



DALHOUSIE
UNIVERSITY

Inspiring Minds

CSCI 5709 - Advanced Topics in Web Development

Assignment 1

Novel Life

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1. Project Overview

1.1 Purpose

The global spread of COVID-19 is deeply affecting every individual in the world. It's making a big difference in lives, businesses and communities. Novel Life is an application designed upon this background to encourage users to find a new balance in their daily life. Faced with so many changes and restrictions, the purpose of Novel Life is to help users find the most useful and recent information and resources during a difficult time. Since people will spend more time on their digital devices, it is a good idea to have a platform like this to guide them in a better direction.

1.2 Goals

Help users quickly find COVID-19 related data, information or online resources;
Level up life satisfaction and happiness during the lockdown.

1.3 Intended Features

1. Profile management (sign in, log in / log out)
2. Map (share your location as a spot)
3. Self-check and seek for help
4. Latest news (boarder restriction, programs, recommendations)
5. Data visualization (existing or newly confirmed cases)
6. Population density (public places like groceries, public gardens and transit)
7. Find support (food, financial, mental)
8. Job market (hiring and applying online)
9. Education recourses (e-books and videos)
10. Virtual gym
11. Virtual gaming/movie center
12. Virtual care

2. About users

2.1 User Personas

Everyone can become a user of Novel Life, but at the first stage, we designate user personas as users between the ages of 16 and 50, who live in Nova Scotia. More specifically, we list them in different ages and jobs, as shown below.

Persona #1:

*A new user: anyone who wants to view more information in the app needs to **sign up**.*

Persona #2:

*Student: **Ann** (23), an international student at Dalhousie University, cares about **the latest news** about COVID-19 and **the existing or newly confirmed cases** in her area. She also wants to get high-quality online **education resources** to help her get a better remote learning experience.*

Persona #3:

*Teacher: **Sue** (44) is an outstanding professor at SMU. She wants to **upload some educational recourses** on the website to help the whole community. She is busy working at home, offering a lot of courses and lectures. Every time she wants to go shopping at the grocery store, she spends far more time than planned, so it is more efficient if she can **check the current population density of public places like groceries**.*

Persona #4:

*Freelancer: **Peter** (37) has been a freelancer for more than 2 years, so he is quite comfortable with remote work. Because of COVID-19, he cannot bear not going to the gym and cinema as usual. The reason why he downloads this app is because he wants to **play games, work out or watch movies** at home, but still **with his friends virtually**.*

Persona #5:

*Unemployed: **Tom** (26) lives alone and lost his job last month due to COVID-19. He has some concern about **mental issues** and cares about **food and financial support** from the government. In addition, he wants to **apply for** a suitable new **job** during the difficult time.*

Persona #6:

*Doctor: **Henry** (40) is an enthusiastic doctor at a walk-in clinic in Dartmouth, which is temporarily closed. He wants to **upload some videos** to answer the frequently asked COVID-19 related questions and give some advice. Also, he can **provide virtual care** for his patients with appointments made in advance.*

Persona #7:

*Cashier: **Emma** (31) is a cashier in Walmart, she can **upload the population density** of the current market. Her family and employer are very concerned about her safety, so she is encouraged to **report her health condition** every day.*

Persona #8:

*Driver: **Jack** (48) is a bus driver who is curious about the active cases in places where he often goes, and he can **upload the population density** of the currently running bus. Recently he feels unwell and does not know if he has a chance to be infected with novel coronavirus, so he wants to conduct a **self-check** and **seek professional help** if necessary.*

2.2 Intended Scenarios

User Persona#1: a new user

Goal: to become a registered user so you can use this application in the future

Task: Register as a user and log in, when you forget password you can find it, log out.

User Persona#2: Ann

Goal: to get the latest news, the existing or newly confirmed cases, and online learning resources

Task: Go to “news” section, go to “data” section, go to “resources” section (login required) and find related information.

User Persona#3: Sue

Goal: to upload resources; view the current population density of groceries

Task: Go to “resources” section (login required), upload resources and wait for approval; go to “map” section (login and address sharing required), view the current population density of groceries.

User Persona#4: Peter

Goal: to play games, work out or watch movies with his friends virtually

Task: Go to “more” in the menu bar, select virtual gaming/cinema center or virtual gym, create a room with name and code, wait for friends joining in (both Peter and his friends need to log in first).

User Persona#5: Tom

Goal: to have food, mental, financial support; find a job

Task: Go to “support” section, view text and videos of the latest support for each kind; Go to “job market” section (login required), view job requirements, send a resume, have a remote job interview, have an online training.

User Persona#6: Henry

Goal: to upload helpful videos; provide virtual care with his patients

Task: Go to “resources” section (login required), upload videos and wait for approval; Go to “more” in the menu bar, select virtual care, see his upcoming appointments, have a remote meeting with his patients (both Henry and his patients should log in first).

User Persona#7: Emma

Goal: to upload the population density of the Walmart she works in; report her health condition

Task: Go to “map” section (login required) and upload the population density; in “map” section, she can also report her health condition, a green spot will be shown in the map if she feels good that day.

User Persona#8: Jack

Goal: to upload the population density of the running bus; self-check and seek professional help

Task: Go to “map” section (login required) and upload the population density; do the self-assessment on homepage and follow the guidance to seek help.

2.3 Use Cases

Registering

1. User visits 'Novel Life' homepage [**user action**]
2. User clicks on 'user icon' in the upper right [**user action**]
3. System displays registration page, requesting user's email and password [**system action**]
 - 3.1 Click the switch button to the 'Login' page [**user action**]
 - 3.1.1 User is redirected to the 'Login' page [**system action**]
4. User enters email and password and clicks on 'submit' button [**user action**]
5. System validates the registration information [**system action**]
 - 5.1 Fail to sign up, user is redirected to step 3 (the registration page) [**system action**]
 - 5.2 Succeed to register, system send a confirmation email to the user [**system action**]
6. Click the validation link given [**user action**]
7. User is redirected to the 'Login' page [**system action**]

View a section

1. User visits 'Novel Life' homepage [**user action**]
2. User clicks on the section button [**user action**]
3. System validates whether this section requires login [**system action**]
 - 3.1 User is redirected to the 'Login' page [**system action**]
 - 3.1.1 User enters email and password and clicks on 'Sign in' button [**user action**]
 - 3.1.2 User click on 'forget password' button [**user action**]
 - 3.1.2.1 System displays 'forget password' page, requiring user's email [**system action**]
 - 3.1.2.2 User enters email address [**user action**]
 - 3.1.2.3 System send a reset password email to the user [**system action**]
 - 3.1.2.3 Click the reset link given [**user action**]
 - 3.1.2.4 Set up a new password [**user action**]
 - 3.1.2.5 User is redirected to the 'Login' page [**system action**]
 - 3.1.3 User clicks on 'Register' link [**user action**]
 - 3.1.3.1 User is redirected to the registration page [**system action**]
4. System displays the corresponding page [**system action**]

Upload resources

1. User visits 'Novel Life' homepage **[user action]**
2. User clicks on the 'resources' section button **[user action]**
3. User is redirected to the 'Login' page **[system action]**
4. User clicks on the 'upload' button **[user action]**
5. System displays the upload resource page, requesting user's resource, title, description and category **[system action]**
6. User uploads the resource, enters the basic information and clicks on 'submit' button **[user action]**
7. System validates the basic information about the resource **[system action]**
 - 6.1 The resource is too big, go back to the upload page **[system action]**
 - 6.2 The title or description is too short, go back to the upload page **[system action]**
8. The resources is uploaded, but not showing to other users **[system action]**
 - 7.1 The resource is approved by admin, send an email to the user **[system action]**
 - 7.2 The resource is not approved by admin, send an email to the user pointing out the problems **[system action]**
9. User check the status of uploading by clicking 'my upload' button **[user action]**
10. The resource is searchable and shown in the selected category **[system action]**

Upload the current population density

1. User visits 'Novel Life' homepage **[user action]**
2. User clicks on the 'map' section button **[user action]**
3. User is redirected to the 'Login' page **[system action]**
4. Request user's permission for real-time location sharing **[system action]**
 - 4.1 User chooses to share location by clicking on "yes" **[user action]**
 - 4.2 User refuses to share location by clicking on "no" **[user action]**
5. System displays the map page, showing users as spots, green by default **[system action]**
6. User choose a public place nearby, click on 'upload' button **[user action]**
7. System displays the upload page, requesting user's rate **[system action]**
8. Select the level of population density from 1 to 5 **[user action]**
9. Calculate the average population density of this place, and show it to users **[system action]**

Change the health status in the map

1. User visits 'Novel Life' homepage **[user action]**
2. User clicks on the 'map' section button **[user action]**
3. User is redirected to the 'Login' page **[system action]**
4. Request user's permission for real-time location sharing **[system action]**
 - 4.1 User chooses to share location by clicking on "yes" **[user action]**
 - 4.2 User refuses to share location by clicking on "no" **[user action]**
5. System displays the map page, showing users as spots, green by default **[system action]**
6. User clicks on 'report' button **[user action]**
7. System displays the report health status page, requesting user's selection **[system action]**
 - 7.1 User select the green button named 'feel well' **[user action]**
 - 7.2 User select the red button named 'feel unwell' **[user action]**
8. System renew the status on map (green/red), send the updates to related user **[system action]**

Find a job

1. User visits 'Novel Life' homepage **[user action]**
2. User clicks on the 'job' section button **[user action]**
3. User is redirected to the 'Login' page **[system action]**
4. User views the job descriptions uploaded by employers **[user action]**
5. User clicks on 'apply' button **[user action]**
6. System displays the resume page, requesting user create a new one, upload a file or use an existing one **[system action]**
 - 6.1 User choose to create a new one **[user action]**
 - 6.1.1 System generates a pdf document by the given information **[system action]**
 - 6.1.2 System save the document in database **[system action]**
 - 6.2 User choose to upload a file **[user action]**
 - 6.2.1 System save the file in database **[system action]**
 - 6.3 User choose to use an existing one in the profile **[user action]**
7. Send the resume to the employer, requesting employer's response **[system action]**
8. Send an online interview invitation to the user **[system action]**
9. User choose to accept the interview and make an appointment with the employer **[user action]**

Virtual gaming/cinema center/gym

1. User visits 'Novel Life' homepage [**user action**]
2. User clicks on the 'more' button [**user action**]
3. User clicks on 'virtual ... center' in the list [**user action**]
4. User is redirected to the 'Login' page [**system action**]
5. System displays the fun center page [**system action**]
- 5.1 User clicks on 'create a room' button [**user action**]
 - 5.1.1 System creates a public room for the user [**system action**]
 - 5.1.2 User clicks on 'make the room private' link [**user action**]
 - 5.1.2.1 System displays a room setting page, requesting name and code of the room [**system action**]
 - 5.1.2.2 User enters a set of unique name and code [**user action**]
 - 5.1.2.3 The room is set to be private, waiting someone using the same name and code to join [**system action**]
- 5.2 User clicks on 'join a room' button [**user action**]
 - 5.2.1 System displays a selection page, one is 'private', one is 'public' [**system action**]
 - 5.2.1.1 User choose to join a public room [**user action**]
 - 5.2.1.2 User choose to join a private room using name and code [**user action**]
 - 5.2.2 User successfully joins a room [**system action**]
6. System displays the room page, requesting user's choices [**system action**]
7. User sets up the preference and starts to play games/watch movies/work out as follows with 'roommates' [**user action**]

Virtual care

1. User visits 'Novel Life' homepage [**user action**]
2. User clicks on the 'more' button [**user action**]
3. User clicks on 'virtual care' in the list [**user action**]
4. System displays a validation page, requesting user's identity authentication [**system action**]
5. User enters the professional credential [**user action**]
6. System displays the virtual care page [**system action**]
7. User checks the upcoming appointments and have meetings with patients [**user action**]

3. Site Mapping

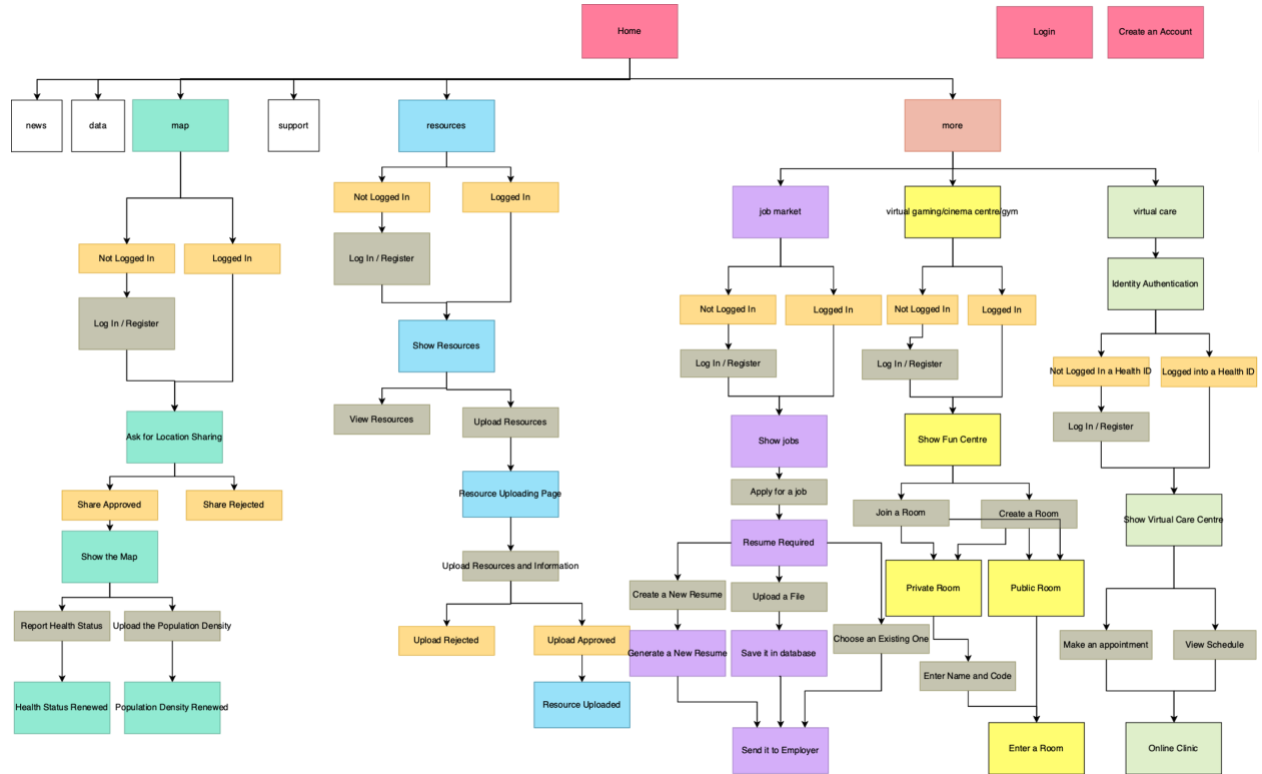


Figure 1 full website sitemap

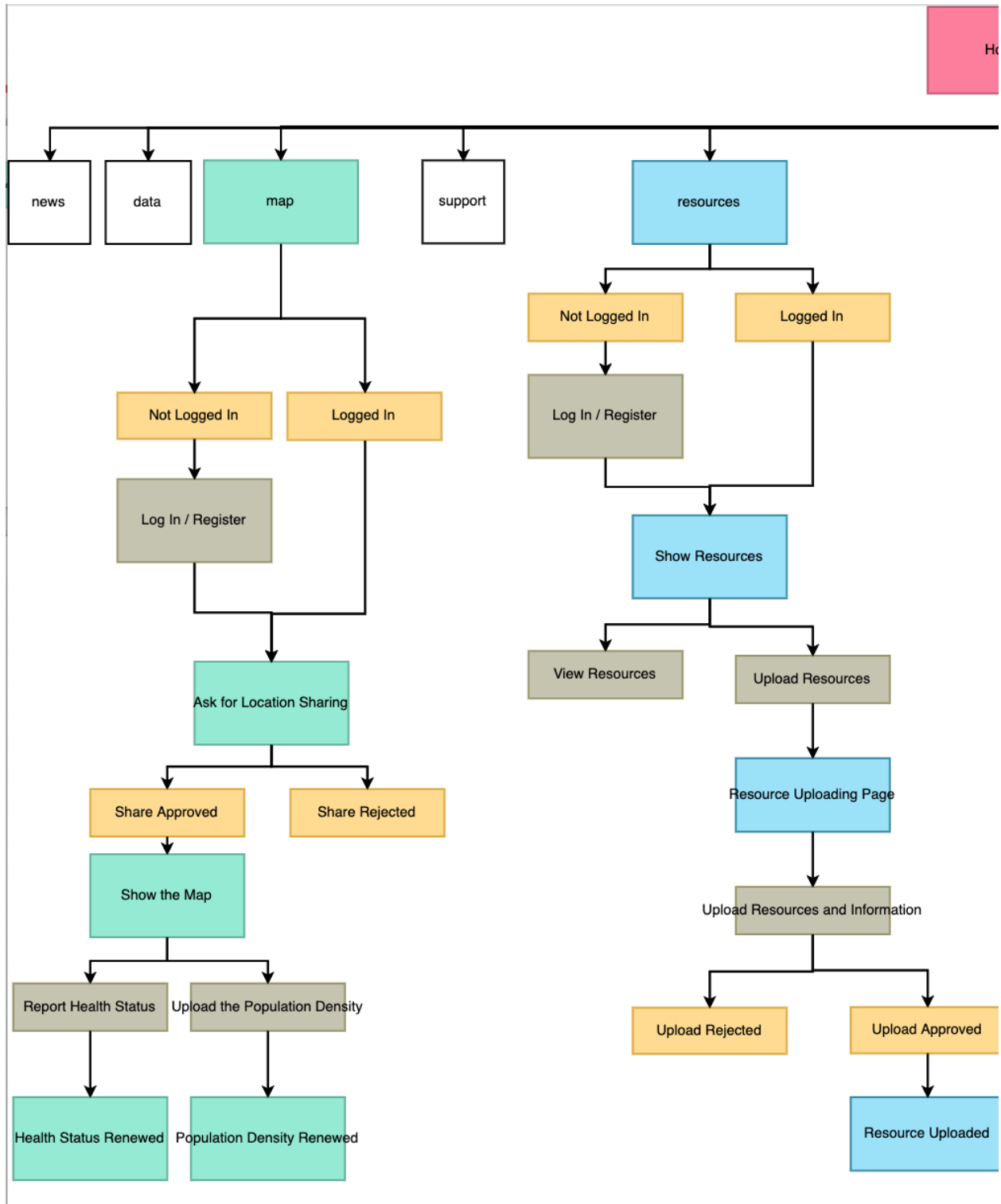


Figure 2 left half of the site mapping

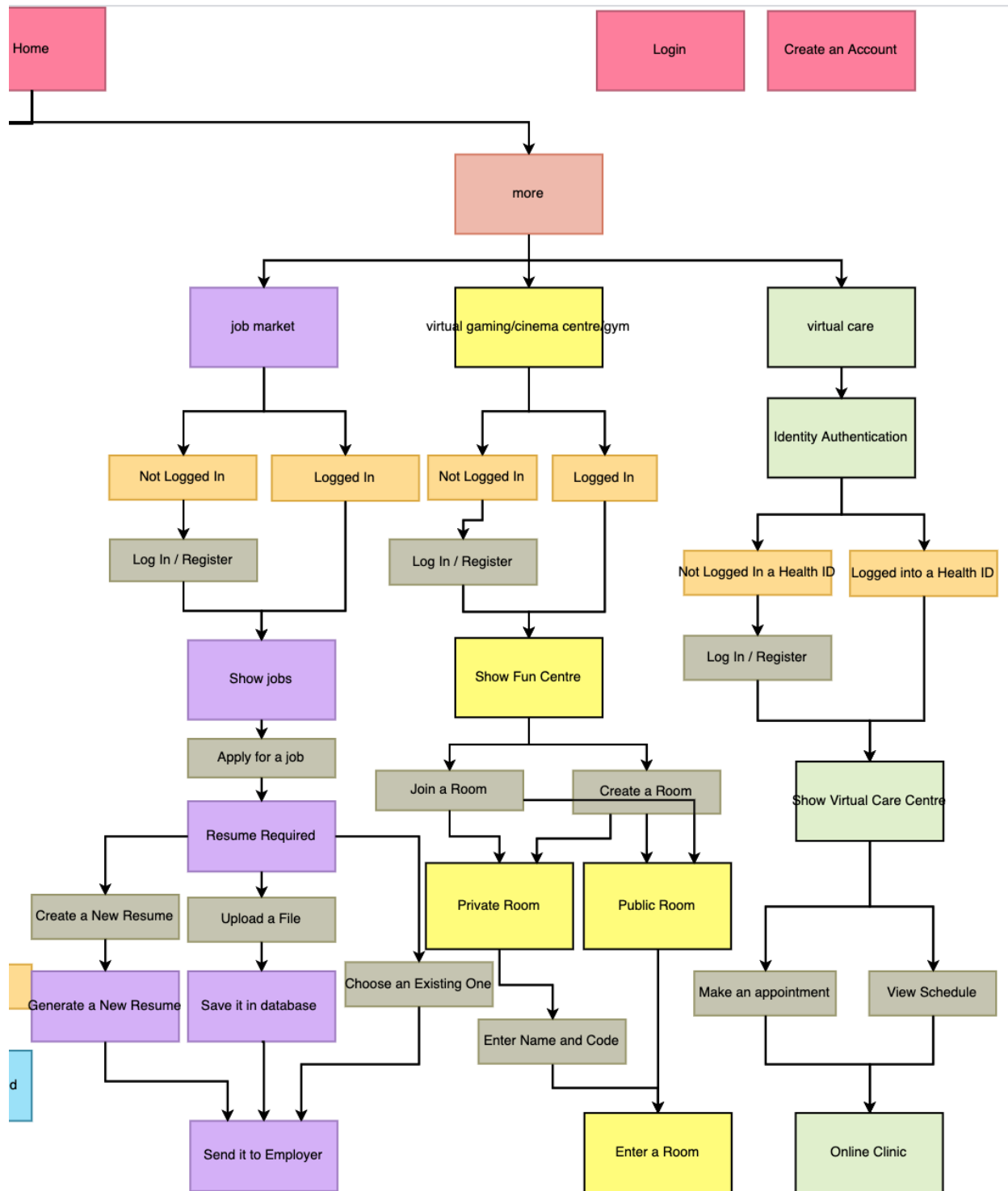


Figure 3 right half of the site mapping

4. Task Flow

Registering

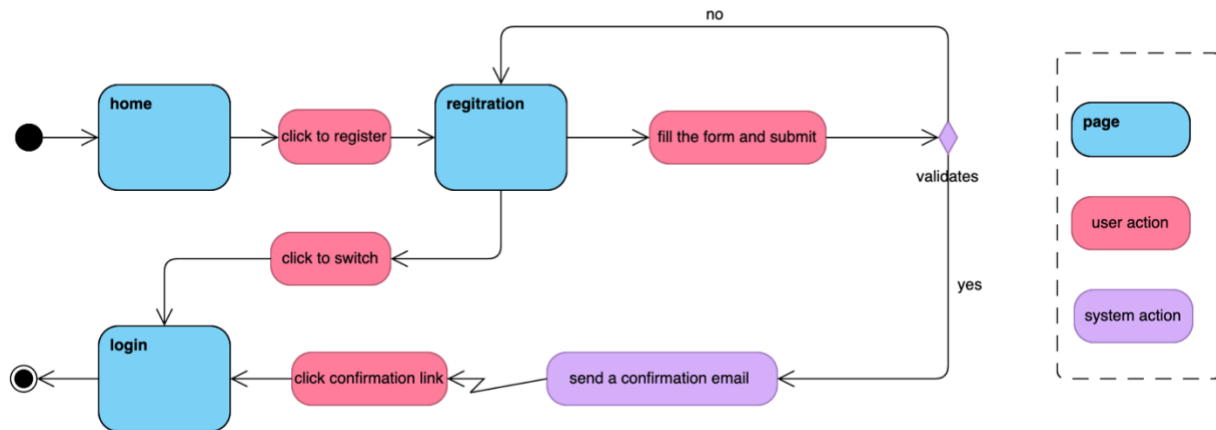


Figure 4 task flow of registering

Upload resources

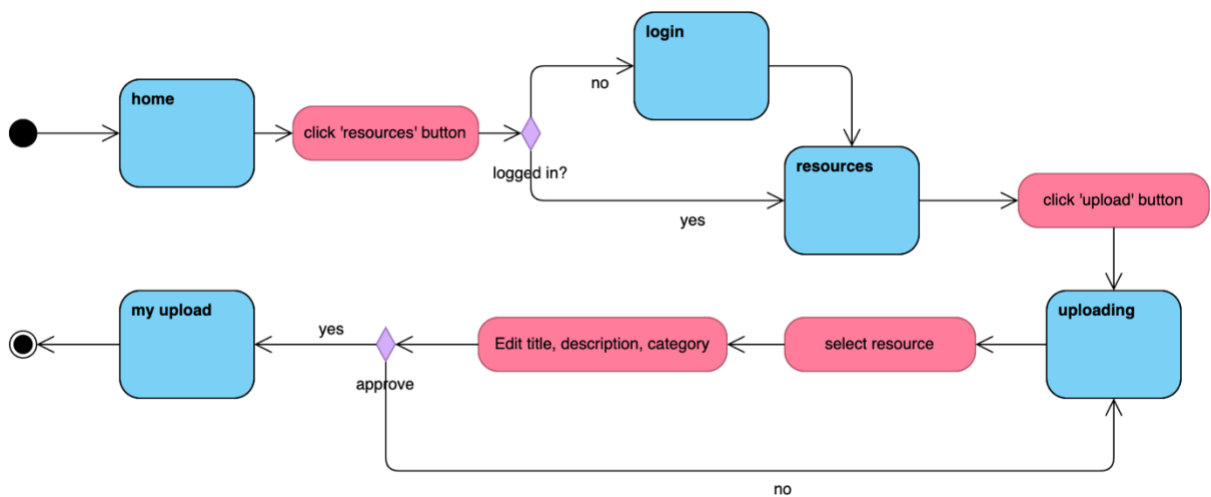


Figure 5 task flow of uploading resources

Upload the current population density

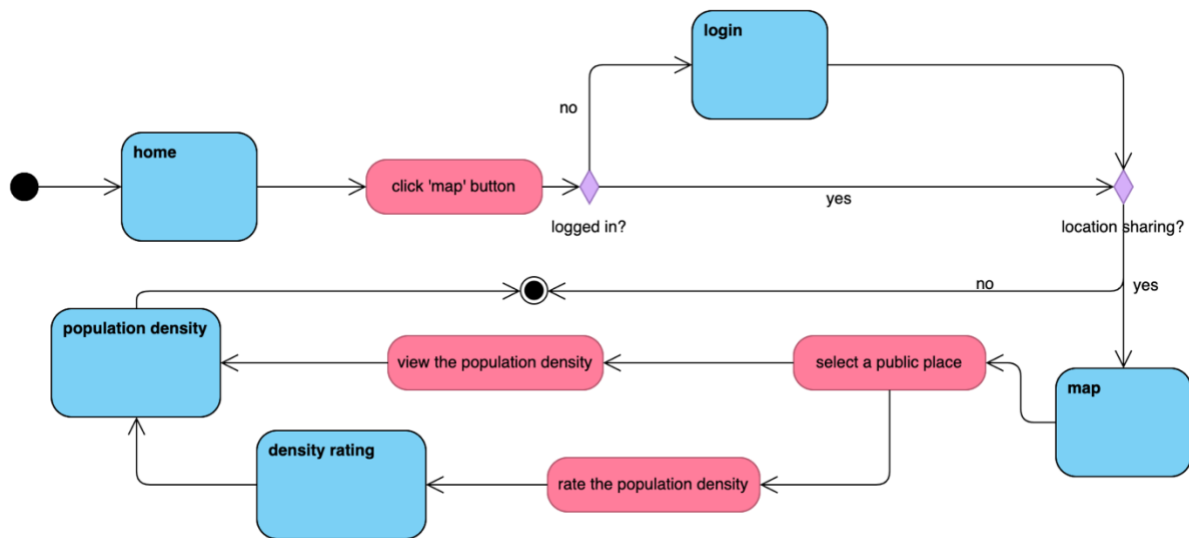


Figure 6 task flow of updating density

Change the health status in the map

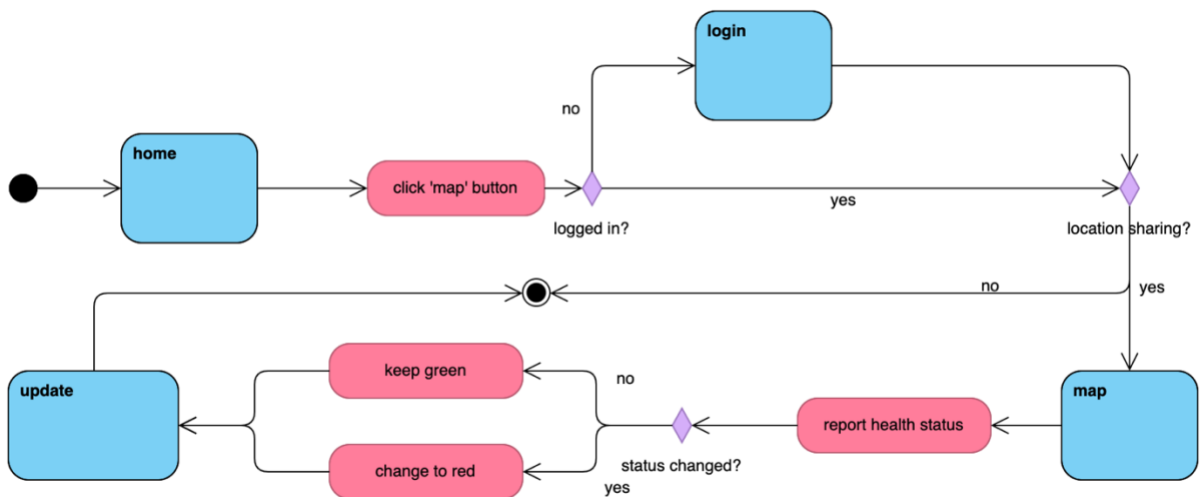


Figure 7 task flow of changing status

Find a job

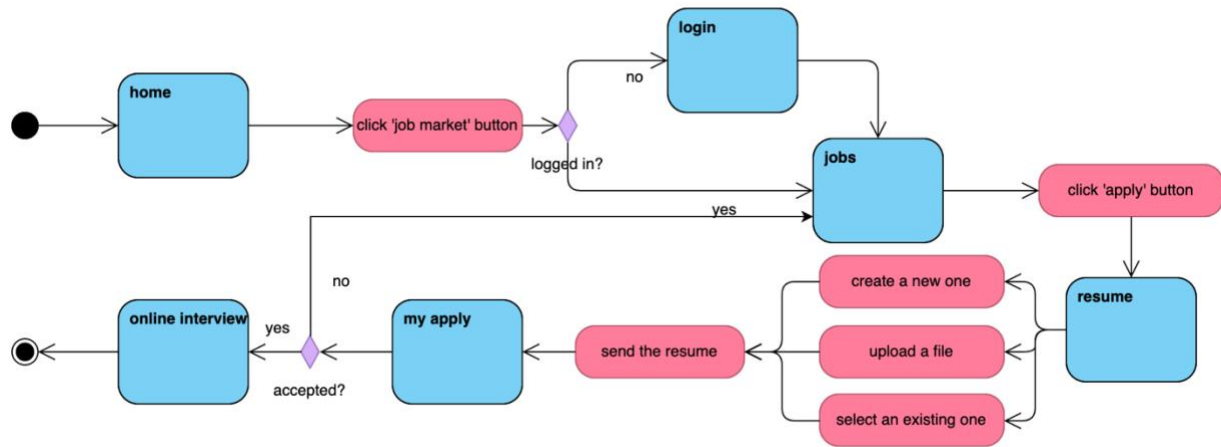


Figure 8 task flow of finding a job

Virtual gaming/cinema centre/gym

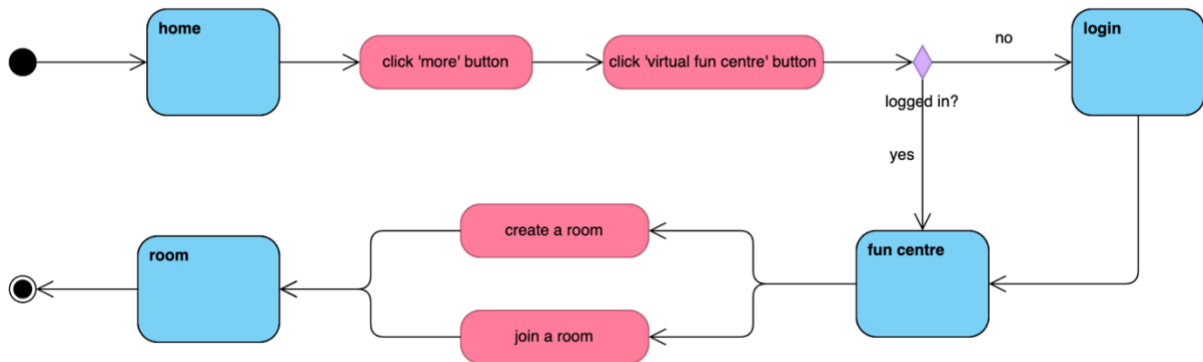


Figure 9 task flow of virtual fun centre

Virtual care

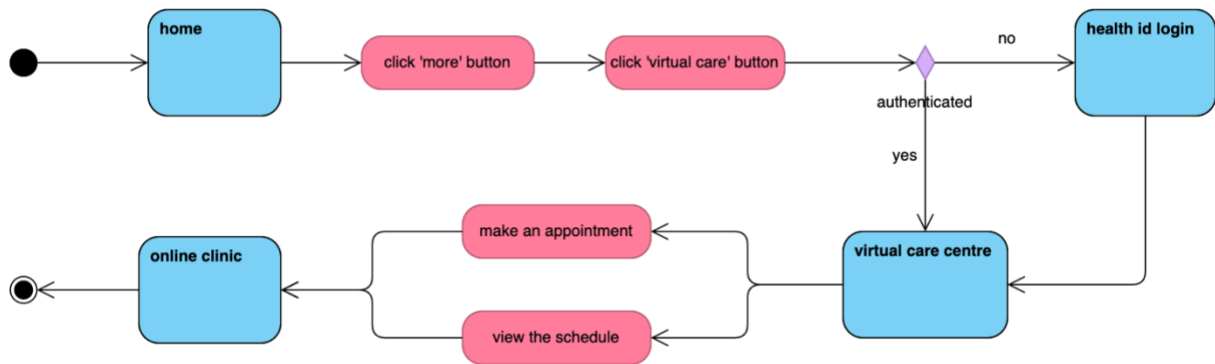


Figure 10 task flow of virtual care

5. Lo-Fidelity Prototype

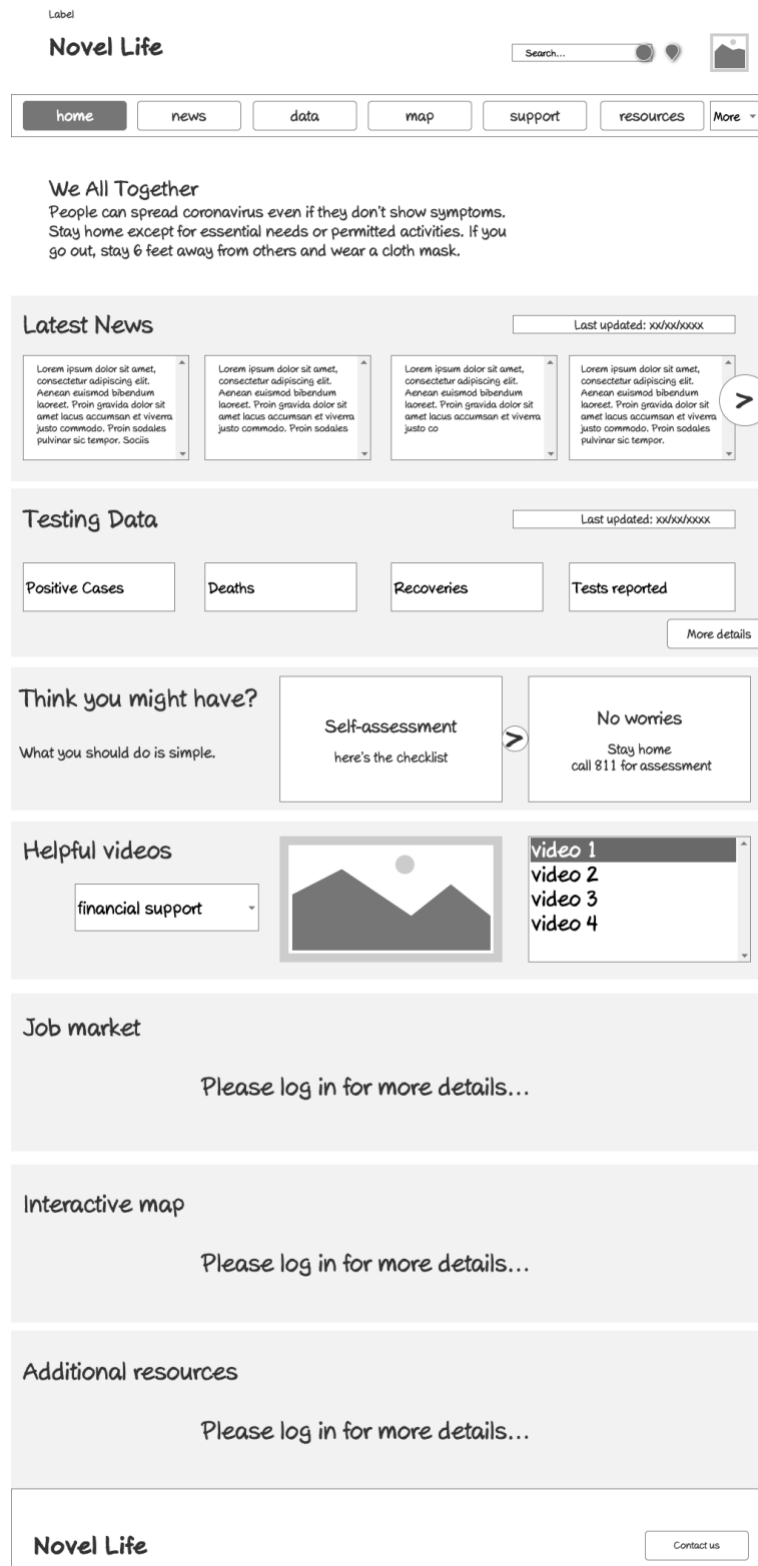


Figure 11 home page prototype

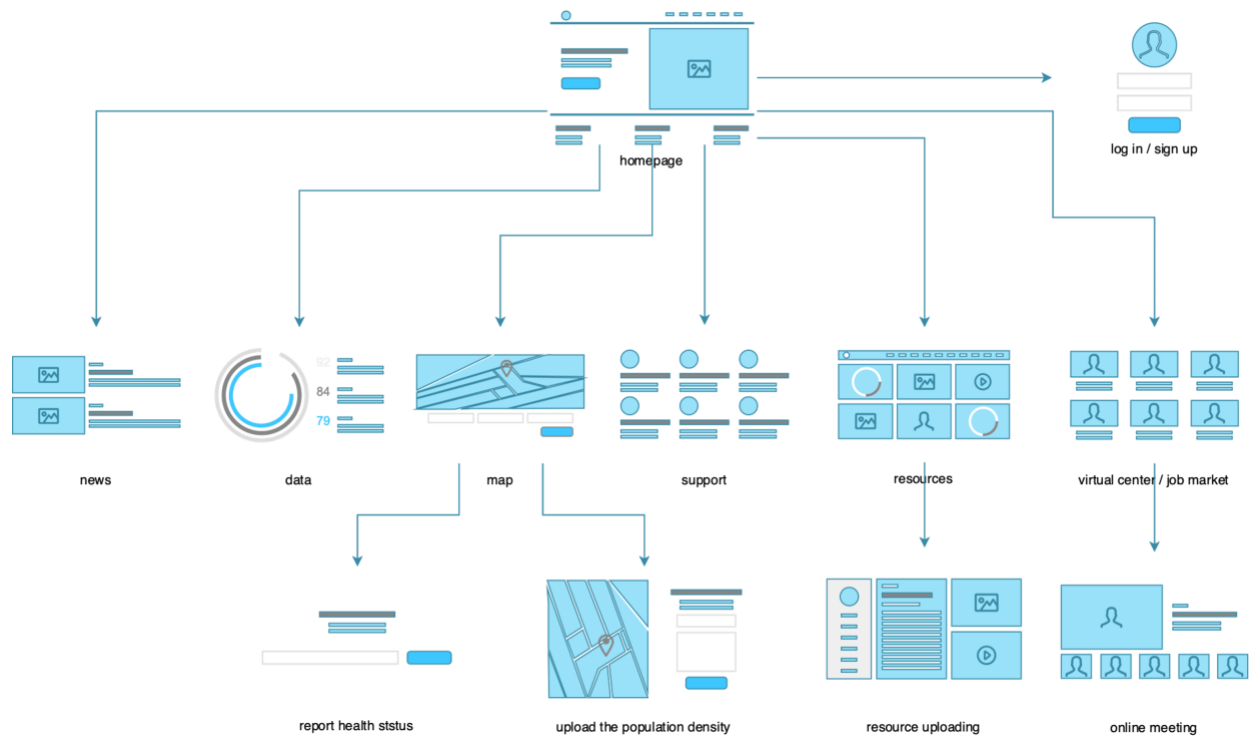


Figure 12 core pages' site mapping and prototype

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