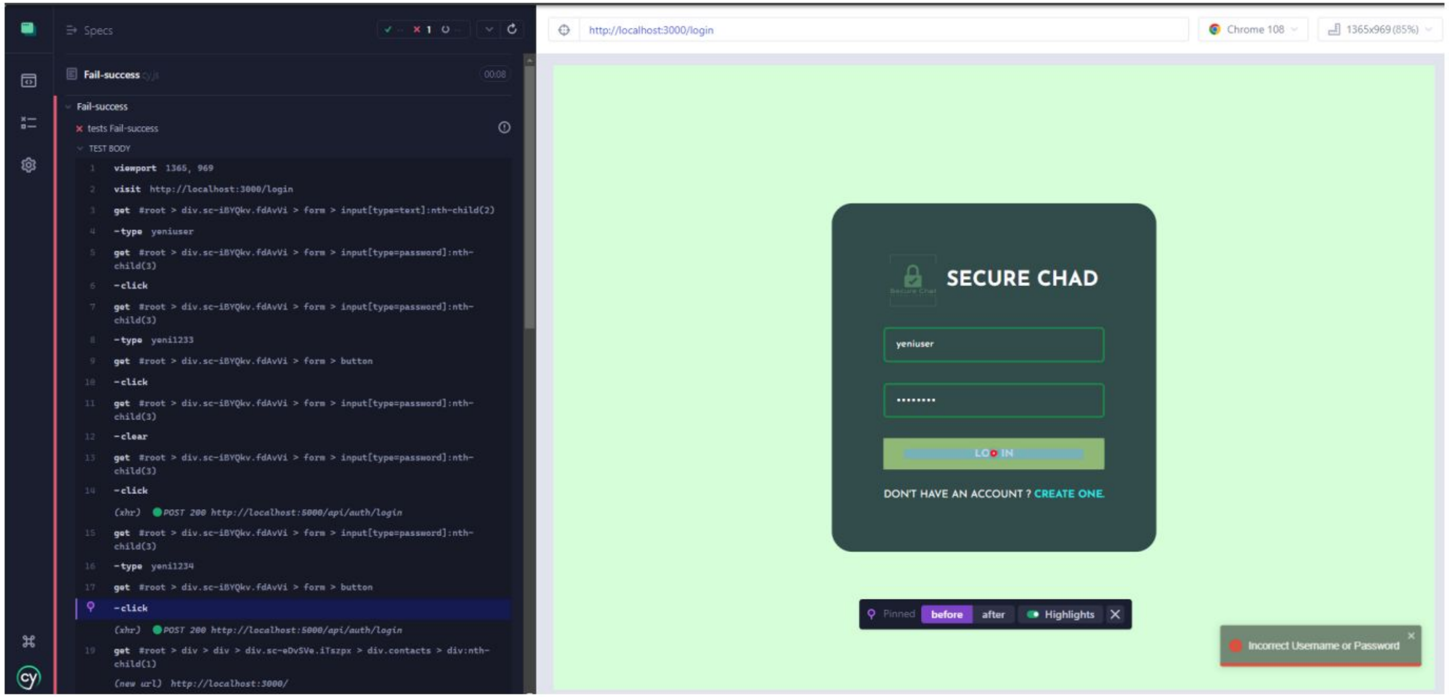
Testing Procedures (Cypress [Functional])



```js
describe("Fail-success", () => {
it("tests Fail-success", () => {
  cy.viewport(1365, 969);

  cy.visit("http://localhost:3000/login");

  cy.get("#root > div.sc-iBYQkv.fdAvVi > form > input[type=text]:nth-child(2)").type("yeniuser");

  cy.get("#root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-child(3)").click();

  cy.get("#root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-child(3)").type("yeni1233");

  cy.get("#root > div.sc-iBYQkv.fdAvVi > form > button").click();

  cy.get("#root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-child(3)").click();

  cy.get("#root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-child(3)").type("yeni1234");

  cy.get("#root > div.sc-iBYQkv.fdAvVi > form > button").click();

  cy.get("#root > div > div > div.sc-eDvSVe.iTszpx > div.contacts > div:nth-child(1)").click();

  cy.get("#root > div > div > div.sc-hLBbgP.gXVydF > div.sc-gswNZR.bTYrb > form > input[type=text]").click();

  cy.get("#root > div > div > div.sc-hLBbgP.gXVydF > div.sc-gswNZR.bTYrb > form > input[type=text]").type("merhabalar efendim");

  cy.type("{enter}");

  });
});
//# recorderSourceMap=BCCECGCICKCMCOCQCSCUCWCYCaCcA
```

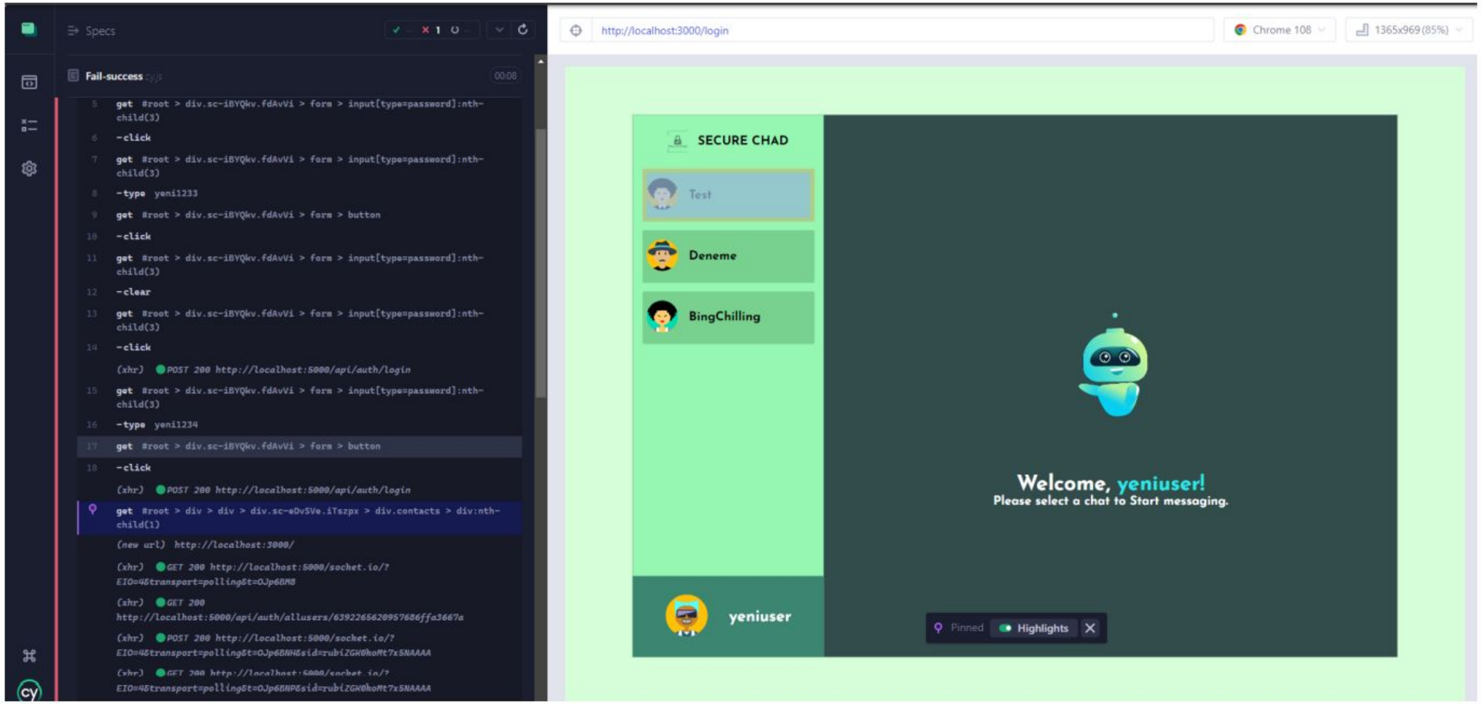
```
Error: ENOENT: no such file or directory, open 'Fail-success.json'
    at Object.openSync (node:fs:585:3)
    at readFileSync (node:fs:453:35)
    at file:///C:/Users/Erim/AppData/Local/npm-cache/_npx/46e9de2b1105cb4c/node_modules/@cypress/chrome-recorder/dist/cli/transforms.js:42:34
    at Array.map (<anonymous>)
    at runTransforms (file:///C:/Users/Erim/AppData/Local/npm-cache/_npx/46e9de2b1105cb4c/node_modules/@cypress/chrome-recorder/dist/cli/transforms.js:40:18)
    at file:///C:/Users/Erim/AppData/Local/npm-cache/_npx/46e9de2b1105cb4c/node_modules/@cypress/chrome-recorder/dist/cli/index.js:81:12

Erim@DESKTOP-30FU74L MINGW64 ~/desktop/ReactAppRealTime (main)
$ npx @cypress/chrome-recorder Fail-success.json -o=cypress/integration
Running Cypress Chrome Recorder on Fail-success.json


Fail-success.json exported to cypress/integration/Fail-success.spec.js


Erim@DESKTOP-30FU74L MINGW64 ~/desktop/ReactAppRealTime (main)
$
```

Testing Procedures (Cypress [Functional])



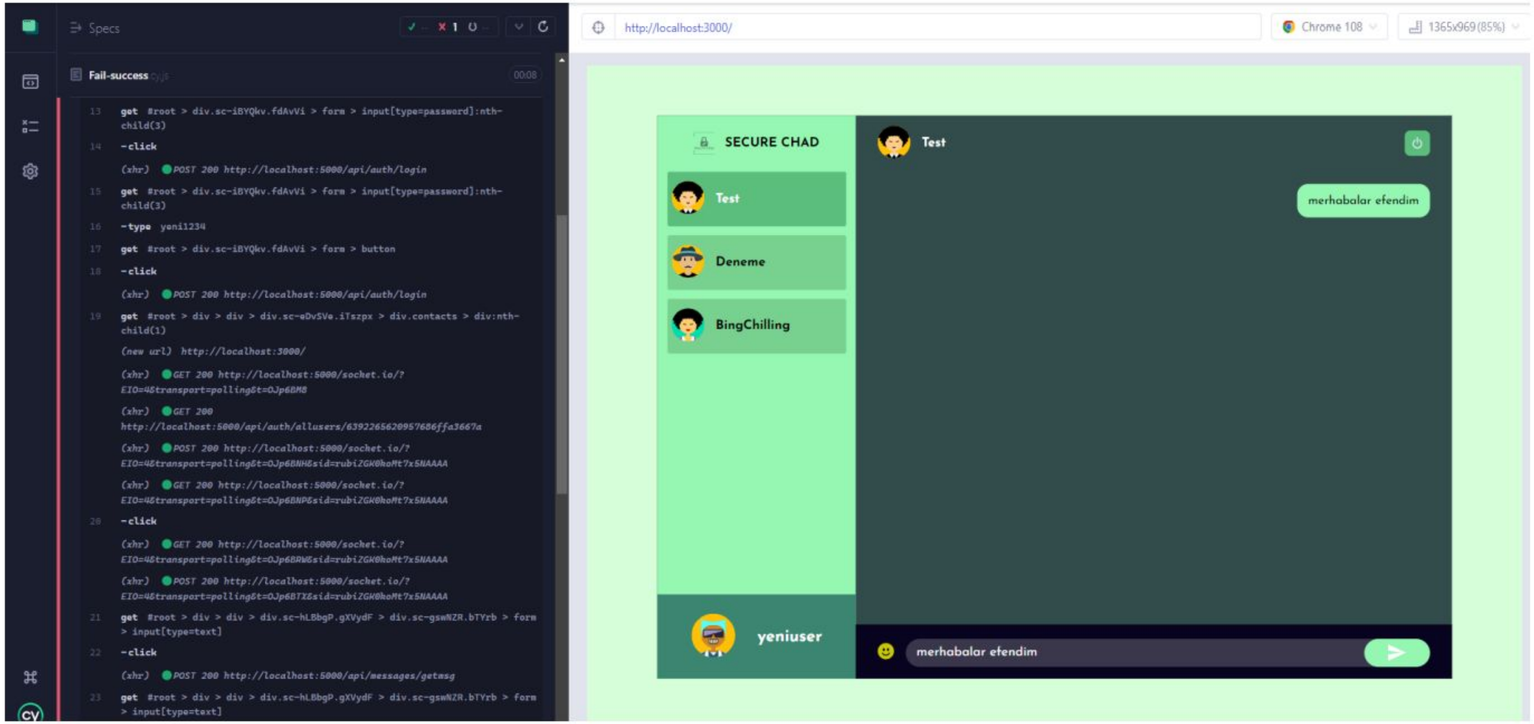
```
Fail-success
✗ tests Fail-success
TEST BODY
viewport 1365, 969
visit http://localhost:3000/login
get #root > div.sc-iBYQkv.fdAvVi > form > input[type=text]:nth-child(2)
-type yeniuser
get #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-child(3)
-click
get #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-child(3)
-type yeni1233
get #root > div.sc-iBYQkv.fdAvVi > form > button
-click
get #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-child(3)
-clear
get #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-child(3)
-click
(xhr) ● POST 200 http://localhost:5000/api/auth/login
get #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-child(3)
-type yeni1234
get #root > div.sc-iBYQkv.fdAvVi > form > button
-click
(xhr) ● POST 200 http://localhost:5000/api/auth/login
get #root > div > div > div.sc-eDvSVe.iTszpx > div.contacts > div:nth-child(1)
(new url) http://localhost:3000/
```

Testing Procedures (Cypress [Functional])



```
5   get  #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-
    child(3)
6   -click
7   get  #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-
    child(3)
8   -type  yeni1233
9   get  #root > div.sc-iBYQkv.fdAvVi > form > button
10  -click
11  get  #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-
    child(3)
12  -clear
13  get  #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-
    child(3)
14  -click
    (xhr)  ● POST 200 http://localhost:5000/api/auth/login
15  get  #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-
    child(3)
16  -type  yeni1234
17  get  #root > div.sc-iBYQkv.fdAvVi > form > button
18  -click
    (xhr)  ● POST 200 http://localhost:5000/api/auth/login
    get  #root > div > div > div.sc-eDvSVe.iTszpx > div.contacts > div:nth-
    child(1)
    (new url)  http://localhost:3000/
    (xhr)  ● GET 200 http://localhost:5000/socket.io/?
    EIO=4&transport=polling&t=OJp6BM8
    (xhr)  ● GET 200
    http://localhost:5000/api/auth/allusers/6392265620957686ffa3667a
    (xhr)  ● POST 200 http://localhost:5000/socket.io/?
    EIO=4&transport=polling&t=OJp6BNH&sid=rubiZGK0koMt7x5NAAAA
    (xhr)  ● GET 200 http://localhost:5000/socket.io/?
    EIO=4&transport=polling&t=OJp6BNP&sid=rubiZGK0koMt7x5NAAAA
```

Testing Procedures (Cypress [Functional])



```
get  #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-
child(3)
-click
(xhr)  ● POST 200 http://localhost:5000/api/auth/login
get  #root > div.sc-iBYQkv.fdAvVi > form > input[type=password]:nth-
child(3)
-type  yeni1234
get  #root > div.sc-iBYQkv.fdAvVi > form > button
-click
(xhr)  ● POST 200 http://localhost:5000/api/auth/login
get  #root > div > div > div.sc-eDvSVe.iTszpx > div.contacts > div:nth-
child(1)
(new url)  http://localhost:3000/
(xhr)  ● GET 200 http://localhost:5000/socket.io/?
EIO=4&transport=polling&t=OJp6BM8
(xhr)  ● GET 200
http://localhost:5000/api/auth/allusers/6392265620957686ffa3667a
(xhr)  ● POST 200 http://localhost:5000/socket.io/?
EIO=4&transport=polling&t=OJp6BNH&sid=rubiZGK0koMt7x5NAAAA
(xhr)  ● GET 200 http://localhost:5000/socket.io/?
EIO=4&transport=polling&t=OJp6BNP&sid=rubiZGK0koMt7x5NAAAA
-click
(xhr)  ● GET 200 http://localhost:5000/socket.io/?
EIO=4&transport=polling&t=OJp6BRW&sid=rubiZGK0koMt7x5NAAAA
(xhr)  ● POST 200 http://localhost:5000/socket.io/?
EIO=4&transport=polling&t=OJp6BTX&sid=rubiZGK0koMt7x5NAAAA
get  #root > div > div > div.sc-hLBbgP.gXVydF > div.sc-gswNZR.bTYrb > form
> input[type=text]
-click
(xhr)  ● POST 200 http://localhost:5000/api/messages/getmsg
get  #root > div > div > div.sc-hLBbgP.gXVydF > div.sc-gswNZR.bTYrb > form
> input[type=text]
```

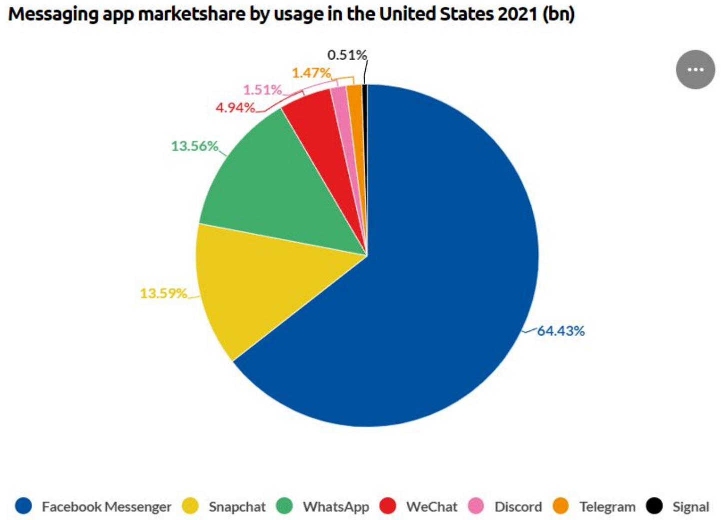
merhabalar efendim

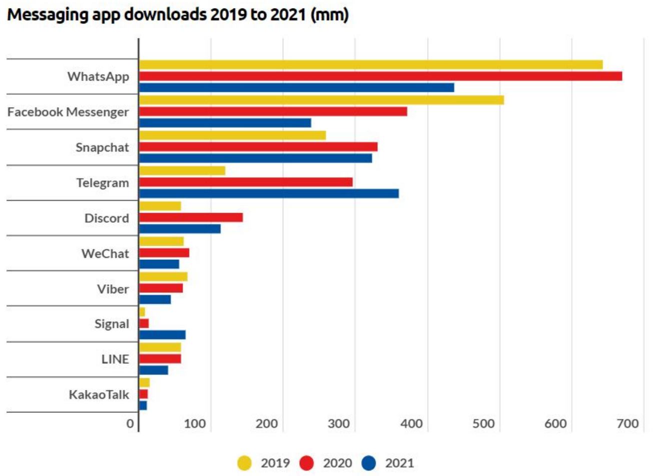
merhabalar efendim

Target Audience

Our app is trying to be a suitable and desirable platform in the Web Based platforms because our competitors are a little bit behind on the web based parts of their applications. It is trying to close the gap of those users needs.

Average cost for mvp for an average app will be figures like “starting from $20K” and “up to $223K for an app like WhatsApp.” Unfortunately, there’s no single accurate number.





Target Audience

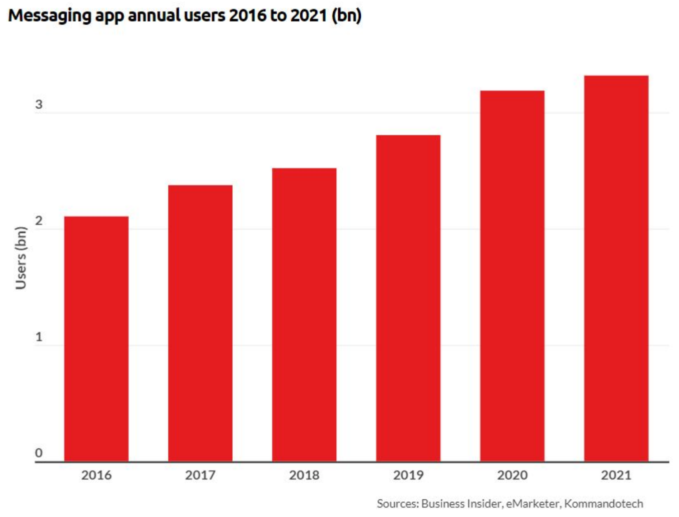
Real-time chat apps have changed the way we communicate and are changing the way we sell and buy things. Companies building a chat app create a million opportunities and benefits for the employees, partners, clients, and prospects they may not know yet. Telegram’s success shows that the messengers market still has room for new players and ideas.

The COVID-19 pandemic had a huge impact on global Chat Application markets at the regional and country level. For the years 2021 and 2022, the study gives three forecast scenarios for the worldwide Chat Application market.

Based on TYPE, the Chat Application market from 2022 to 2029 is primarily split into:

Cloud-Based
On-Premise
Based on applications, the Chat Application market from 2022to 2029 covers:

For Android
For IOS
Others



Thank You For Listening

SECURE CHATTING PLATFORM DONE WITH MERN

1900005528-Ahmet Kaan Memioğlu

1900005485-Emrecan Üzüm

1900003587-Şükrü Erim Sinal