geektrust.in

Job Adventures. For Geeks.

PROBLEM CONTEXT

Our problem is set in the planet of Lengaburu…in the distant distant galaxy of Tara B. After the recent war with neighbouring planet Falicornia, King Shan has exiled the Queen of Falicornia for 15 years.

Queen Al Falcone is now in hiding. But if King Shan can find her before the years are up, she will be exiled for another 15 years….

AVAILABLE
VEHICLES

SPACE POD

units = 2 / max_distance = 200 megamiles
speed = 2 megamiles/hour

SPACE ROCKET

units = 1 / max_distance = 300 megamiles
speed = 4 megamiles/hour

SPACE SHUTTLE

units = 1 / max_distance = 400 megamiles
speed = 5 megamiles/hour

SPACE SHIP

units = 2 / max_distance = 600 megamiles
speed = 10 megamiles/hour

POTENTIAL
HIDEOUTS

DONLON
Distance - 100 megamiles

ENCHAI
Distance - 200 megamiles

JEBING
Distance - 300 megamiles

SAPIR
Distance - 400 megamiles

LERBIN
Distance - 500 megamiles

PINGASOR
Distance - 600 megamiles

The planets Al Falcone might be hiding in & the space vehicles available at King Shan's disposal

PROBLEM 1: FINDING FALCONE

King Shan has received intelligence that Al Falcone is in hiding in one of these 6 planets - DonLon, Enchai, Jebing, Sapir, Lerbin & Pingasor. However he has limited resources at his disposal & can send his army to only 4 of these planets.

Your coding problem is to help King Shan find Al Falcone.

WHAT YOU NEED TO DO

You need to build a UI (mockups available at the end of this PDF) through which King Shan can

- select 4 planets to search (out of the total 6)
- select which space vehicles to send to these planets
- see how much time it will take for the vehicles to reach their targets &
- show final result of success or failure

WHAT WE GIVE YOU

- a planets API that list out the planets, and how far they are from Lengaburu (https://findfalcone.herokuapp.com/planets)
- a vehicles API that lists the types of space vehicle at your disposal, how many of each type you have, the maximum distance a vehicle can go (range), and their speed (https://findfalcone.herokuapp.com/vehicles)
- a FindFalcone API that returns whether you were successful in your search or not (we randomly assign a planet to Al Falcone) (https://findfalcone.herokuapp.com/find)

PLANETS API

https://findfalcone.herokuapp.com/planets

Request type: GET

- There are 6 planets. But King Shan can send vehicles to search in only 4 at a time
- All are at varying distances from Lengaburu

Sample response


```
[
  {
    "name": "Donlon",
    "distance": 100
  },
  {
    "name": "Enchai",
    "distance": 200
  },
  {
    "name": "Jebing",
    "distance": 300
  },
  {
    "name": "Sapir",
    "distance": 400
  },
  {
    "name": "Lerbin",
    "distance": 500
  },
  {
    "name": "Pingasor",
    "distance": 600
  }
]
```

VEHICLES API

https://findfalcone.herokuapp.com/vehicles

Request type: GET

- There are 4 types of vehicles
- The units of each vehicle type vary (eg:- there are 2 space pods but only 1 space rocket)
- All have different ranges (maximum distance it can travel). If the range for a vehicle is lesser than the distance to the planet, it cannot be chosen for going to the planet
- All have different speed. Based on the distance to the planet and the speed of the vehicle, time taken for the complete search should be shown

Sample response


```
[
  {
    "name": "Space pod",
    "total_no": 2,
    "max_distance": 200,
    "speed": 2
  },
  {
    "name": "Space rocket",
    "total_no": 1,
    "max_distance": 300,
    "speed": 4
  },
  {
    "name": "Space shuttle",
    "total_no": 1,
    "max_distance": 400,
    "speed": 5
  },
  {
    "name": "Space ship",
    "total_no": 2,
    "max_distance": 600,
    "speed": 10
  }
]
```

FINDING FALCONE API (token)

1. You need to first get a token

https://findfalcone.herokuapp.com/token

Request type: POST

Headers

Accept : application/json

Request body: empty

Sample response


```
{
  "token": "PlmVXHswGEQxKJIpWnKCBtNMepseniTM"
}
```

FIND FALCONE API (request)

2. The final result is a game of luck. We will randomly assign a planet to Al Falcone (from the 6 available planets) and if the planet is in the list of 4 selected by the user, you get a success message

https://findfalcone.herokuapp.com/find

Request type: POST

Headers

Accept : application/json

Content-Type :application/json

Request body :

The request body is a json object which consists of a **token**, **planet_names** and **vehicle_names**. Value of the token is obtained from the previous API call (/token).

planet_names is a JSON Array which consists of the planet names you selected from the UI. vehicle _names is also a JSON Array which consists of the vehicle names you have selected from the UI.

Sample request body

```
{
  "token": "zWSOZUcQJOPUhweUgYklARgNbuNVCyin",
  "planet_names": [
    "Donlon",
    "Enchai",
    "Pingasor",
    "Sapir"
  ],
  "vehicle_names": [
    "Space pod",
    "Space rocket",
    "Space rocket",
    "Space rocket"
  ]
}
```

FINDING FALCONE API (responses)

Sample success response

```
{
 "planet_name": "Jebing",
 "status": "success"
}
```

Sample failure response

```
{
  "status": "false"
}
```

Sample error response

```
{
  "error": "Token not initialized. Please get a new token with the
/token API"
}
```

WHAT WE LOOK FOR IN YOUR CODE

Ready to find Falcone? But remember that it is not just about getting the UI done but how you do it that matters more. We look for how modular is your code, how readable, extensible, how simple is the logic, do you have tests, how is your error handling, dependency management, how do you handle navigation, templates etc..

You can use plain javascript but extra points for using a client side framework such as Angular, Backbone or React.

SUBMITTING CODE

1. Please compress all your files before uploading (html, css, js etc). We accept .zip, .rar, .gz and .gzip

2. Name of the file should be FEproblem1.zip

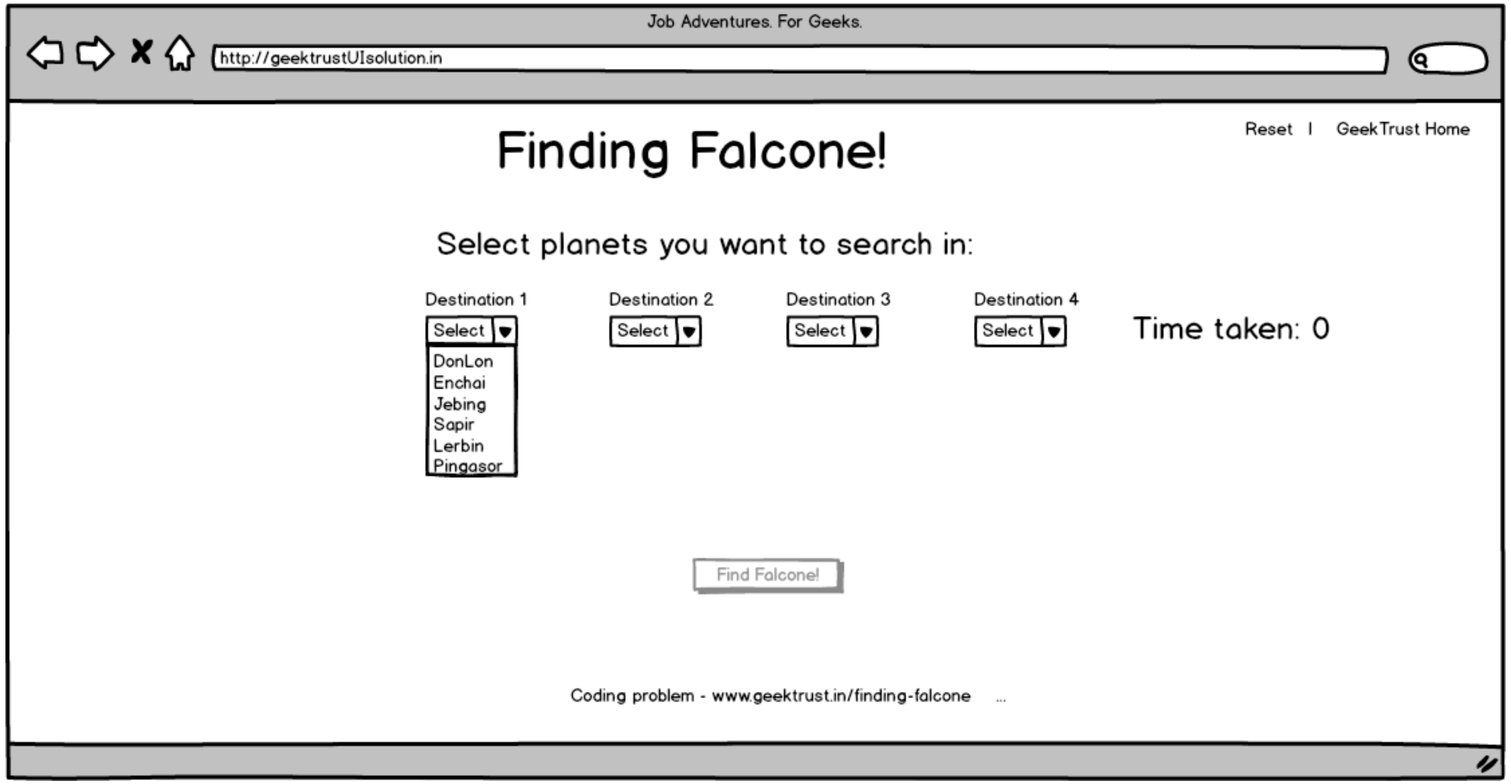
3. Upload the file in a way that makes it easy for us to get it running. This will factor into your evaluation.

4. *Optional*: you could deploy your code to a public cloud instance & send us the link so that we (or potential employers) could see your final UI.

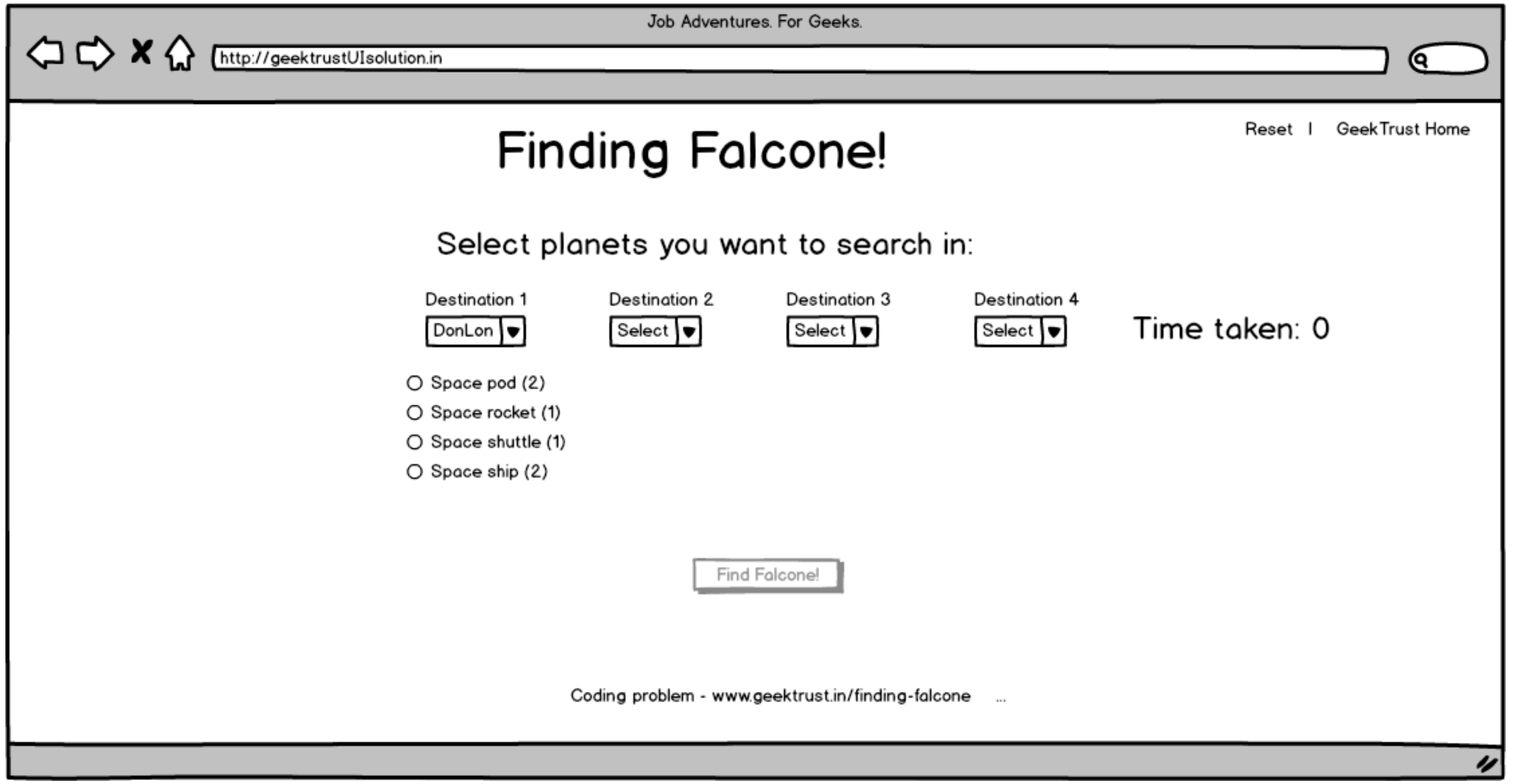
mail us at devs@geektrust.in if you have questions

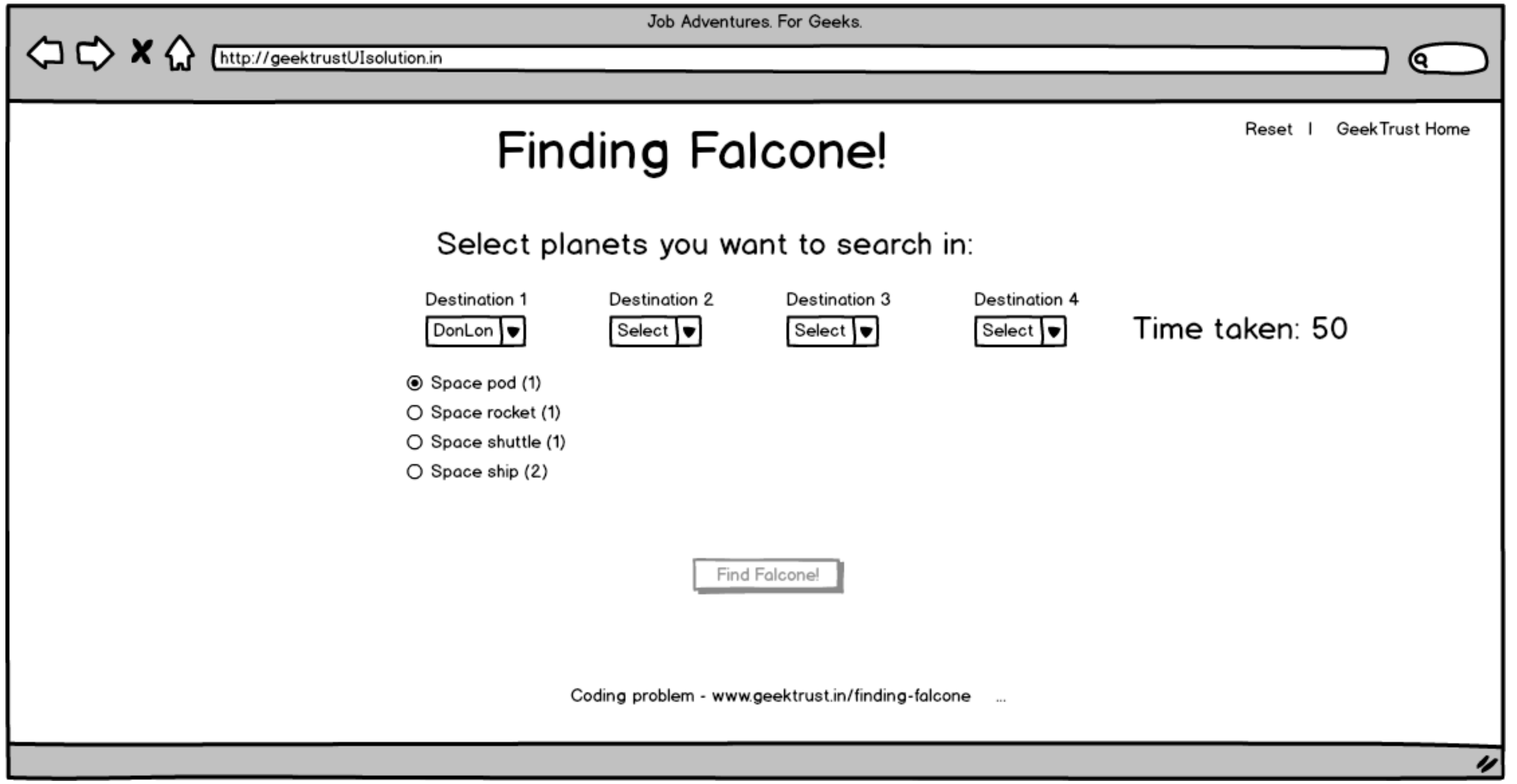
SAMPLE MOCKUP

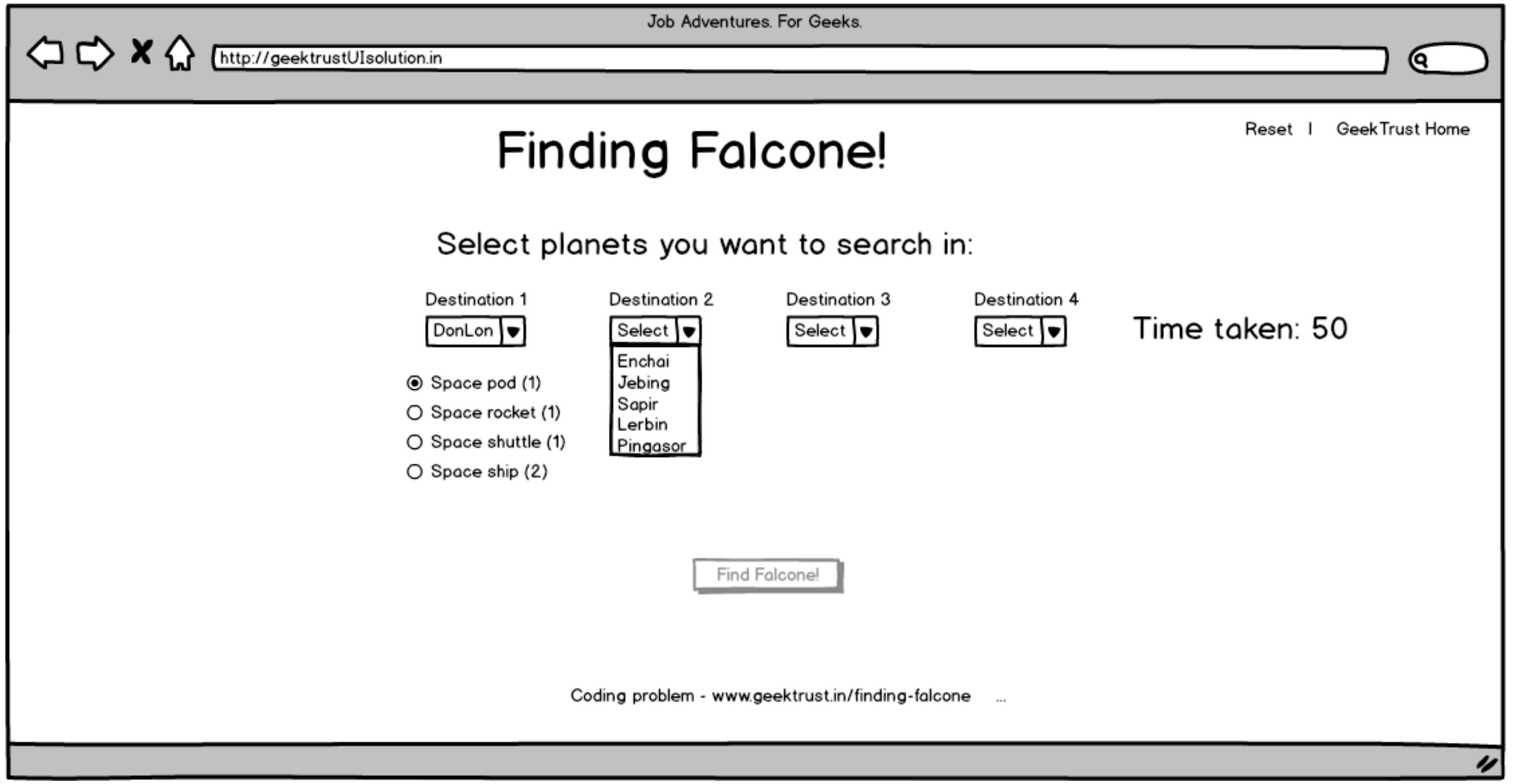
- As the heading suggests, this is only a sample mockup so that you have an indication of what is expected from you.
- You could choose to go with a completely different user experience. But you will need to ensure
    - all requirements mentioned in the problem are covered
    - you have a header menu bar at the top and a footer at the bottom
    - the final result should be shown on a new page & there should be navigation between at-least 2 screens

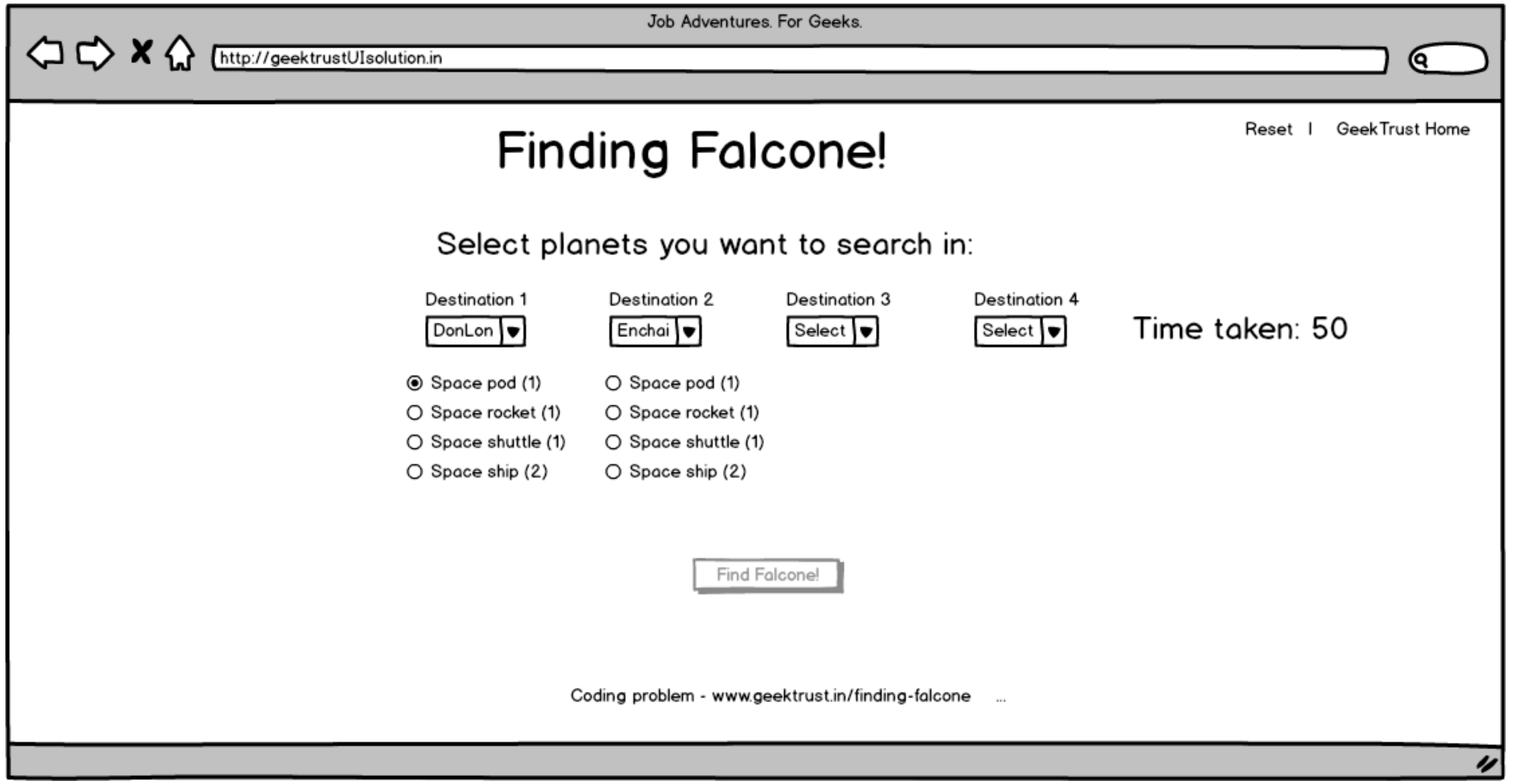


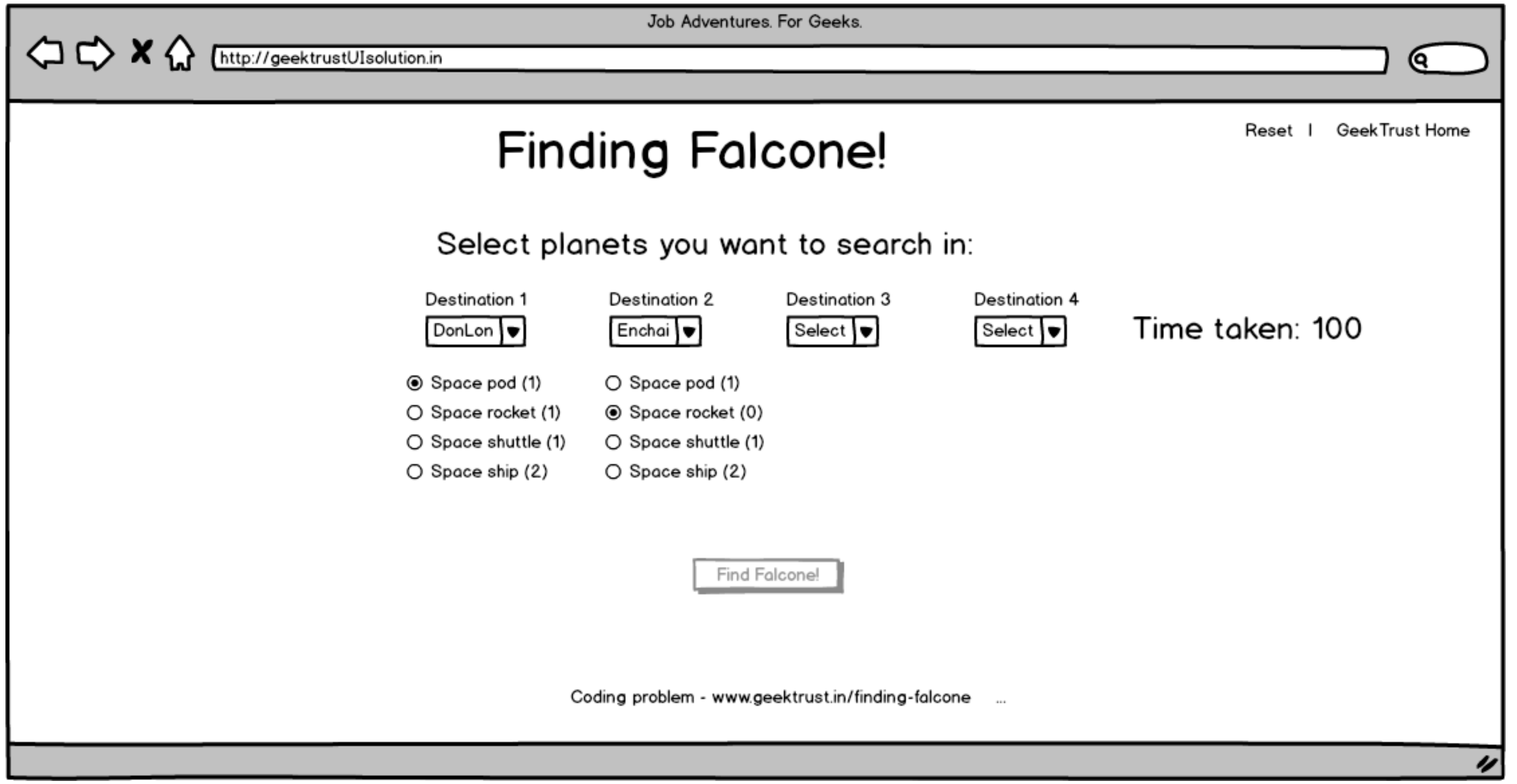
extra points for implementing auto-complete in the dropdown!

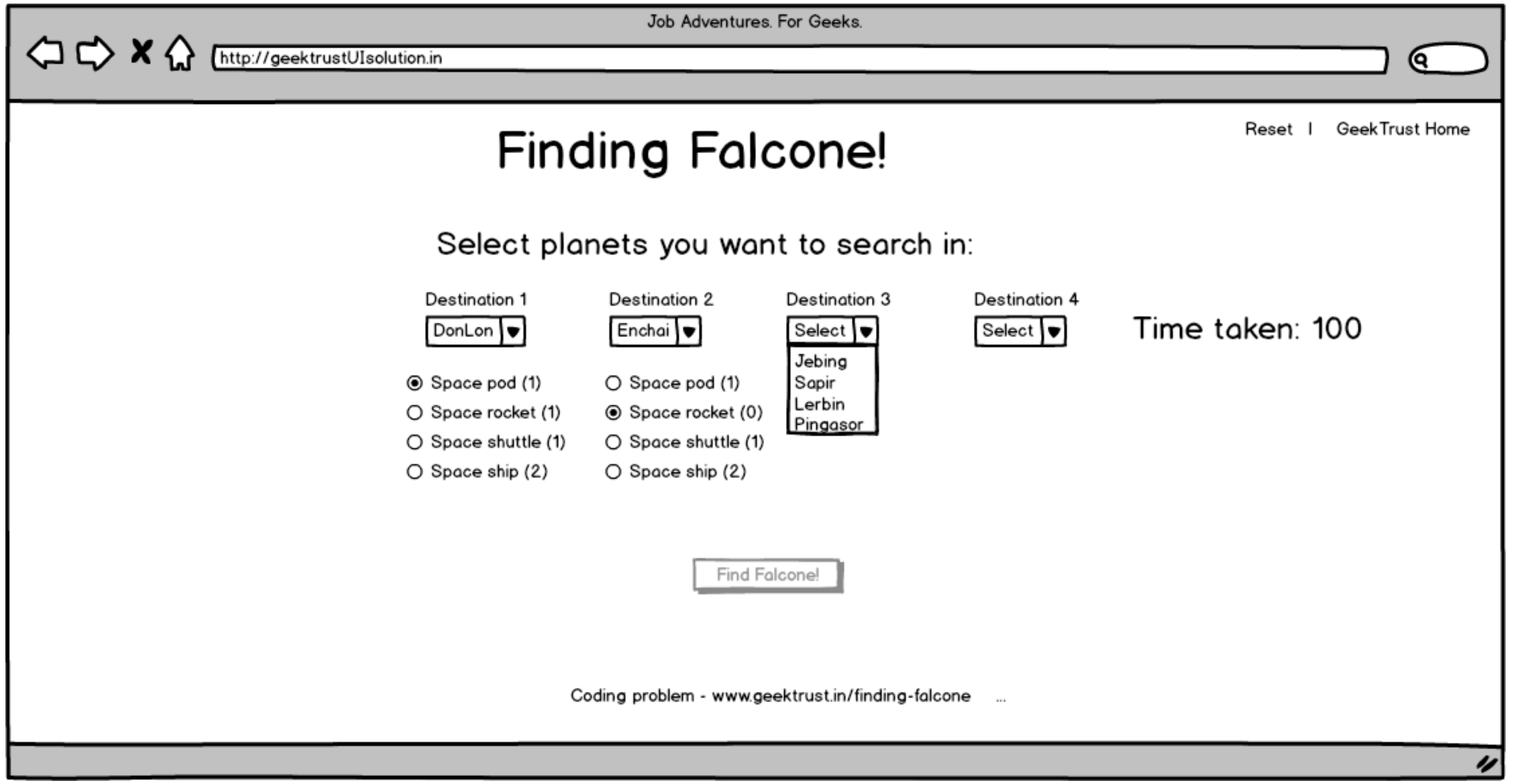


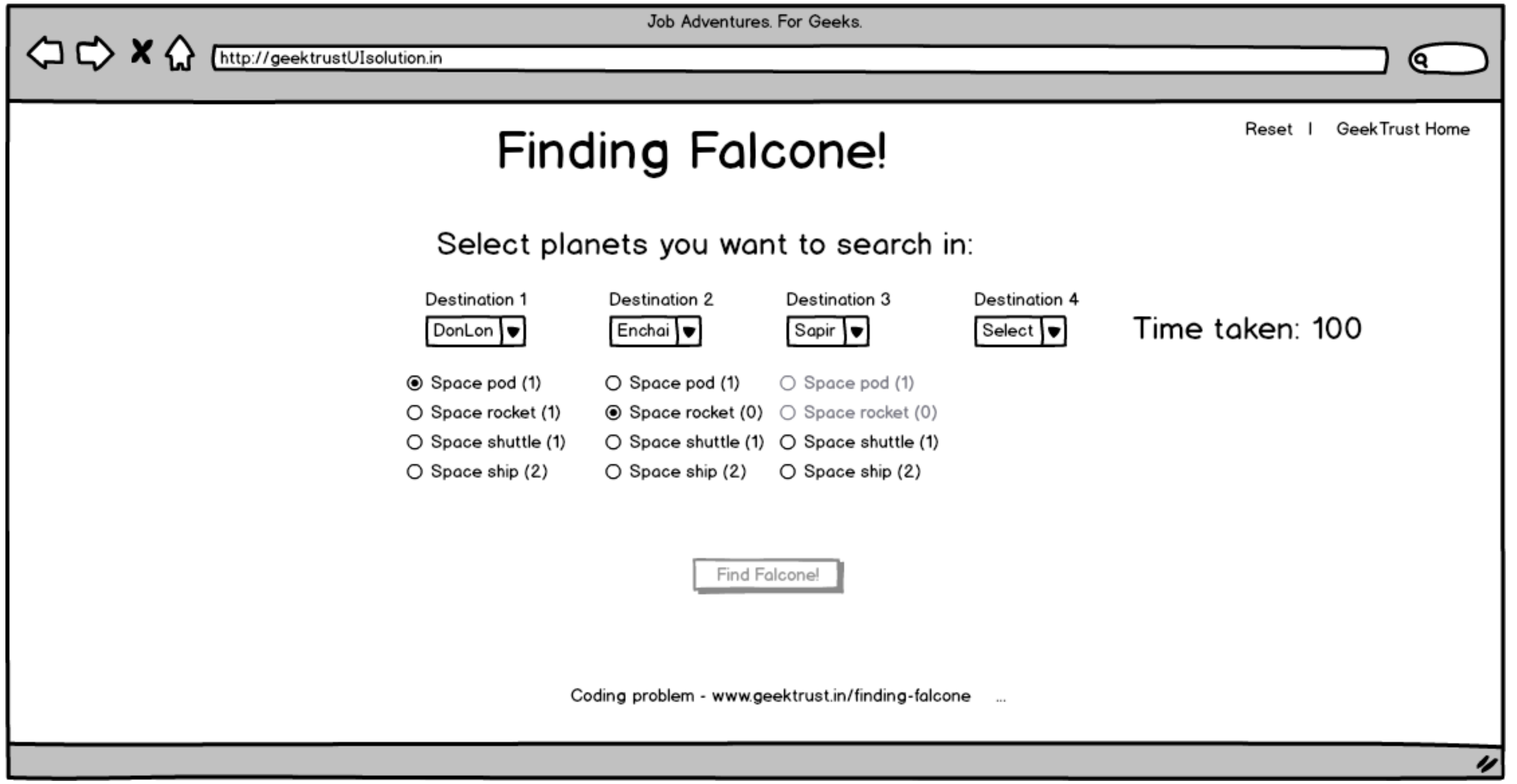


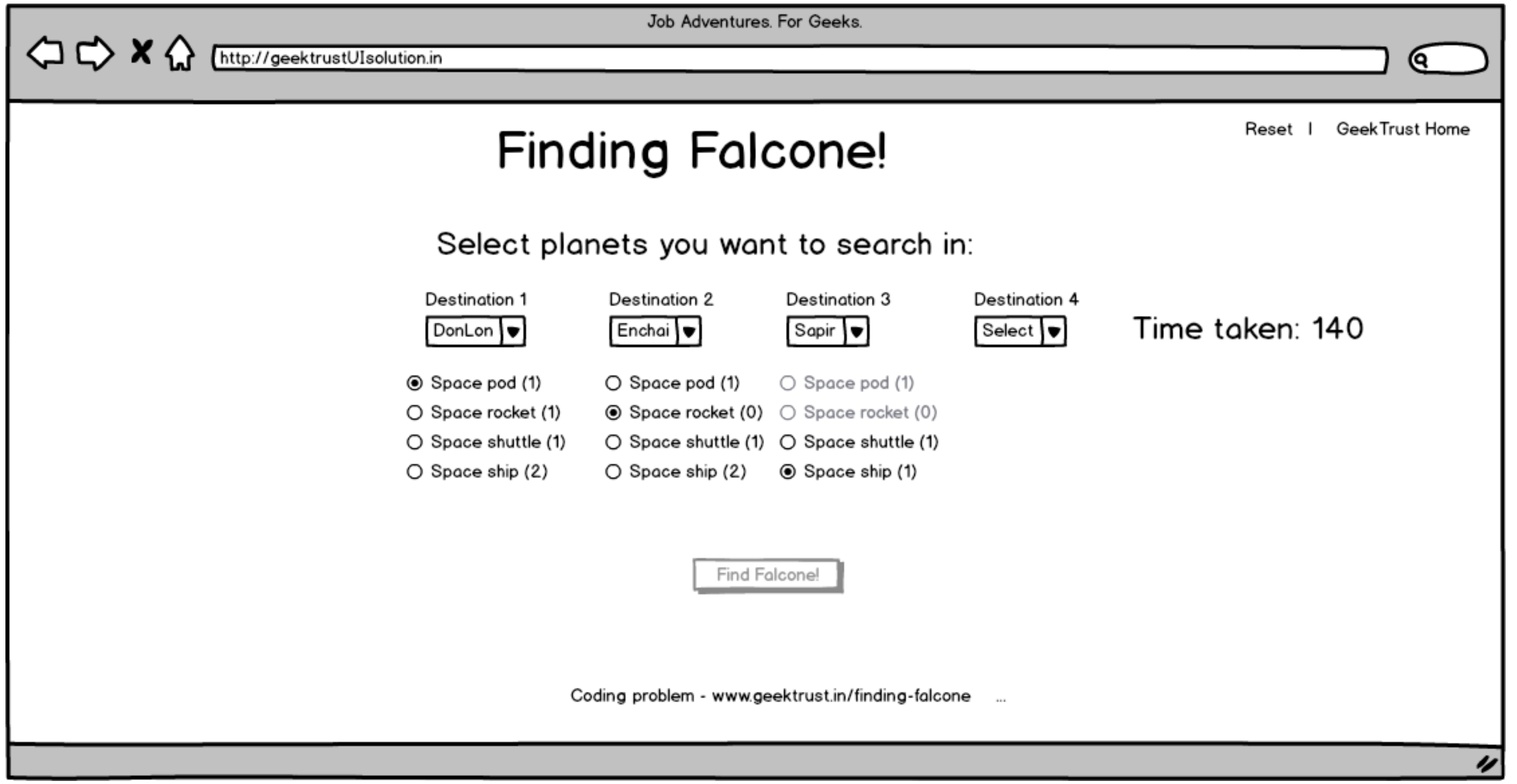


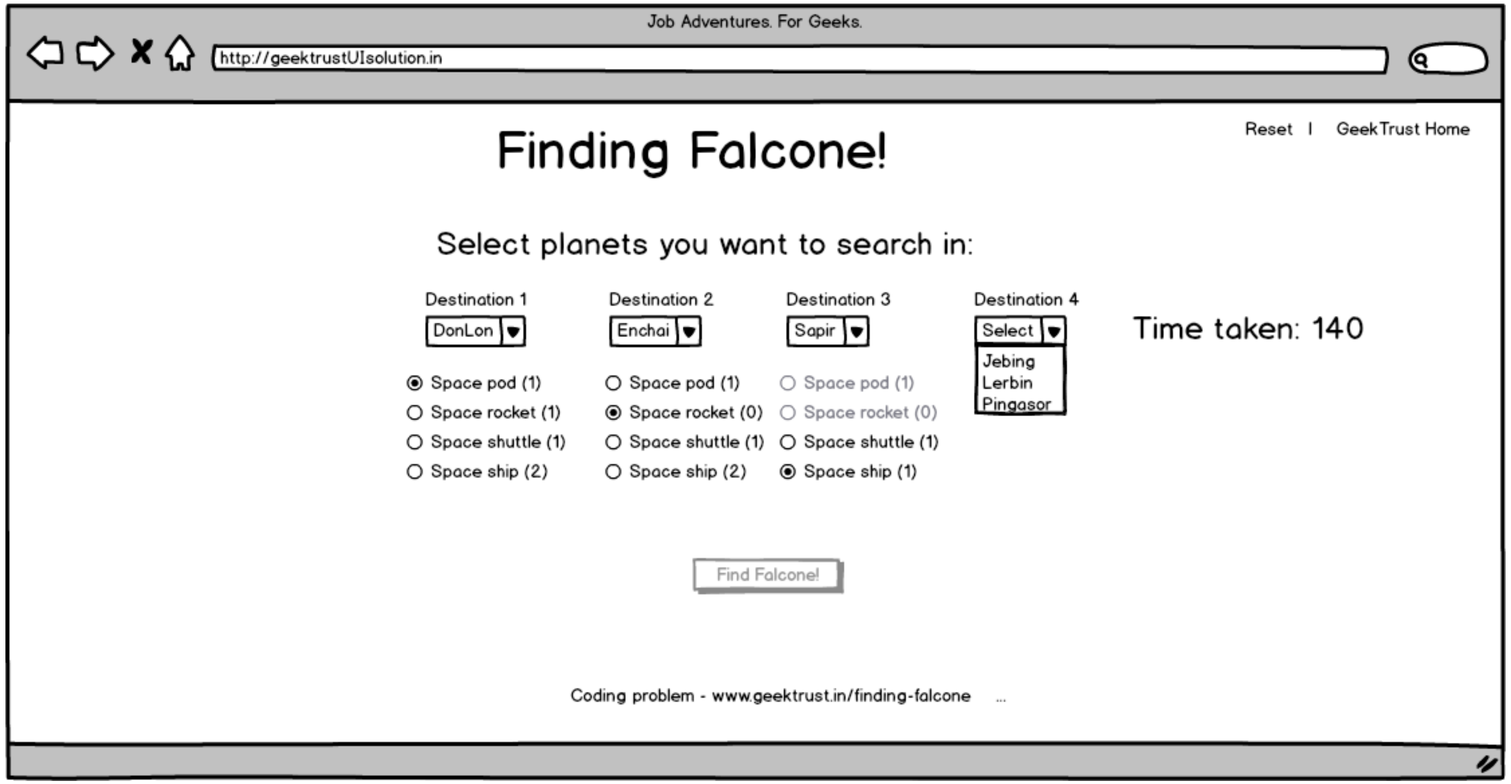


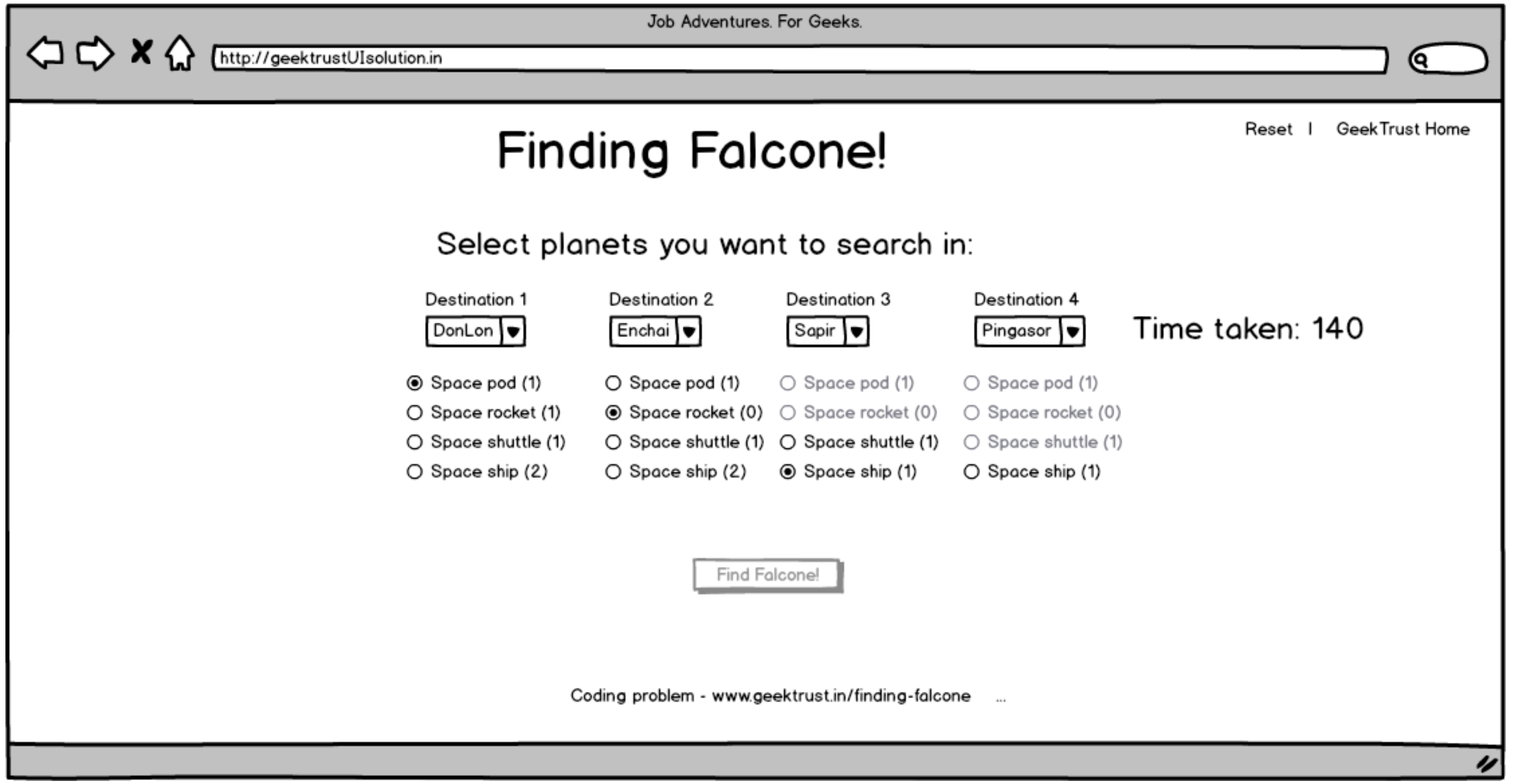


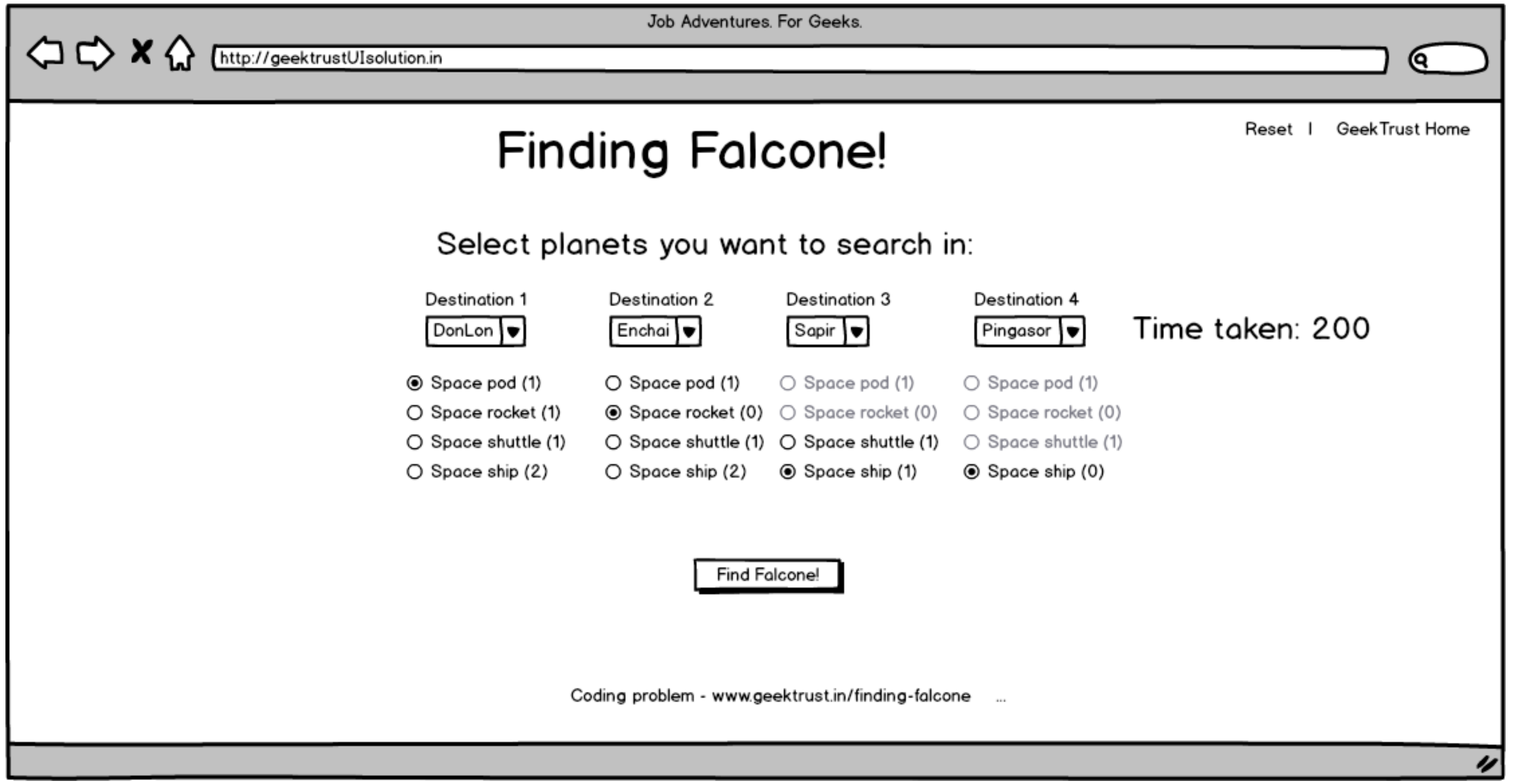


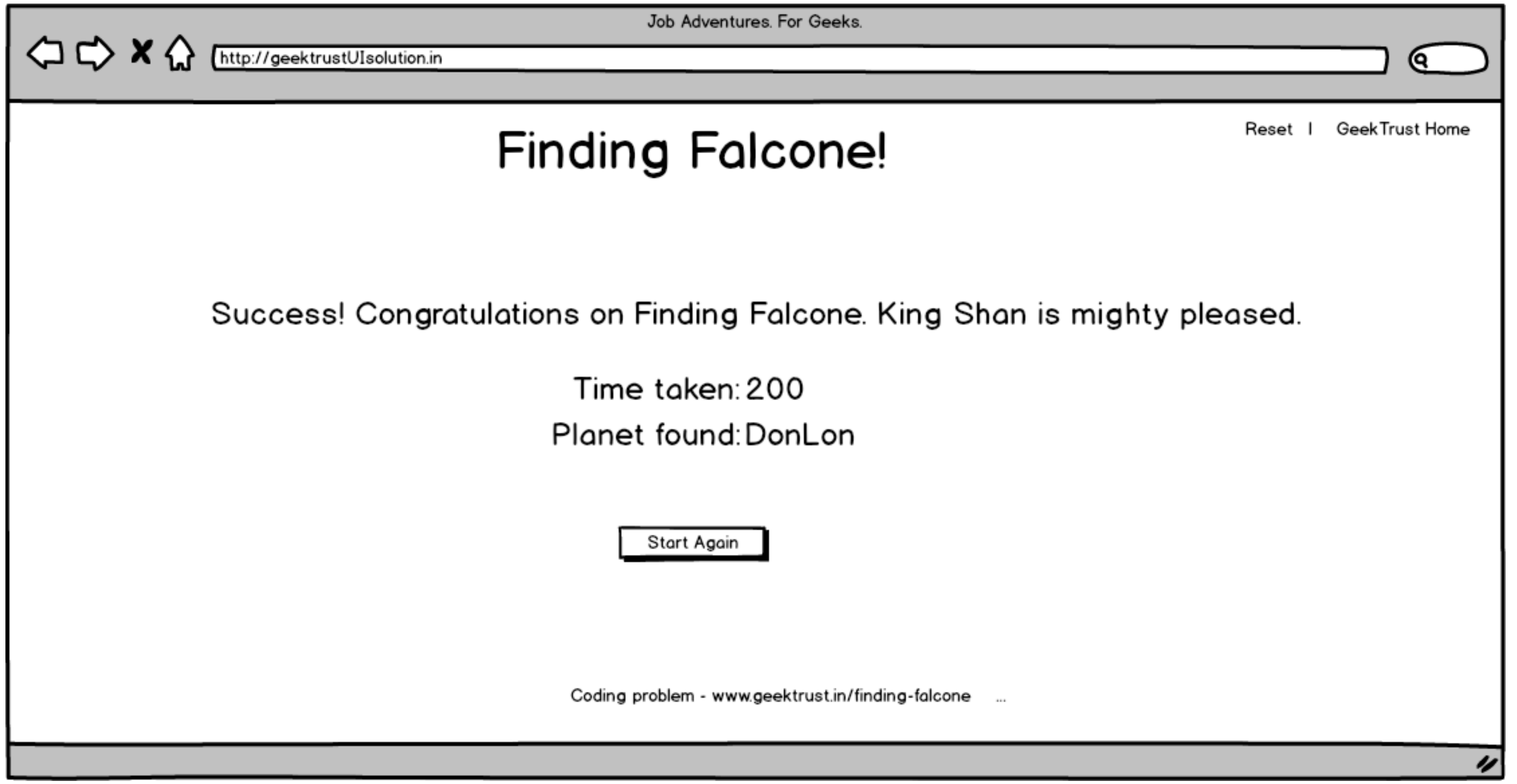












WHAT NEXT?

A few good developers

Write great code. Get membership. Explore jobs.

Write Code

Sign up to solve interesting coding problems

Be a Member

Clear evaluation and get featured on GeekTrust

Connect with Companies

Explore opportunities as companies reach out to you

Find the Perfect Job

Review options, interview & find the right job for you