Dynamic Web Design

Assignment 2

Web/database Beta prototype

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Link to the website: http://www.zhipeili.edinburgh.domains/fatfree/FFF-SimpleExampleS/home

Link to the video: https://media.ed.ac.uk/media/Screencast%20of%20the%20website/1_kvqu3wbf

1.Design Motivations

Introduction

The year is 2034, 99% of the world's population has mobile devices. Meanwhile, a new virus has been found and is spreading rapidly around the world. This new virus is called "Smartphone Addiction Virus – 2034" (SAV-34).

People who caught SAV-34 will become addicted to their smartphone or mobile devices, they will spend a large amount of time browsing the internet, overusing social media, playing mobile games, etc. Resulting in health problems such as eye strain, obesity, lack of sleep, headache and serious health issues like vision loss and sudden cardiac death.

Introduction

Our website is called "SAV-34 Help Kit". This website provides basic information on SAV-34, prevention method for viewers to avoid catching SAV-34, a forum or sharing board for registered users to share their experiences and opinions, finally, a SAV-34 self-check page for users to check their risk of having SAV-34 according to their given symptoms.

Originally, we would like to design a website for COVID-19 with similar functions and contents, but after listening to tutors' opinions, we believe that is may be too risky providing information for ongoing events and medical advices for COVID-19. Therefore, we decided to make up a brand-new virus where we can use our imaginations and design a website as we want.

Design Concept

As we would like users to understand the theme of our website in first sight, we have included elements like mobile phone, virus in our background design, alongside with some basic shapes and lines designs.

We have created several versions for the web background design with different colour themes and shapes.

To enrich the visual elements in our website, we have designed some GIF illustrations according to the contents of each sections and pages. The GIFs are in black and white colours as we want the GIF to be simple, easily understandable and not overly eyecatching.

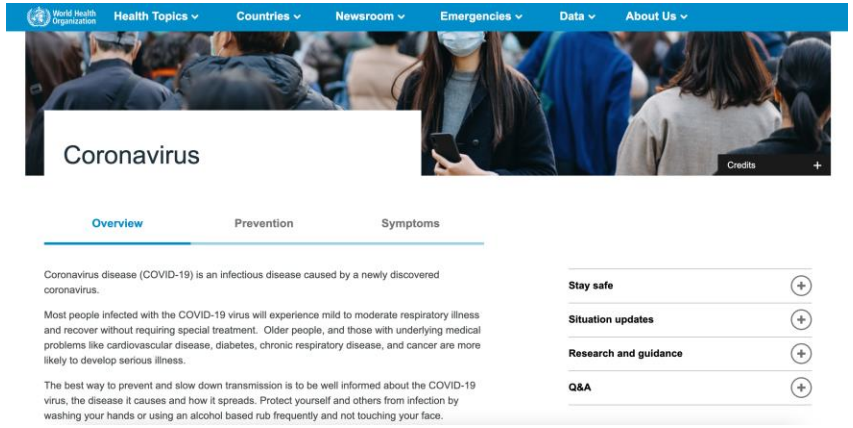
2.Methodology & Contents

Research

Our research is mainly for two reasons. One is that what should be included in our website and the other is to find some interesting interaction moods that can be used in our website.

1. What should be included in a heath-chechek website?

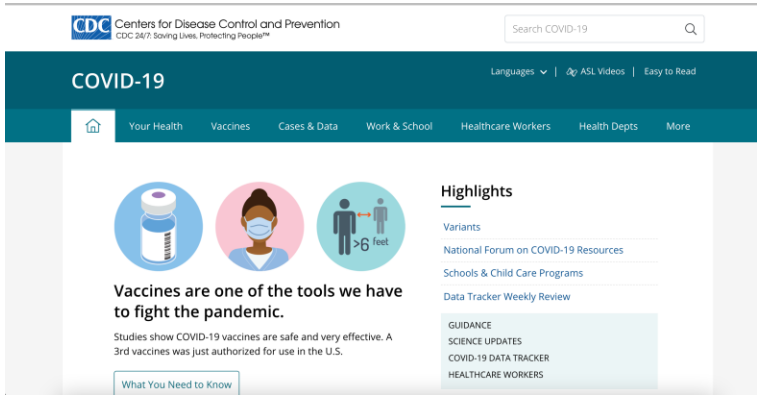
As the SAV-34(Smartphone Addiction Virus 2034) is a fictitious virus, we did some research on the websites which are used for showing basic information of COVID-19, to learn about their contents and interactive mode.



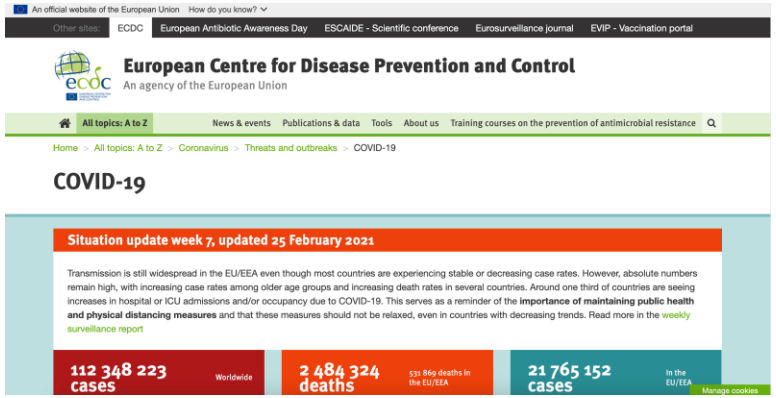
https://www.who.int/healthtopics/coronavirus#tab=tab_3

- Overview;
- Prevention;
- Symptoms: ;
- Others: how to stay safe; situation updates; research and guidances; Q&A

Research



https://www.cdc.gov/coronavirus/2019-ncov/index.html



https://www.ecdc.europa.eu/en/covid-19

- Your Health: about COVID-19;masks;daily life;
- Vaccines;
- Cases & tracker;
- Work & School;
- Healthcare workers;
- Situation update;
- Quick links;
- Latest outputs;
- Q&A;
- Latest evidence;
- Surveillance of COVID-19

Research

2. Are there any interaction moods that can be used in the website?

We went for research on many web pages with great design and found interaction moods, such as smooth scroller, SVG buttons, carousels, could always take users a fantastic experience.

https://webflow.com/discover/popular

Basic Functions

The website have mainly four function:

Explore

Users can know some basic information about SAV-34 (Smartphone Addiction Virus 2034).

Query

By completing the questionnaire, users can receive an SAV-34 risk evaluation report and suggestion according to their health conditions/ symptoms stated.

Obtaining suggestion

The website will feedback corresponding countermeasures based on the user's health status (recommendations for reference only)

Sharing

People can share their experience of fighting SAV-34, everyone can see and show support.

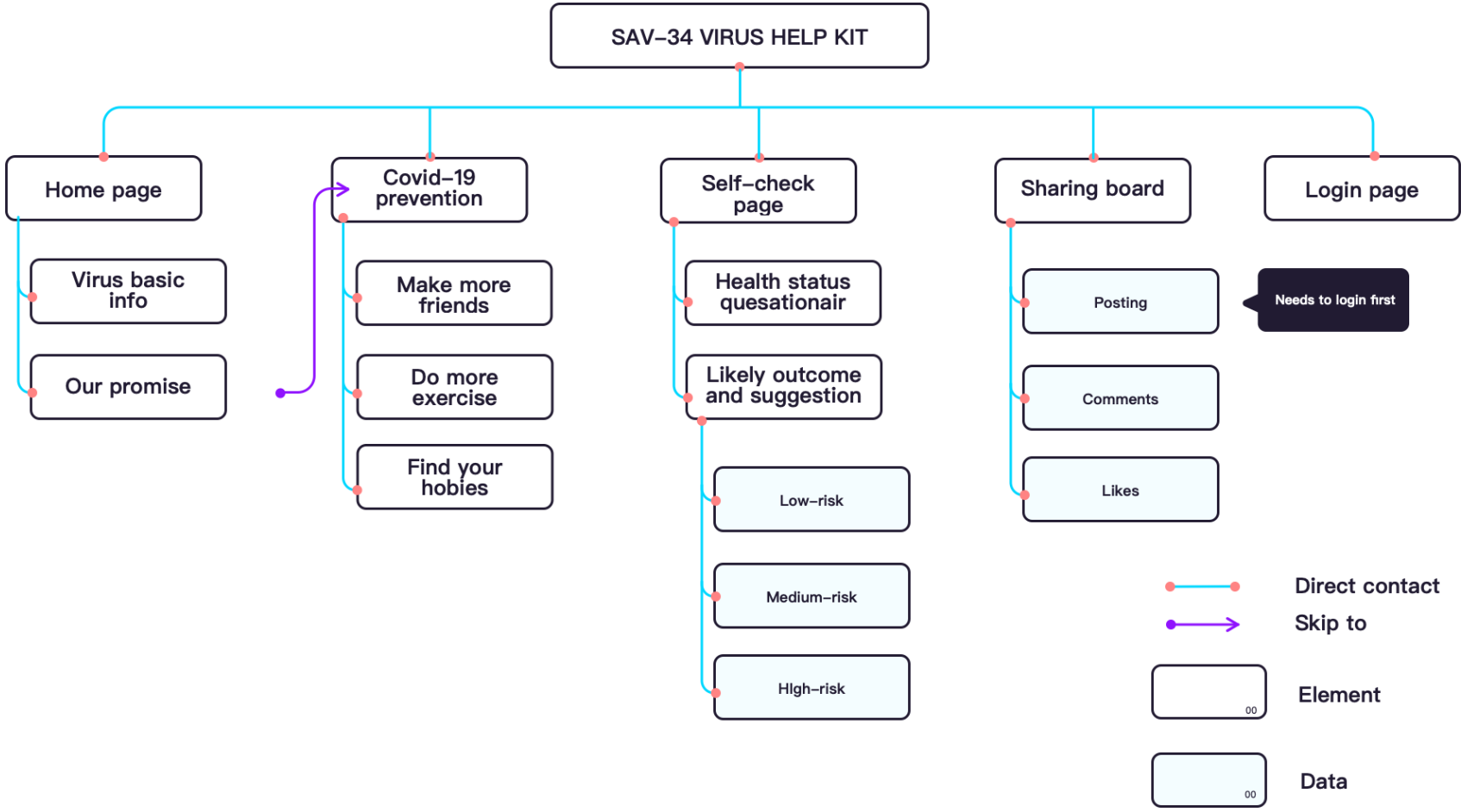
The Query Part

The Query Part is based on Mobile Phone Problem Use Scale (MPPUS; Bianchi&Phillips,2005), which includes 26 statements and is rated on a 5-point Likert scale, to help users make a quick self-check on their reliance on their mobile phones. The items of the questionnaire are based on literature about behavioural addictions and assumed social aspects of mobile phone use.

https://www.semanticscholar.org/paper/Prevalence-of-Problematic-Mobile-Phone-Use-in-Lopez-Fernandez-Honrubia-Serrano/28e022ab33ef2ff929fe008bd32e1cd652e1327a

Item	*MPPUSA item statement (British adaptation)*
1	I can never spend enough time on my mobile phone
2	I have used my mobile phone to make myself feel better when I was feeling down
3	I find myself occupied on my mobile phone when I should be doing other things, and it causes problems
4	I have tried to hide from others how much time I spend on my mobile phone
5	I lose sleep due to the time I spend on my mobile phone
6	I have spent with the mobile phone more than I should have
7	When out of range for some time, I become worried about the thought of missing a call
8	Sometimes, when I am on my mobile phone and I am doing other things, I get carried away with the conversation and I don't pay attention to what I am doing
9	The time I spend on my mobile phone has increased over the last 12 months
10	I have used my mobile phone to talk to others when I was feeling isolated
11	I have attempted to spend less time on my mobile phone but am unable to
12	I find it difficult to switch off/switch to silent my mobile phone
13	I feel anxious if I have not checked for messages or switched on my mobile phone for some time
14	I have frequent dreams about my mobile phone
15	My friends and family complain about my use of the mobile phone
16	If I don't have a mobile phone, my friends would find it hard to get in touch with me
17	My academic performance has decreased as a direct result of the time I spend on my mobile phone
18	I have aches and pains that are associated with my mobile phone use
19	I find myself using on my mobile phone for longer periods of time than intended
20	There are times when I would rather use my mobile phone than deal with other more urgent matters
21	I am often late for appointments because I'm talking on my mobile phone when I shouldn't be
22	I become irritable if I have to switch off/to silent my mobile phone for classes, meals, or at the cinema
23	I have been told that I spend too much time on my mobile phone
24	More than once I have been in trouble because my mobile phone has gone off during a class, at the cinema, or in a theatre
25	My friends don't like it when my mobile phone is switched off/to silent
26	I feel lost without my mobile phone

Framework


SAV–34 VIRUS HELP KIT
Home page
Virus basic info
Our promise
Covid–19 prevention
Make more friends
Do more exercise
Find your hobies
Self–check page
Health status quesationair
Likely outcome and suggestion
Low–risk
Medium–risk
HIgh–risk
Sharing board
Posting
Needs to login first
Comments
Likes
Login page
Direct contact
Skip to
Element
Data

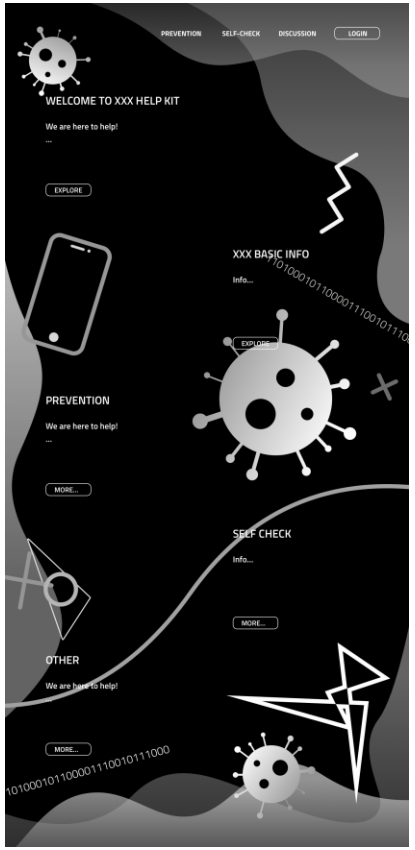
3.Execution

Design Development

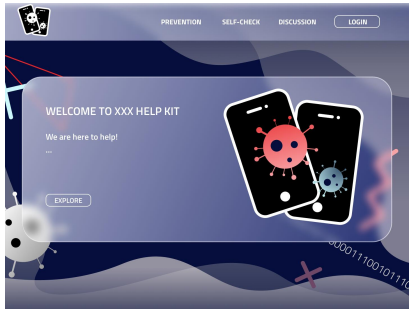
First Draft

Second Draft

Third Draft

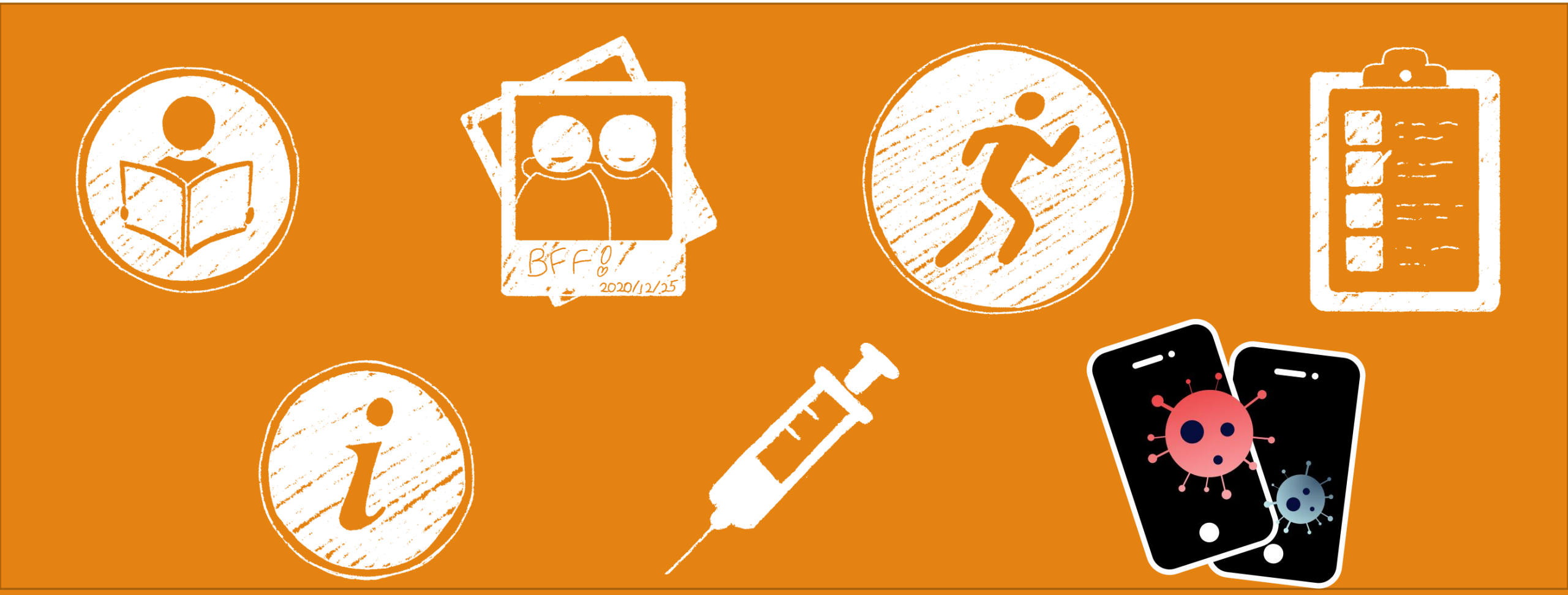


Forth Draft

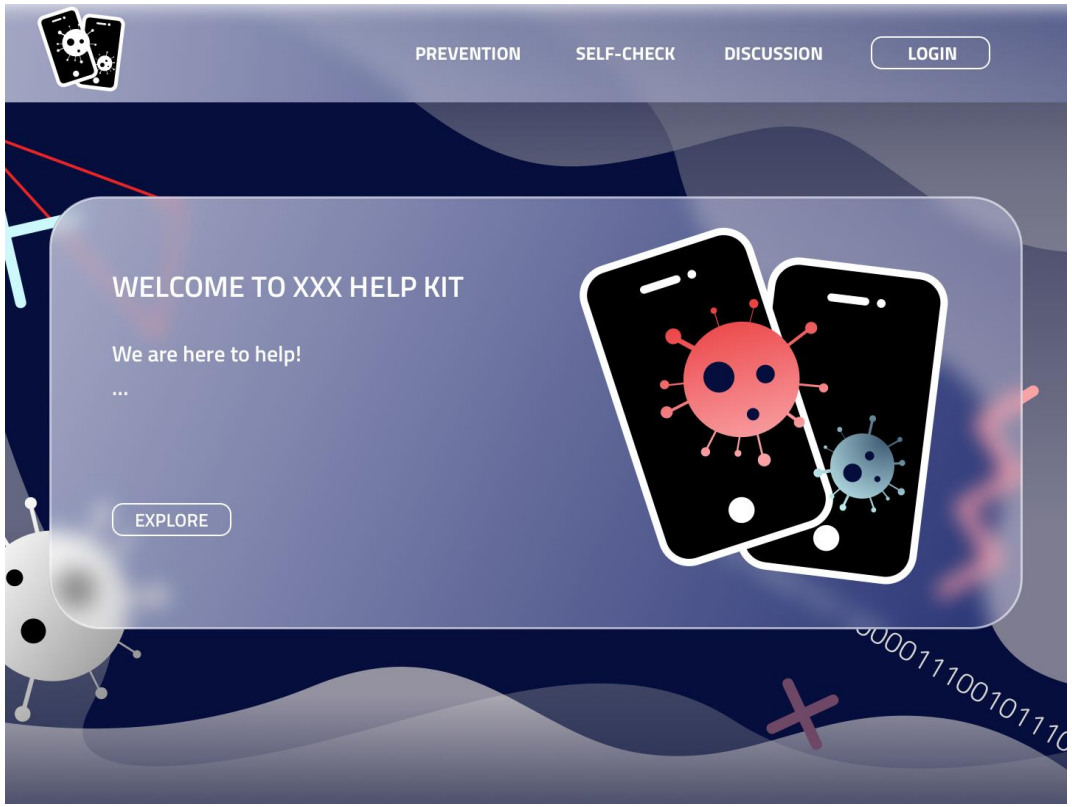


Final Draft

Illustration Designs



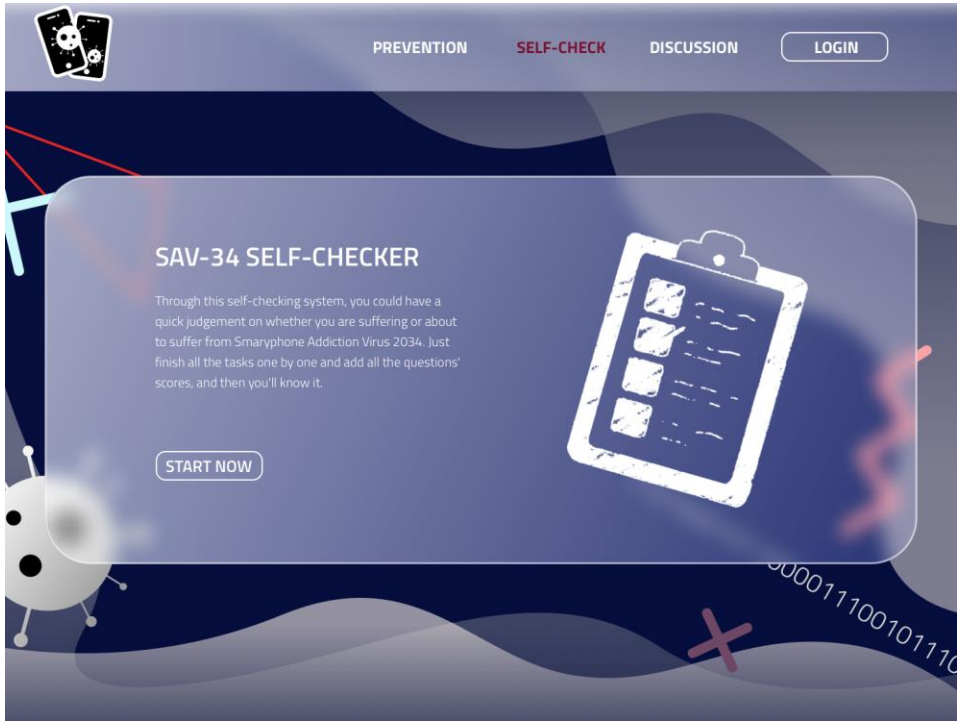
Initial Designs in Sketch



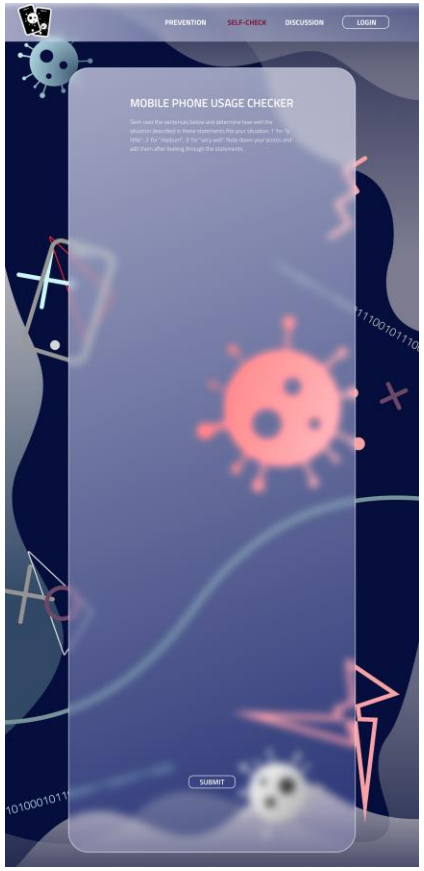
Home Page

Prevention Page

Initial Designs in Sketch

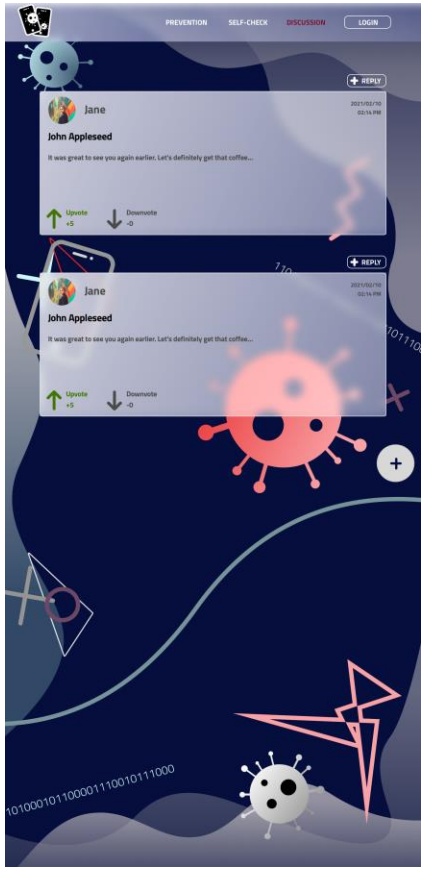


Self-Check Start Page

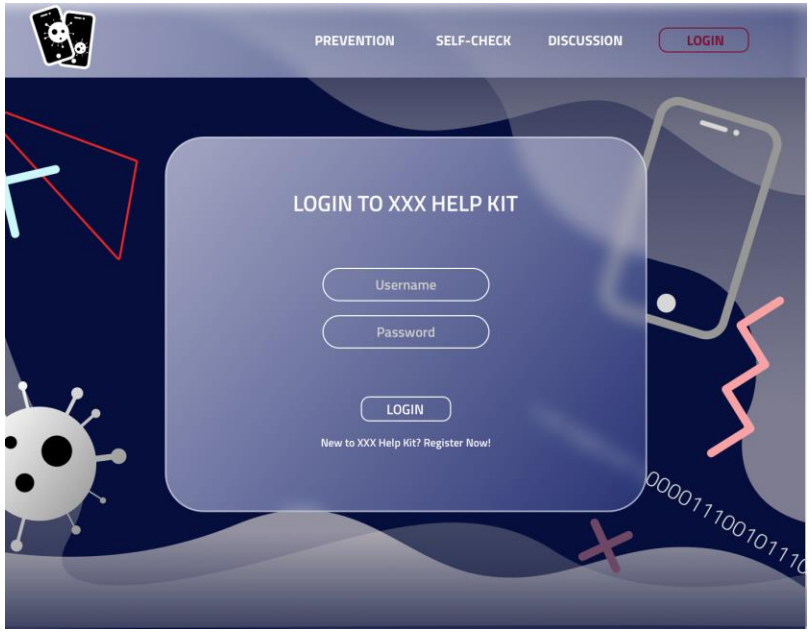


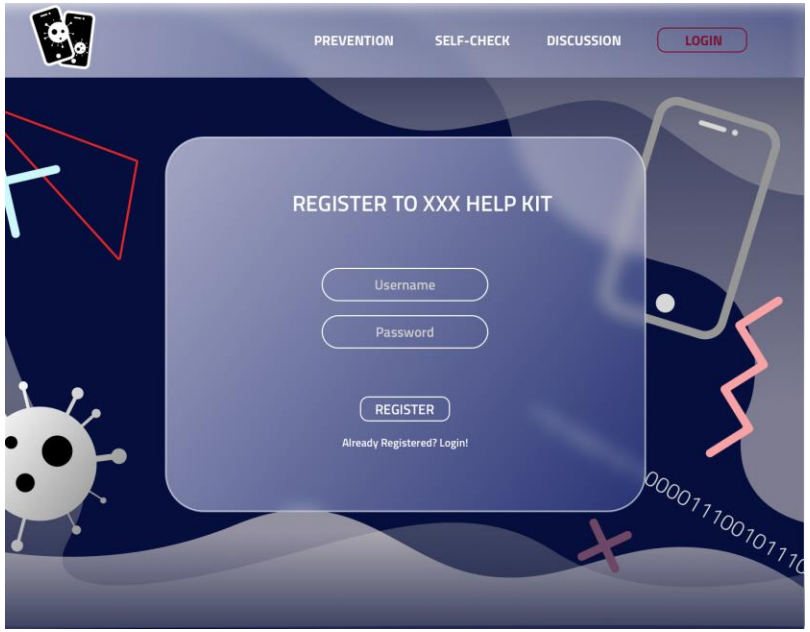
Self-Check Page

Initial Designs in Sketch



Discussion Page





Login and Register Page

Front-end Part

As we have changed the overall design of the website, the frontend part also needs to be refreshed. We reproduced the design draft in Html and CSS. Here are a few major changes:

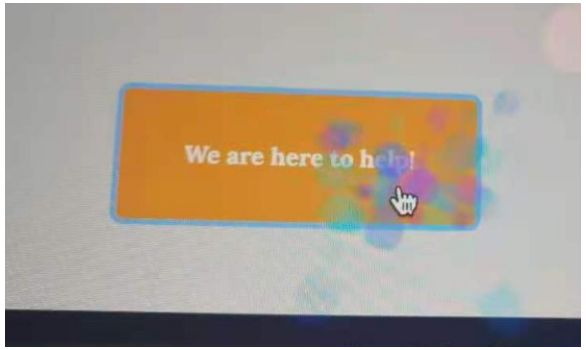
- Changing the color palette of the website;
- The title, "Smartphone Addiction Helping Center", used to be on the top of all the web pages, which takes too much space. For this submission, we deleted the title part on each page and put the navigation bar on the top of each webpage;
- Changing the whole design of the Prevention page;
- Changing the layout of the Home page and Discussion page.

Front-end Part

Besides the basic adjustments according to the design draft, we have also attempted to add some interesting effects to our website with Javascript to make it more interactive and explorable. Here are the Javascript we add to our website in this submission:

1. Button Popper

When clicking on the button, users can see the special particles effects.

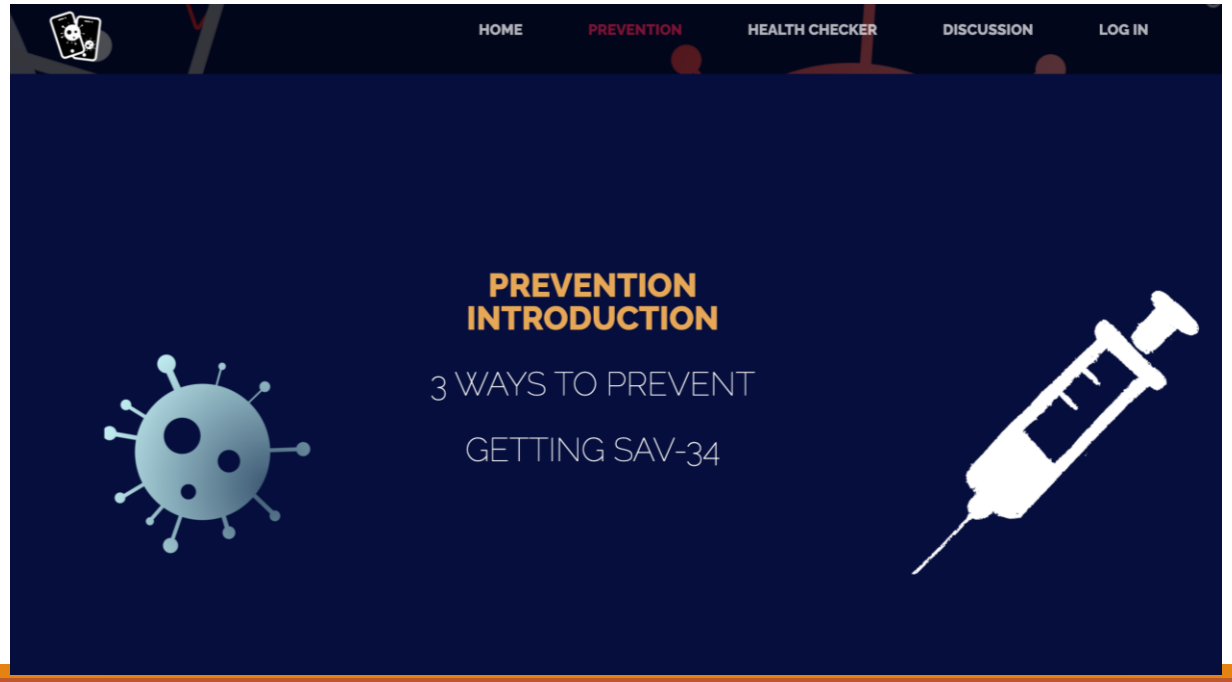



```
<script>
  if (document.body.animate) {
  document.querySelector('#button').addEventListener('click', pop);
}

function pop (e) {
  // Quick check if user clicked the button using a keyboard
  if (e.clientX === 0 && e.clientY === 0) {
    const bbox = document.querySelector('#button').getBoundingClientRect();
    const x = bbox.left + bbox.width / 2;
    const y = bbox.top + bbox.height / 2;
    for (let i = 0; i < 30; i++) {
      // We call the function createParticle 30 times
      // We pass the coordinates of the button for x & y values
      createParticle(x, y);
    }
  } else {
    for (let i = 0; i < 30; i++) {
      // We call the function createParticle 30 times
      // As we need the coordinates of the mouse, we pass them as arguments
      createParticle(e.clientX, e.clientY);
    }
  }
}

function createParticle (x, y) {
  const particle = document.createElement('particle');
  document.body.appendChild(particle);

  // Calculate a random size from 5px to 25px
  const size = Math.floor(Math.random() * 20 + 5);
  particle.style.width = `${size}px`;
  particle.style.height = `${size}px`;
  // Generate a random color in a blue/purple palette
  particle.style.background = `hsl(${Math.random() * 90 + 180}, 70%, 60%)`;

  // Generate a random x & y destination within a distance of 75px from the mouse
  const destinationX = x + (Math.random() - 0.5) * 2 * 75;
  const destinationY = y + (Math.random() - 0.5) * 2 * 75;

  // Store the animation in a variable as we will need it later
```

Front-end Part

2. Change background color with GSAP ScrollTrigger

When scrolling down the Prevention Page, users can find the color changing process very smoothly and naturally.




```
/* SMOOTH SCROLL */
const scroller = new LocomotiveScroll({
  el: document.querySelector(".contents"),
  smooth: true
});

scroller.on("scroll", ScrollTrigger.update);

ScrollTrigger.scrollerProxy(".contents", {
  scrollTop(value) {
    return arguments.length
      ? scroller.scrollTo(value, 0, 0)
      : scroller.scroll.instance.scroll.y;
  },
  getBoundingClientRect() {
    return {
      left: 0,
      top: 0,
      width: window.innerWidth,
      height: window.innerHeight
    };
  }
});

ScrollTrigger.addEventListener("refresh", () => scroller.update());

ScrollTrigger.refresh();

/* COLOR CHANGER */
window.addEventListener("load", function () {
  const scrollColorElems = document.querySelectorAll("[data-bgcolor]");
  scrollColorElems.forEach((colorSection, i) => {
    const prevBg = i === 0 ? "" : scrollColorElems[i - 1].dataset.bgcolor;
    const prevText = i === 0 ? "" : scrollColorElems[i - 1].dataset.textcolor;

    ScrollTrigger.create({
      trigger: colorSection,
      scroller: ".contents",
      start: "top 50%",
      onEnter: () =>
```

Front-end Part

3. Infinite rotating carousel with many list items

Users can check all the questions one by one in a very interesting interaction way.


```
<script>
const carousel = document.querySelector('.carousel__list');
const cells = carousel.querySelectorAll('.carousel__cell');

const cellWidth = carousel.offsetWidth;
const cellHeight = carousel.offsetHeight;
const cellSize = cellHeight;
const cellCount = 24;

const radius = Math.round((cellSize / 2) / Math.tan(Math.PI / cellCount));
const theta = 360 / cellCount;

var selectedIndex = 0;

function rotateCarousel() {
    const angle = theta * selectedIndex * -1;
    carousel.style.transform = 'translateZ(' + -radius + 'px) ' + 'rotateX(' + -angle + 'deg)';

    const cellIndex = selectedIndex < 0 ? (cellCount - ((selectedIndex * -1) % cellCount)) : (selectedIndex % cellCount);

    const cells = document.querySelectorAll('.carousel__cell');
    cells.forEach((cell, index) => {
        if(cellIndex === index) {
            if(!cell.classList.contains('selected'))
                cell.classList.add('selected');
        }
        else {
            if(cell.classList.contains('selected')) {
                cell.classList.remove('selected');
            }
        }
    });
}

function selectPrev() {
    selectedIndex--;
    rotateCarousel();
}

function selectNext() {
    selectedIndex++;
```

Interactive process

The most basic functions of the website include a discussion board for users to share their experience and a self-check function.

For the self-check section, we took the privacy and security of users personal information into our consideration, so instead of storing users test report involving sensitive information into the database after self-checking questionnaire, it is better to presented the website as a form of online filling and online generation. As the structure of the official scale we refer to is relatively simple, the results will not be recorded and users can participate in the test multiple times.

For the discussion board section, as the reason of considering creating and maintaining a healthy atmosphere and environment for the discussion board as a platform of sharing everyones experience, login section in needed before publishing any content. Therefore, the content publishing section nested in the login-related layout html as the template. Every time a user wants to publish content, the system will trigger a code that checks whether the user is logged in. At the same time, a simple button will be displayed on the right side of the navigation bar to display the user's login status: ‘logout’ if already logged , ‘login’ if not login yet.

Back-end Part - database

Two tables are mainly used in the whole project, which are used for recording user information and the content of the discussion board.

SimpleUsers: used for user registration and login, data include user name, password and email

DiscussContent: used for discussion board, data include user name, content, time, title

#	名字	类型	排序规则	属性	空	默认	注释	额外
1	id	int(11)			否	无		AUTO_INCRE
2	name	varchar(64)	latin1_swedish_ci		否	无		
3	content	varchar(64)	latin1_swedish_ci		否	无		
4	time	timestamp			否	CURRENT_TIMESTAMP		
5	title	varchar(64)	latin1_swedish_ci		否	无		

#	名字	类型	排序规则	属性	空	默认	注释	额外
1	id	int(11)			否	无		AUTO_INCREMEN
2	username	varchar(64)	latin1_swedish_ci		否	无		
3	password	varchar(64)	latin1_swedish_ci		否	无		
4	email	varchar(64)	latin1_swedish_ci		否	无		

全选 选中项: 浏览 修改 删除 主键 唯一

Back-end Part - data interaction

Discussion board:

The process of data acquisition is based on F3 language and the data display as well.

```
$f3->route('POST /discussion',
    function($f3) {
        $formdata = array();            // array to pass on the en
        $formdata["name"] = $f3->get('POST.name');
        $formdata["title"] = $f3->get('POST.title');// whatever wa
        $formdata["content"] = $f3->get('POST.content');        //

        $controller = new SimpleController;
        $controller->putIntoDatabase($formdata);

        $f3->set('formData',$formdata);     // set info in F3 vari

        $f3->set('html_title','Simple Example Response');
        $f3->set('content','response.html');
        echo template::instance()->render( file: 'layout-dis.html');
```

```
<?php
      $sql = "select * from msg order by id desc";
      $result = $conn->query($sql);
if($result->num_rows > 0) {
while($row = $result->fetch_assoc()) {
?>
<repeat group="{{ @dbData }}" value="{{ @record }}">


<div class="about-heading-content">
  <div class="row">
    <div class="col-xl-9 col-lg-10 mx-auto">
      <div class="bg-faded rounded p-5">
        <h2 class="section-heading mb-4">
          <div class="section-heading-upper2">
            <span> {{ @record.title }}</span>
          </div>
          <div class="section-heading-lower2">
            <span> {{ @record.name }}, {{ @record.time }} </span>
          </div>
        </h2>
        <p>
          <span> {{ @record.content }} </span>
        </p>
      </div>
    </div>
  </div>
</div>
</repeat>
<?php
```

Back-end Part - F3 language

<table>

In the discussion board session, we found that it is impossible to link the css file in the form of a table and present the style effect we want, and we hope that each piece of information can be placed under a separate div block, so we refer to the f3 guidebook of the database section and use <repeat> and for the website.

```
<repeat group="{{ @dbData }}" value="{{ @record }}">
        <span> {{ @record.title }}</span>
        <span> {{ @record.name }}, {{ @record.time }} </span>
      <span> {{ @record.content }} </span>
</repeat>
```

Back-end Part - F3 language

css connection and picture link

The connection of css as external files needs to refer to the special statements in the f3 guidebook. One finding is that the statements must follow the order which is herf-type-rel, and {{@BASE}} should be added to the path as well as including the full path to ui/css:

<link href="{{@BASE}}/ui/css/xx.css" type="text/css" rel="stylesheet"/>

The same for importing external image files: src="{{@BASE}}/ui/img/xx.gif"

Roles and Responsibilities

Name	Roles and Responsibilities
Zhipei Li s2072593	• Responsible for the back-end part
Sarah Leung s2070698	• Designing logos/ illustration and animation • Art direction and Website background design • Research on SVG animation with CSS
Zihao Wang s2067164	• Responsible for the front-end part • The text content of the website

References

[1]https://startbootstrap.com/theme/business-casual

[2]https://codepen.io/Mamboleoo/pen/zYGqvQd

[3]https://codepen.io/cameronknight/pen/RwRebNY?editors=0010

[4]https://codepen.io/agalliat/pen/bGpjVaw?editors=1100