

Designing Digital Interactions

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Q1. Context of the Application:

CrossFast app is a mobile phone and watches app made for pedestrians to press the crossing button of a traffic light through their device. This app uses GPS and software to track users' speed toward traffic signals, and within 30 yards of the traffic light, pedestrians receive an alert on the device, allowing them to press the crossing button. After pressing the button, this app shows the time left for the pedestrian signal to go green. This app helps users save time and cross the road quickly and safely.

This app is also designed for disabled people and blind people. Blind people can easily interact with the app through voice input. This app help beat the pandemic by allowing pedestrians to reduce their contact with surfaces that can carry the Covid-19 virus.

Q2. Describe the purpose/aim of what this app would fulfil:

This app is designed for pedestrians to assist cross streets fast. This app is additionally for those who are sluggish to press the flag button physically and at crossroads with a high risk of danger. When the user reaches 30 yards signal circle, a pop-up message shows on the device to stop the signal or ignore it. A user will click on the stop button, and a timer will start on the screen, showing the user the time left for the signal to stop. This app decreases virus-like, covid and a lot more. This app makes a difference crippled individuals' spare time. This app will benefit a gather of schoolchildren.

1. Presence of humans on the road
2. Emergency call in case of an incident
3. Benefits for deaf people
4. It can also be able to use for a zebra crossing
5. Will reduce covid and other gems risk
6. I will help a group of schoolchildren.

The CrossFast app will alert pedestrians to press the stop signal as soon as they approach the crossing sign.

Q3. List all the possible stakeholders for this app and identify the two main categories of users.

Primary Stakeholders:

- **Pedestrians (1st main category)**
All pedestrians will use the app to cross the road quickly and safely. Pedestrians will be able to save precious time.
- **Disabled People (2nd main category)**
Disabled people found it difficult to reach the signal button. Disabled people, especially those who use the mobility scooter, will use this app to stop signals through their devices.
- **Runners**
Runners tend to have a complicated relationship with traffic lights. Runners stop at traffic signals and break their momentum. But this app will help to maintain their speed while running.
- **Software engineers**
Engineers will be integral to building and maintaining the app.
- **User experience designers**
The design team will ensure that the app's initial and subsequent builds are as effective and efficient as possible (with the app maintaining the potential to grow and add more services).

Secondary Stakeholders:

- **Educational Institutions (Schools, colleges)**
It is challenging for staff to manage groups of students outside on the road. So, the team can use this app to press the traffic light button before arriving at the spot.
- **RIDC (Research institute for Disabled consumer)**
RIDC (Research institute for Disabled Consumers) will build this app in their mobility scooter and powered wheelchairs so disabled people can quickly press a signal button from their scooters.

Q4. Create personas for them:

Personas were developed based on data gathered from an interviews with friends, family, and classmates, as well as from friends. I have included the results of both in the appendix.



Amina Siddika, 22
Teacher

Background

- Secondary School English Teacher
- Omnivore
- Aspire to be a Head Teacher

Demographics

- Female
- 18 - 28
- Resident in East London

Personal Details

Identifies as left wing

Fear: Ophidiophobia

Hope: Get out of difficult circumstances.

Goals

To save my valuable time and arrive at the location as quickly as feasible

To spend more time with family at home

Challenges

When I am in rush or late then I will peek around and cross the street without pressing the button.

School trips, observe the pupils as they stand at the traffic light.

Arriving at work on time in early morning

Skills and Knowledge

Creativity, Proficient with computer, mobile phone and watch.
Good skill in research on internet
A frequent user of all above.

Day in life

Read a lot books.
Active on social media.

Daily use public transport for work, shopping.

Go for Grocery every week.
cook dinner for family.

Real Quotes

"Going home on time and spending time with my family and my real friends keeps me grounded"

"I can't keep today's hour for tomorrow"

"There's only one thing more precious than our time and that's who we spend it on"

What Can We Do

We can offer an app that can be used to hit the traffic button on a watch or a mobile device. Using this app, pedestrians can save time.

This app will assist pedestrians in arriving at their destination on time.



Muhammad Hamza, 28
Data Analyst

Background

- Lives with his family
- Vegan
- Aspire to learn more and more about my field.

Demographics

- Male
- 18 - 33
- Resident in North London

Personal Details

Identify as socialist

Fear: Death of loved ones

Hope: Travel around the world with the love of my life

Goals

To save my time and money for better future.

To spend less time outside more time at home learning new things

Challenges

To manage manage my time effectively

I go for running everyday. Waiting on pedestrians traffic signal break my momentum.

Arriving at work on time in early morning

Skills and Knowledge

Problem-solving skills,
Proficient with computer, mobile phone and watch.
Good skill in research on internet, Play An Instrument, Reading Discipline.

Day in life

Start my day with long running.

Daily use public transport for work, shopping.

Read book before sleeping.

Go for Grocery every week.
Cook dinner for family.

Real Quotes

"For the things i have to learn before i can do them, i learn by doing them"

"Run, run and run.. the more your body cries out as a sweat, more physically and mentally fit you are."

"Time is more valuable than money. You can get more money, but you cannot get more time"

What Can We Do

We can offer an app that can be used to press traffic signal button on wearable watch during running. This app will not break running momentum.

This app will assist people to save their time outside.

Q5. Create a complete set of user stories for the two personas you identified:

As a < school teacher > I want <i want to arrive at school on time > so that <i can manage my work >.

As a <secondary school teacher > I want < the traffic signal to be ready to cross at arrival for students during outside trips> so that < we can keep our students safe from incidents on the road>.

As a < professional employee> I want < the traffic signal to be ready to cross when i do running > so that <i can easily maintain my running momentum and keep myself fit every day>.

As a < professional employee > I want <traffic signal near the train stations to be ready to cross in a timely manner> so that <i can catch my train and arrive at work on time >.

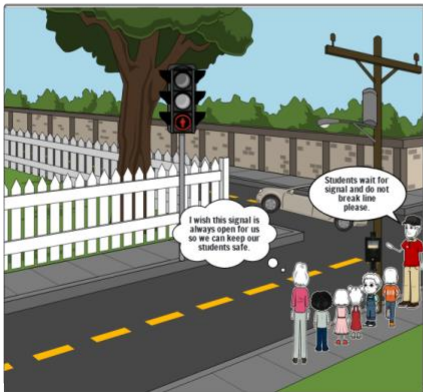
Q6. Create two storyboards each (from any user stories) for the two personas specifying any specific input types.

Storyboard - 1 Amina Siddika

Amina's ready to leave for work



Amina took students for trip

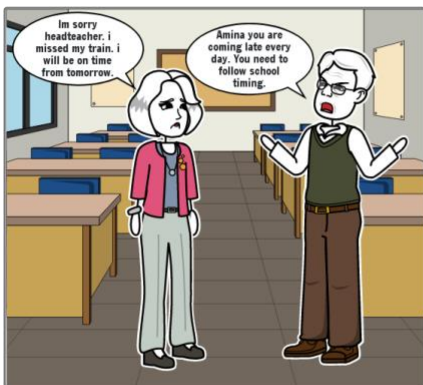


Amina wait for signal



Amina's life struggle story

Headteacher gave her warning



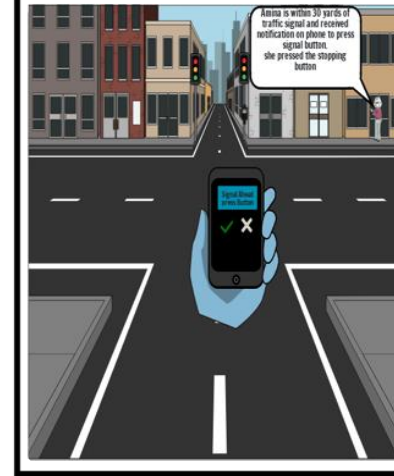
Amina missed her train



(1)Amina's ready to leave for work



(2)Amina pressed traffic button through an app



(3)Amina Crossed Signal

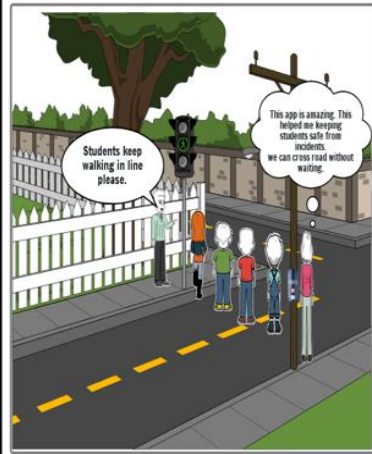


(4)Amina caught her train



Amina's life after downloading CrossFast app

(7)Signal is ready for Amina's Student to cross



(5)Headteacher got happy to see Amina on time



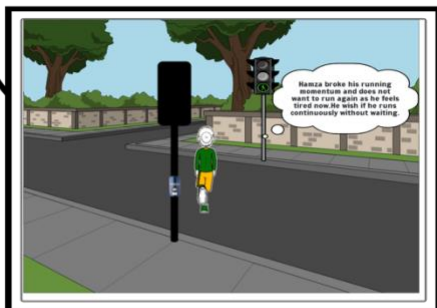
(6)Amina taking students on trip



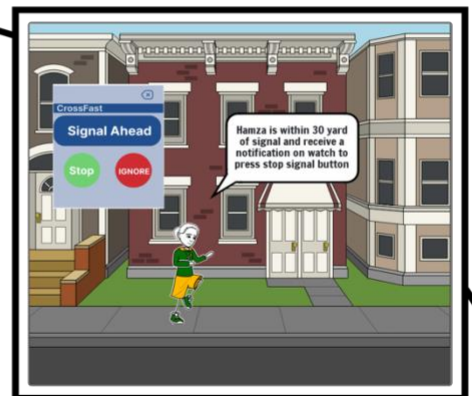
Storyboard - 2 Muhammad Hamza



Hamza lifestyle struggle



Create your own at Storyboard That

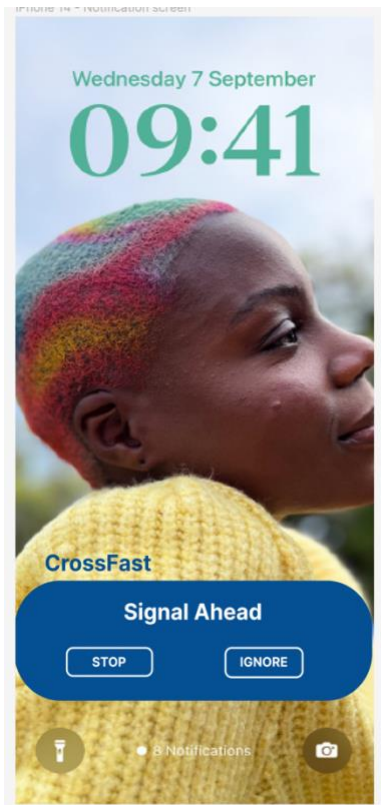


Hamza life style after downloading CrossFast app



Q7. Use any approach to design the screens you identified in the storyboards.





Notification Screen:

This notification will appear on the device whenever the user is within 30 yards of a traffic signal. There are two buttons on the notification screen.

- **Stop**
If the user clicks the stop button, it will take them to the CrossFast app, where they will see the time remaining for the signal to stop.
- **Ignore**
The Ignore button allows the user to dismiss this screen and continue.

 A login page for the CrossFast app with a dark blue background. At the top is a cartoon character of a traffic light with a green circle and a 'GO' sign. Below the character is the 'CrossFast' logo. The form includes an 'Email' field, a 'Password' field, and a 'Forgot Password?' link. A prominent 'LOGIN' button is centered. Below it, there is an '-OR-' separator and a 'Sign in with' section featuring icons for Google, Facebook, and Instagram. At the bottom, it says 'Don't have an Account? Sign up'.

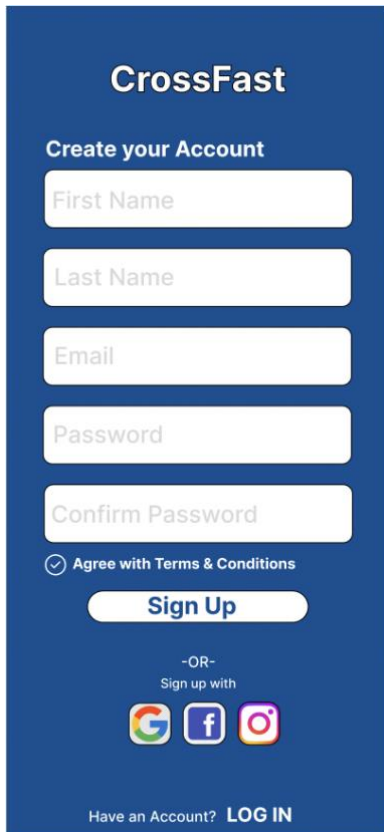
Login Page:

When the user first launches the app. The login page will be displayed first.

Existing users can sign in using their email addresses and password. Users can also sign in using their Gmail, Facebook, or Instagram accounts.

If users forget their password, they can click the Forget Password link.

The login page also includes a link to the signup page, where the new user will click to create an account.



CrossFast

Create your Account

First Name

Last Name

Email

Password




Confirm Password

☒ Agree with Terms & Conditions

Sign Up

-OR-

Sign up with

Have an Account? **LOG IN**

Sign-up page:

A new user can create an account by entering his information. The user must accept the terms and conditions.

New users can also sign up with their Gmail, Facebook, and Instagram accounts.

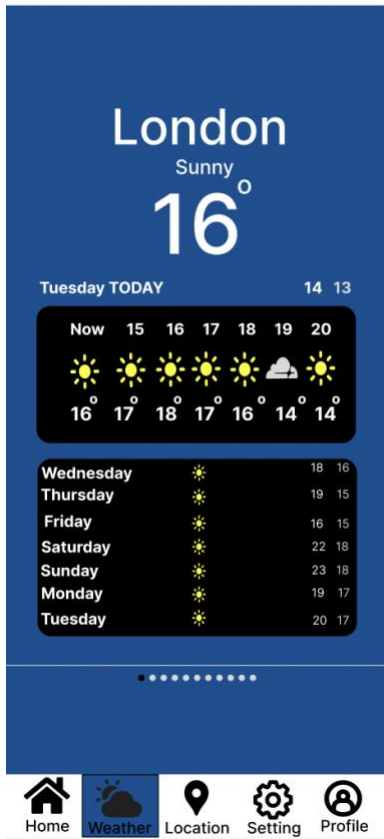
There is also a link to the login page on the signup page. If an existing user arrives at this page by mistake, he can return to the login page.



Home page:

The home page of the app has four main features.

- A Menu tab bar
The Menu tab bar can be used to navigate different pages based on the user's needs.
- A signal-stopping button
When a user wants to stop the signal, he can click on this stop signal button.
- A timer
When the user presses the stop signal button, a timer begins to run, informing users of the remaining time for the signal to stop.
- The walk mood
This feature is intended for people who reside in the signal area but do not wish to get notifications. They will not receive a notification if they switch off the walking mood.



Weather page:

Users can see the most recent weather information for an entire week.

Before heading outside, users can use this app to check the weather.

The current temperature is displayed on the weather page.



Location page:

The location page has the following three features.

- Search bar

Users can look up any location and obtain directions to it.

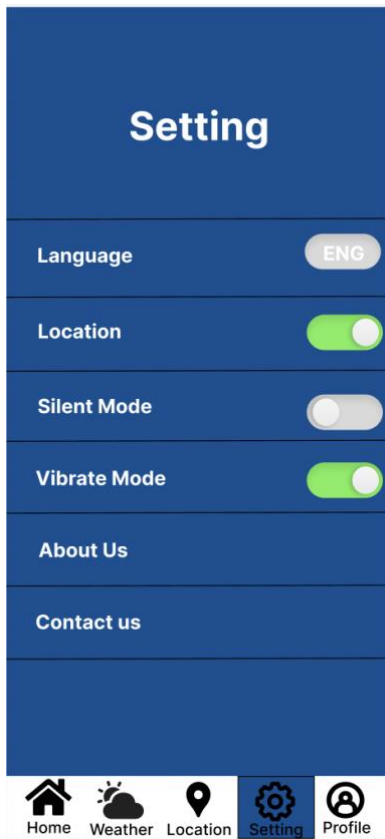
When the user enters directions for a certain place, all signal buttons along that route will be pushed automatically when the user is within 30 yards of that signal.

- A mic

Users can use their voices to search for destinations.

- Current Location button

By touching this button, users can obtain their current location.



Setting page:

The setting page has the following six features:

- Language

Users can choose any language that best suits their needs.

- Location

The location feature also allows users to switch off their location manually.

- Silent mode

It can be used to silence app notifications.

- Vibrate mode

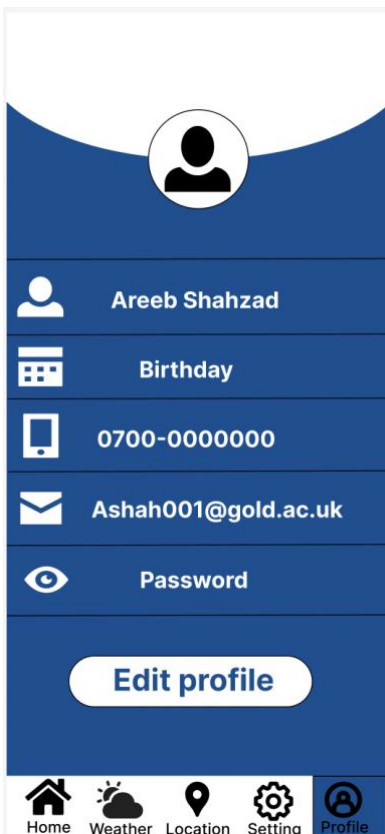
Users can use it to get vibration on notifications.

- About Us

Users can learn more about the CrossFast team.

- Contact us

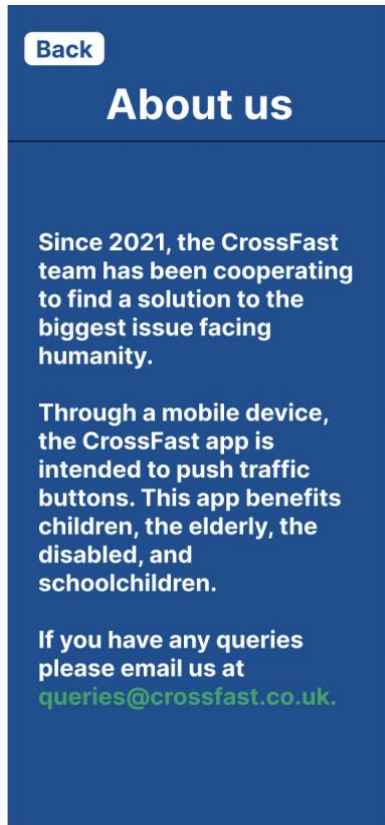
Users can use this feature to contact the CrossFast team.



Profile page:

The profile page displays the user's personal information.

By clicking on the edit profile option, users can modify their profiles.



Back

About us

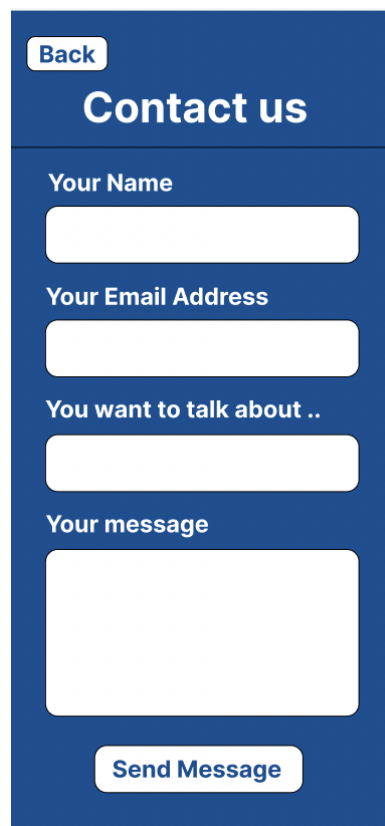
Since 2021, the CrossFast team has been cooperating to find a solution to the biggest issue facing humanity.

Through a mobile device, the CrossFast app is intended to push traffic buttons. This app benefits children, the elderly, the disabled, and schoolchildren.

If you have any queries please email us at queries@crossfast.co.uk.

About us page:

About us, the page is linked to the setting page. Users can get information about the CrossFast team. The back button returns the user to the settings page.



Back

Contact us

Your Name

Your Email Address

You want to talk about ..

Your message

Send Message

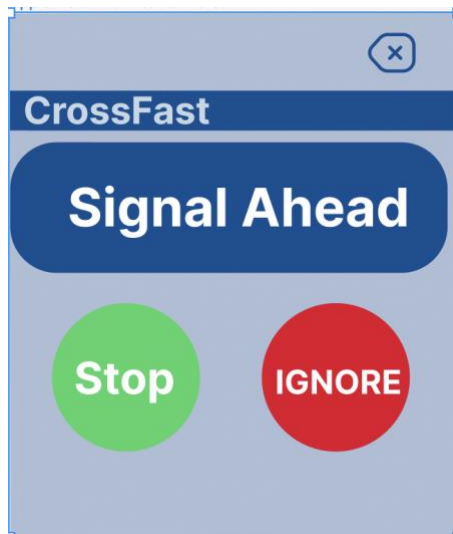
Contact us page:

The contact us page is linked to the settings page. Users can contact the CrossFast team by providing some basic information.

The back button returns users to the settings page.

To send messages to the CrossFast team, the user can click the Send message button.

CrossFast app is likewise designed for watches. Users can get advantages with this app through their watches as well. Following is a user interface for the wearable watch.

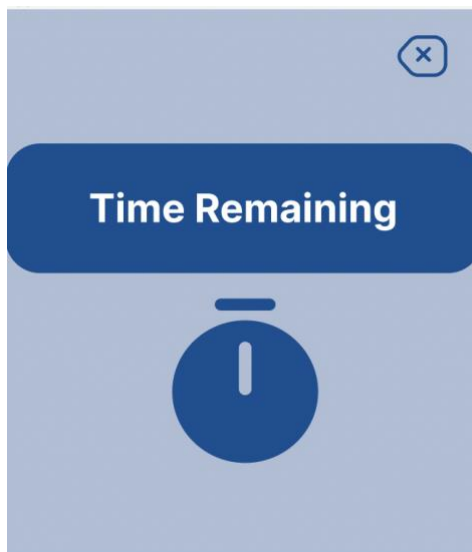


Notification screen:

Users will get a notification on their watch when they are within 30 yards of the traffic signal.

The notification screen has two buttons.

- Stop
When a user wants to stop the signal, he can click on this stop signal button.
- Ignore
The Ignore button allows the user to dismiss this screen and continue.



Timer screen:

When the user presses the stop button, the timer screen appears, displaying the time remaining for the signal to stop.

Q8. Create prototypes for the screen designs for these actions.

Prototype for Iphone14 pro:

<https://www.figma.com/proto/0fL1H3XACH5BkLoC9kcl9j/CrossFast-App?node-id=3%3A37&scaling=scale-down&page-id=0%3A1&starting-point-node-id=3%3A37>

Prototype for apple watch:

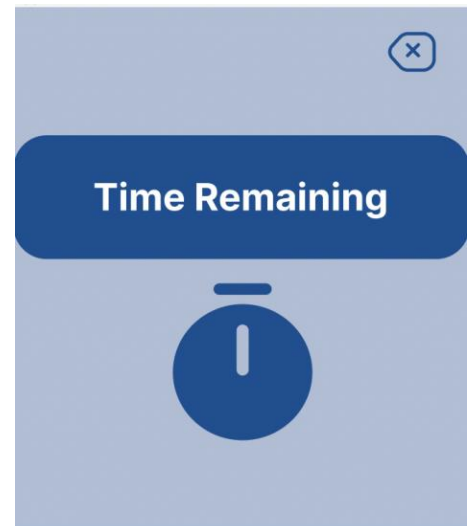
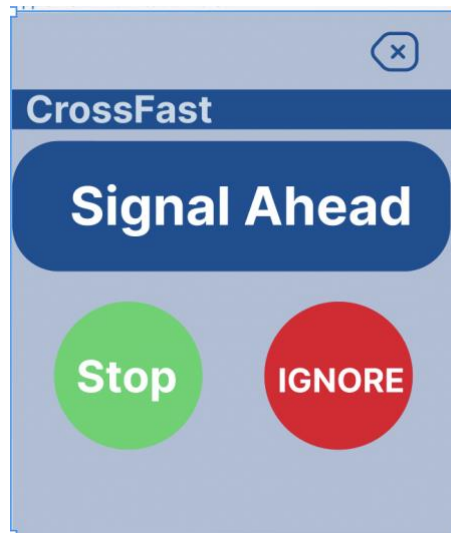
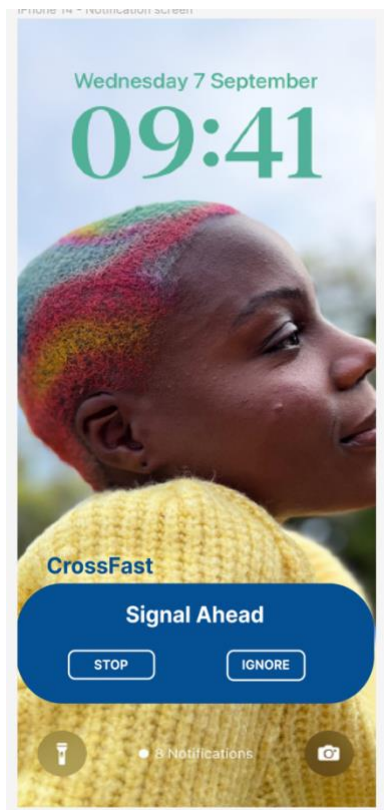
<https://www.figma.com/proto/UtP59l0R0yyaNNVhpEkN7g/Untitled?scaling=scale-down&page-id=0%3A1&starting-point-node-id=3%3A2&node-id=3%3A2>

Q9. Use cognitive walkthroughs to evaluate your designs.

A cognitive walkthrough was performed for each user story. The following questions were asked at every stage:

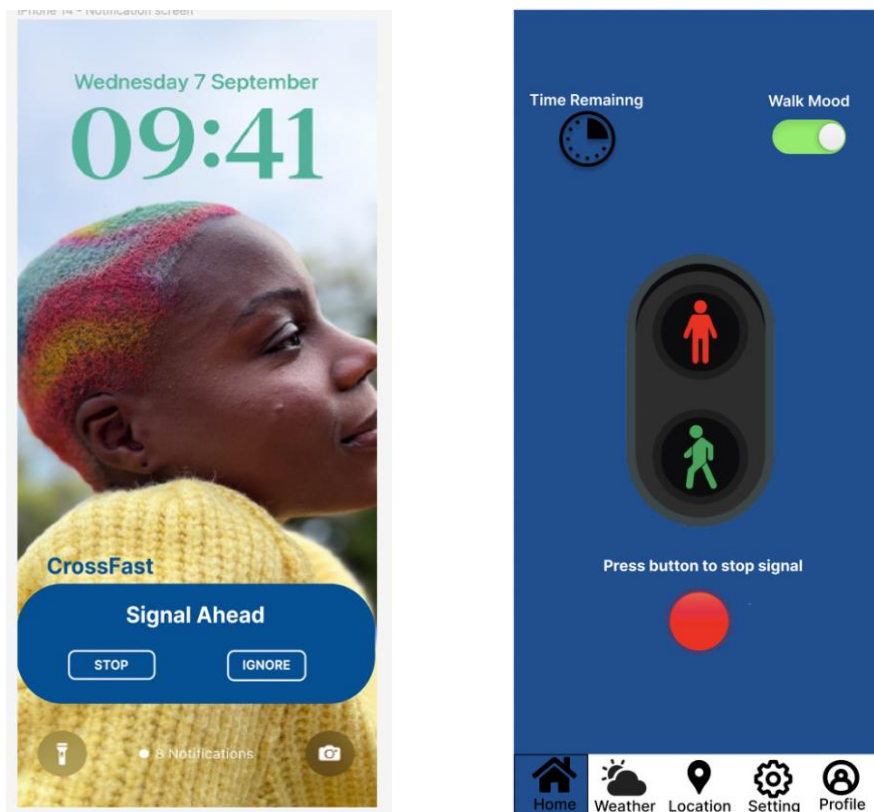
1. Will the user try to achieve the right effect? (Will the user know what to do to accomplish the task?)
2. Will the user notice that the correct action is available? (Is the control for the action visible?)
3. Will the user associate the correct action with the effect to be achieved? (Are there any jargon terms or misleading labels?)
4. If the correct action is performed, will the user see that progress is being made toward the solution of the task? (Is the feedback clear for the user?)

As a < school teacher > I want <i want to arrive at school on time > so that <i can manage my work >.



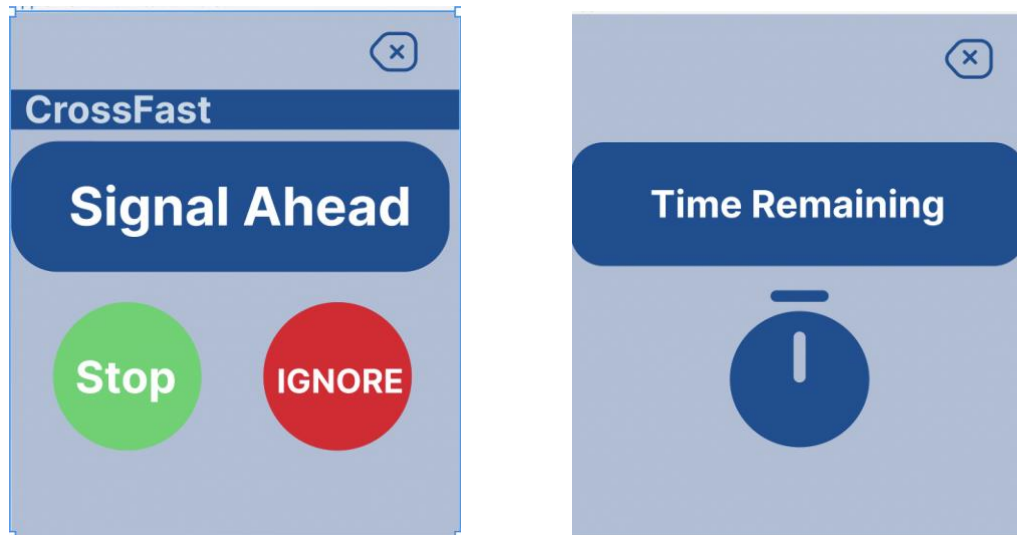
- (1) Yes – the user will understand that pressing the button stops the signal on a smartphone or watch.
- (2) Yes - the user will understand that they need to tap the notification, a ubiquitous feature among smartphones/tablets.
- (3) Yes - the user will understand that tapping the stop button will open an app on a smartphone, and the ignoring button will clear the screen.
- (4) Yes – the app will open to the second screen.

As a <secondary school teacher > I want < the traffic signal to be ready to cross at arrival for students during outside trips> so that < we can keep our students safe from incidents on the road>.



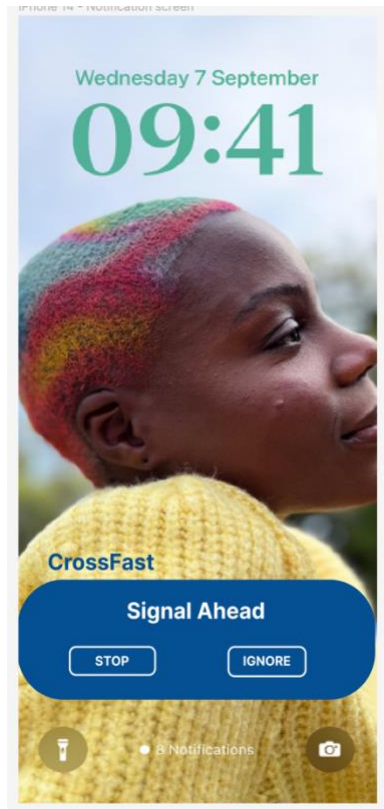
- (1) Yes – the user will understand that to press the button to stop the signal on a smartphone.
- (2) Yes - the user will understand that they need to tap the notification, a ubiquitous feature among smartphones/tablets.
- (3) Yes - the user will understand that tapping the stop button will open an app on a smartphone, and the ignoring button will clear the screen.
- (4) Yes – the app will open to the second screen.

As a < professional employee> I want < the traffic signal to be ready to cross when i do running > so that <i can easily maintain my running momentum and keep myself fit every day>.



- (1) Yes – the user will understand that to press the button to stop the signal on a watch.
- (2) Yes - the user will understand that they need to tap the notification, a ubiquitous feature among watches.
- (3) Yes - the user will understand that tapping the stop button will show the time remaining screen.
- (4) Yes – the app will open to the second screen.

As a < professional employee > I want <traffic signal near the train stations to be ready to cross in a timely manner> so that <i can catch my train and arrive at work on time >.



- (1) Yes – the user will understand that to press the button to stop the signal on a smartphone.
- (2) Yes - the user will understand that they need to tap the notification, a ubiquitous feature among smartphones/tablets.
- (3) Yes - the user will understand that tapping the stop button will open an app on a smartphone, and the ignoring button will clear the screen.
- (4) Yes – the app will open to the second screen.

Q10. Explain your findings

In addition to the cognitive walkthrough, I requested my friends to test and comment on my prototype. As a result, I received the following feedback.

The press button on the home screen is too small. I altered the button.

Initial design



Improved design



I agree with my classmate's assessment, and the purpose of the home page button is much more apparent. Otherwise, I'm glad they were able to uncover and comprehend all of the app's capabilities.

This exercise has taught me to look at an app's usability through the eyes of another person, which has been critical in designing an app that the majority of users will find simple to use and requires little more expertise to understand.