

User Experience Design for a Mobile Phone App for WISE students

Gabriel Avbenake (1902228)

Lecturer: Dr Nik Whitehead

University of Wales Trinity Saint David

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Introduction

The quality of users' interactions (satisfaction) with a product is more important than its aesthetics (Unger & Chandler, 2012). This is the key tenet of User Experience (UX) Design. This is particularly true in this age of mobility and user-driven technology. Taking UX Design seriously or not could make or break an organisation's success today (Krug, 2013).

The key elements that UX Design deals with are User Research, Usability, Visual Design, Interaction Design and Information Architecture; making UX Design multidimensional. The focus of this paper is the UX Design of a mobile phone app for WISE students.

In this paper, a description of WISE would be undertaken to present the goals of the organisation. Next, User Research would be done. After which, the Information Architecture would be discussed. Lastly, discussion on Usability, Visual Design and Interaction Design would be carried out.

About WISE

WISE stands for Wales Initiative for Student Engagement. It was established in 2009. At that time, it was a project which aimed to share and enhance the best practice surrounding student engagement approaches in Wales, garnering expertise from student engagement practitioners from across the nation. In 2013, its name was changed to Wise Wales because its mission statement evolved. Today, Wise Wales is a collaboration of sector organisations working to create a culture of meaningful partnership between educators, students' unions and students across Wales. Their objective is to challenge the status quo, create opportunities for practitioners in Wales to share best practice, and above all put the collective student voice at the heart of what they do (WISE Wales, n.d.).

Though the sector organisations (partners) that Wise Wales deal with include the Welsh Governments, Quality Assurance Agency (QAA), Higher Education Funding Council for Wales (HEFCW) etc., the mobile app to be designed would only focus on students as its users.

Wise Wales promotes the empowerment of students across Wales in engaging with the structures and processes which enable them to actively shape and enhance the quality of their academic experiences in partnership with their institutions. Three main principles that guide Wise Wales are: Valuing Feedback, Harnessing Expertise and Working in Partnership.

From the preceding, the mobile app has to:

- Enable students to engage structures and processes which enable them improve the quality of their academic experiences
- Enable students give their feedbacks on various issues and give avenues for follow-ups on such feedbacks
- Give opportunities for students to harness their expertise as well as harness the expertise of other partners
- Enable students work in partnership on various projects with themselves and with other partners. The goal is to enable students play a positive and productive role in the development of the education sector.

These will be taken as the preliminary objectives or business goals of the mobile app. Of course, they could be elaborated further. However, to design a mobile app that would give excellent user

experience, a research was undertaken to ascertain the characteristics of the some of the students who would use the app and their experience requirements.

User Research

User Research gathers user insights and experiences to improve the product design (Unger & Chandler, 2012). This is paramount in UX Design since UX Design focuses on user's satisfaction (Kujala, et al., 2011). UX Design is about discovering users' problems and then solving them. User research is about asking users what they think and feel.

Using interview method, some students were informed about the mobile app and asked what they would like to see, what their goals would be for using it, what they find challenging, what are their backgrounds and their aspirations in life. Some of the students interviewed spoke not just only about themselves but of other students that they know and what their expectations would be. Unfortunately, a scheduled focus group discussion could not take place. It would have been wonderful to have several focus groups discussions.

From the research done, four detailed user personas are as follows. These would help create an insight into the end users (Unger & Chandler, 2012). Media and device preferences are omitted since mobile phone app is the focus here.

Table 1: Persona A; a new student, new to the UK

Persona name	Wumi
Demographic	18 – 22, Single, No children
Description	Wumi is a first-year student studying Engineering. A foreign student and New to the UK. Knows no one and no place in Wales.
Goals	• Know the times and places for lectures and how to get there • Get information about the “<i>hows</i>” and “<i>wheres</i>” of existential things like health services, stores, bus services • Research some social interest groups to join
Pain	• Come late for lectures due to difficulty of locating venue on time • Missing out on some essential bonus or savings; spending more money on transportation or groceries due lack of street knowledge or common knowledge • Complicated search to find social interest groups
Role & responsibilities	• Lives in a low-cost apartment in town • Does not have much going on in the UK yet; stays connected online to old affiliations and commitments • Was socially active at home country; Member of the Student Group there
Tasks	• Checks Emails • Follow ups on social networks of Interest Groups • Checks Timetable and other Academic Deadlines • Looks for location directions and other guidelines to doing things

The User Experience Requirements of Persona A are as follows:

- After logging in, she would want a 1-click access to check her lecture schedules with time and venue.
- Wants sections that give direct and precise common place knowledge as well as insights into existential things such as Health and Wellbeing, Grocery stores, Transportation, Restaurants and Cafes. It would be particularly useful to know those that give student discounts or are student-friendly.
- Wants sections that present possible social interest groups that one could join, their interests and current projects, their membership requirements and commitments. It would be nice to have their possible contacts to reach out to for more information.

A possible scenario for Persona A is as follows:

- Opens the App
- Clicks on Interest Groups
- When the page opens, choose a particular category from the list of available categories
- Scrolls through a list of matched groups with a small description
- Click on an interesting Interest group and reads more about them
- Is able to read about their current activities and sees their upcoming events
- Gets their contact from the page and contacts them.
- Closes the App

Table 2: Persona B; Old student, Foreign but with financial constraint, Avid Activist

Persona name	Tarzan
Demographic	22 – 32, Single, No children
Description	Tarzan is a third-year student studying Management. Came from a war-torn nation. On Scholarship in the UK. Has become an avid activist against violence. Advocates equal opportunities.
Goals	• Be actively involved in the Student Union and learn how social change are engineered • Keep up to date on what is happening • Avidly looking for other scholarship opportunities to complete studies
Pain	• Do not get accurate and timely information on Student Union Activities • Social Engagements and Feedbacks made difficult due to poor design • Missing out of juicy scholarship opportunities
Role & responsibilities	• Lives in a student apartment with 2 other students • Gives regular reports to Funding Agencies • Partly employed to literally make ends meet
Tasks	• Checks Emails • Follow up daily on Student Union Engagements • Checks Timetable and other Academic Deadlines • Looks up on Bursary opportunities and other financial opportunities

The User Experience Requirements of Persona B are as follows:

- Wants sections that would detail available scholarship opportunities and other financial opportunities.
- Wants more social interactions with the various Student Unions. Hoping for more transparency and partnerships through regular updates and follow-ups.

A possible scenario for Persona B is as follows:

- Opens the App
- Clicks on Student Unions Updates
- Reads the various news and updates from the various Unions
- Adds his comments / opinions to any news that is interesting to him
- Can volunteer his time and efforts to any of interest to him
- Clicks at the hamburger icon at the top to go to Financial opportunities
- Scrolls through the list of available opportunities with brief description
- Clicks on any of interest to him
- Reads more about it, its requirements and how to apply
- Clicks at the hamburger icon to go to Email
- Microsoft Outlook opens up for him to sign it
- Check his emails for updates from applied financial opportunities
- Closes the App

Table 3: Persona C; Old student, Loves Cultures & Peoples, A Student Rep

Persona name	Chan
Demographic	20 – 28, Single, No children
Description	Chan is a second-year student studying the Art and Culture. On an Exchange Programme from Asia. Very keen explorer and lover of Cultures. Still struggles a bit with the English Language especially reading and writing
Goals	• Meet and interact with new people from varied cultural background • Keep up to date on what is happening • Avidly looking for opportunities to go for expeditions, excursions, holiday programmes, etc
Pain	• Difficult or lack of interactive features on App • Not getting regular updates or reminders • Missing out of exploration opportunities • Lack of sufficient translation tool on App
Role & responsibilities	• Lives in Campus Student Accommodation • In constant correspondence with home university • Student Representative of her faculty
Tasks	• Checks Emails • Follow up daily on Student Union Engagements • Sends regular post and updates to students in his faculty • Checks Timetable and other Academic Deadlines

The User Experience Requirements of Persona C are as follows:

- After logging in, she would want a 1-click access to check her lecture schedules with time and venue.

- Wants a section where she could meet students from various cultural backgrounds.
- Wants sections that would detail available holiday programmes, excursions, expeditions and other explorations.
- Would love to have an in-built Google translate tool so that he does not have to copy and paste externally into Google Translate.

A possible scenario for Persona C is as follows:

- Opens the App
- Clicks on Holiday programmes and explorations
- Scrolls through available options to read brief description
- Click on one of interest to read the requirements and contact details
- After she is done with holiday programmes, clicks on any of the social media icons at the top to chat with several students

Table 4: Persona D, A post-graduate student, Working and with Professional and Parent responsibilities

Persona name	Smith
Demographic	32 – 40, Single, Has a child
Description	Smith is an M.Sc. student studying the Sciences. Child lives with him. Has responsibilities. Works full time, Studies part time.
Goals	• Looking for Research Conferences and Workshops to improve himself. He hopes to be a champion in his field. • Keep up to date on what is happening, time for lecturers etc. • Avidly looking for opportunities to interact with business opportunities, entrepreneurial interactions, etc
Pain	• Difficulty getting Conference opportunity with little financial cost • Not getting regular updates or reminders • Missing out on entrepreneurial interactions
Role & responsibilities	• Lives in his apartment with his child • Works in a consulting firm as a lab attendant • Has several parental responsibilities
Tasks	• Checks Emails • Checks on and follows up on Conference • Checks on entrepreneurial interactions and other opportunities that would give him tactical advantages in his place of work • Checks Timetable and other Academic Deadlines

The User Experience Requirements of Persona D are as follows:

- After logging in, she would want a 1-click access to check her lecture schedules with time and venue.
- Wants sections that would detail available upcoming conferences and workshops.
- Wants sections that displays possible entrepreneurial interactions and business think-tank.

A possible scenario for Persona D is as follows:

- Opens the App
- Clicks on Upcoming Conferences

- Scrolls through available options to read brief description
- Click on one of interest to read the details of the conference, the various subthemes for papers, accommodation detail and contact person details
- Click on the hamburger at the top, click on Business Think-tank.
- Scrolls through available options to read brief description
- Click on one of interest to read the details and venue of the Think-tank as well as the profile of the Guest Speaker
- Closes the App

Information Architecture (IA)

Information Architecture (IA) focus on structuring and organising information within the product in a manner that makes it easier to access (Unger & Chandler, 2012). From the user research, the following information are necessary on the app if it is to be a success:

About WISE

About the App

Chat Support

Library Info & Access

Online Library Resources

Email

Time Table

Student Unions Update

Student Workshops

Excursions & Expeditions

Social Network Links

FAQ

Seek Redress

Report an Issue

Give your Feedback

Interest Groups

- About the Group
- Past & Current Projects
- Membership Requirements & Commitments
- News & Events
- Upcoming Events
- Contact Details

Financial Opportunities

- Description
- Requirements
- How to Apply
- Contact Details

Holiday Programmes

- Description
- Requirements
- Contact Details

Upcoming Conferences

- Description
- Key Speakers
- Theme and Sub-themes
- Paper Specifications
- Accommodation Details
- Contact Details

Business Think-Tank

- Description
- Guest Speakers
- Contact Details

On Student Life

- Health & Wellbeing
- Transportation Info
- Accommodation
- Stores Info & Advices
- Restaurants and Café

After several brainstorming exercises and Card-Sorting sessions, the following Information Architecture was reached by consensus:

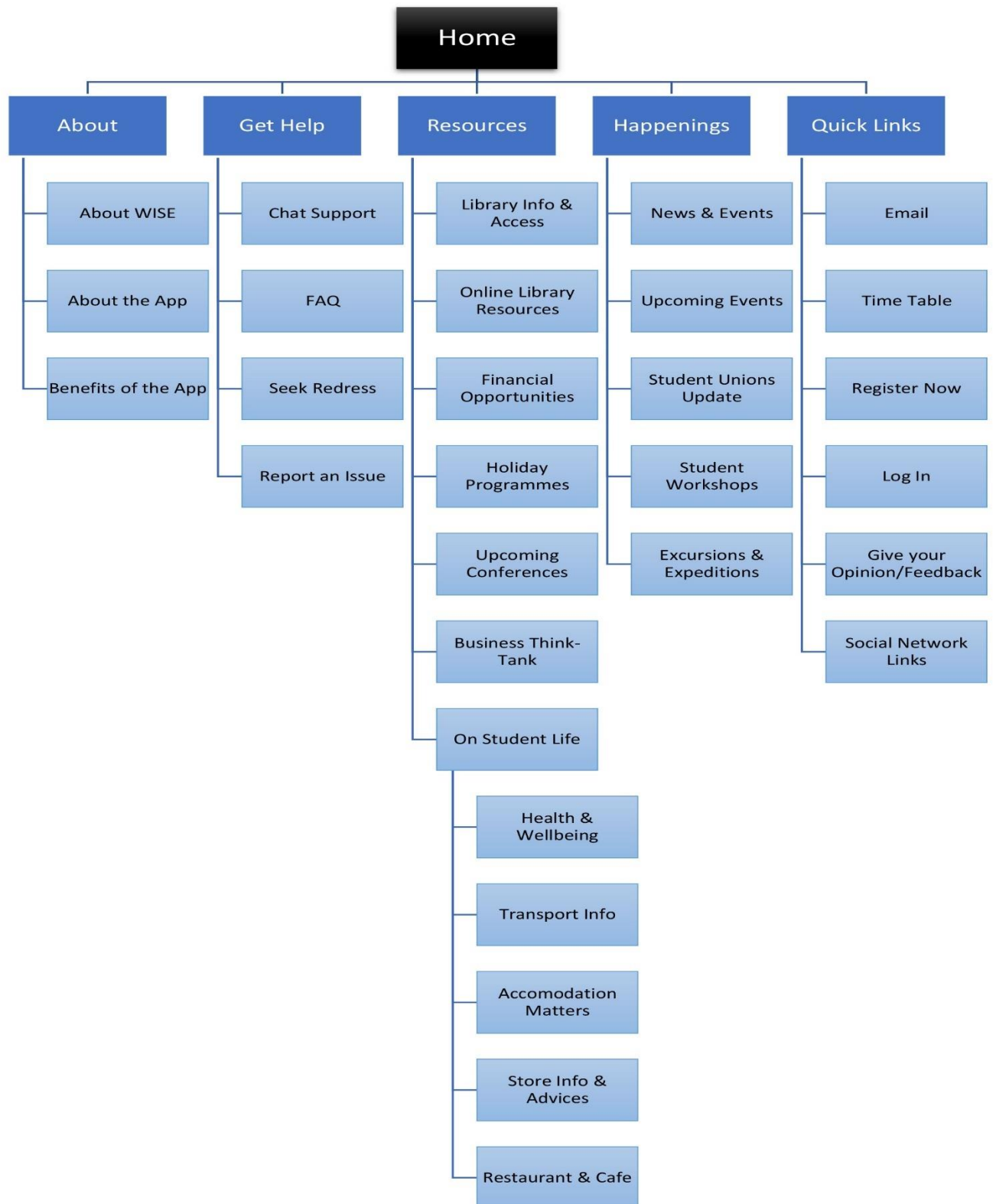


Figure 1: Information Architecture for the Mobile Phone App

During the card-sorting exercise, one participant opined that Student Workshops should be under Resources, but others felt it was better under Happenings since it pertains to Students directly and it is something all student, if possible, should participate in. Following the consensus, it was left under Happenings heading/group.

Some of the information would be location-sensitive. Time-table would be location-sensitive. Hence, users would need to log in first before they can view time-table, so that their own institutional time-table is shown to them. Of course, the registration process would be verified with the various institution using particularly the student number and email allocated by the institution. This is to ensure that one can only sign up under his/her institution and prevent identity theft.

Some other information could be location based; such as Library Info & Access, etc. Nonetheless, one can view those of other locations. For example, one could be a student of UWTSD but is in Aberystwyth for 2 weeks and wants to check the time and access information of the library in Aberystwyth University. Since the app is serving students from all across Wales, several information on the App would have a clear indication of the location of such resource or information to avoid any ambiguity or confusion or misinformation.

Usability, Visual Design and Interaction Design

Usability focuses on the product's easy-of-use to achieve the end goal (Krug, 2005). Interaction Design is about making a pleasant and non-frustrating experience. Visual Design deals with the look and feel of the product but with emphasis still on how well it works.

Below are some of the wireframe storyboards of the mobile app.

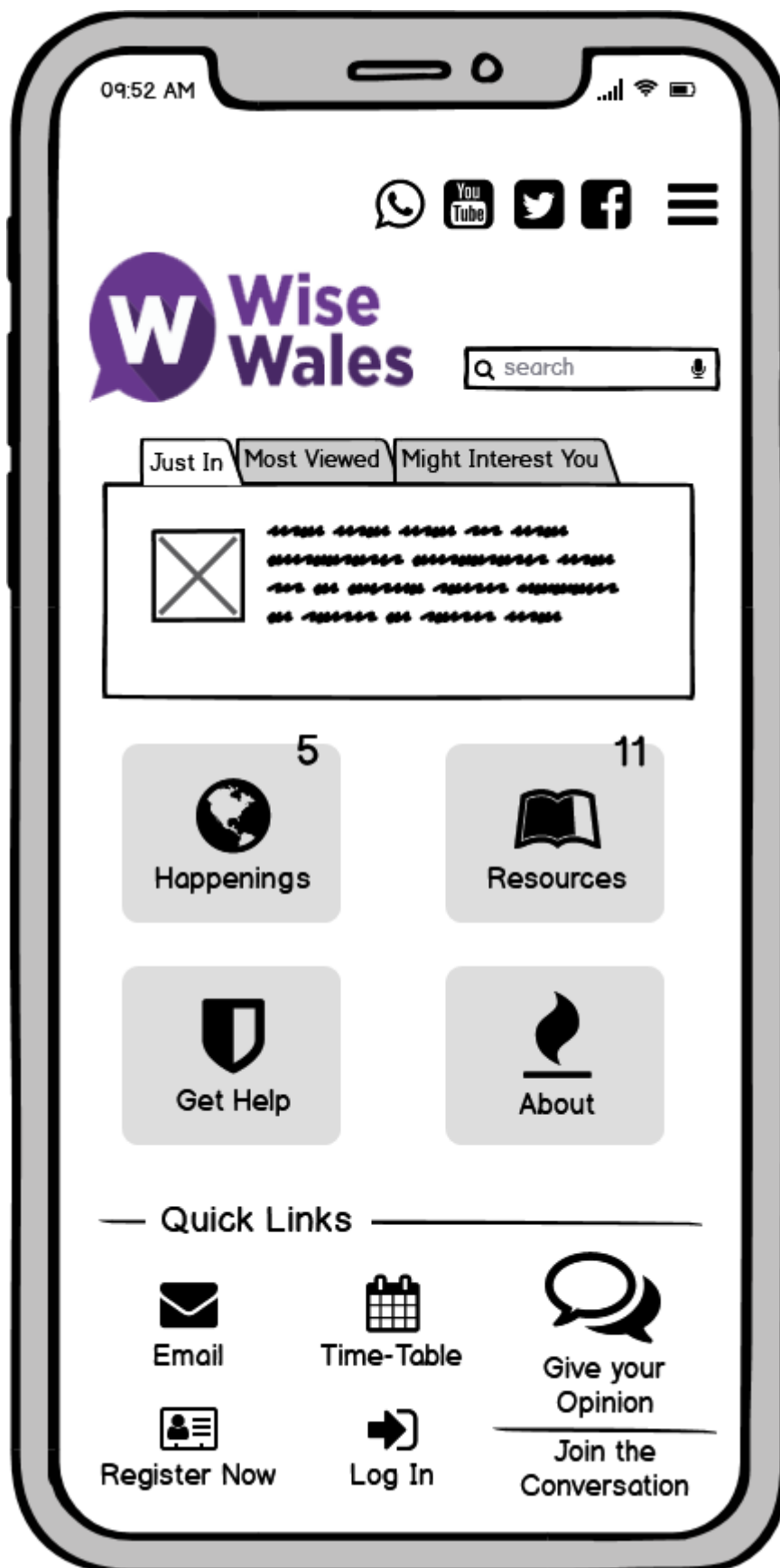


Figure 2: Main Screen of the Mobile App

The main screen was designed to capture all the essential components of the app. The logo of WISE is displayed at the top for branding. The logo is a bit larger on the main screen than on consequent pages. On other pages, it is smaller and remains at the top and does not scroll off the screen. The social network links are at the very top. Since social networking is integral to the objectives of WISE, these social network links also remain at the top of every page of the app.

The hamburger icon opens up the main menu, as shown in Figure 3. The hamburger icon is present on all pages of the app. More so, the hamburger icon does not scroll off the screen even if other components are scrolling. This ensures that a user has access to the entire information architecture from any page of the app. So, one is never lost in the app.

The 4 main icons (Happenings, Resources, Get Help, About) are the major categories under which the information/functionalities of the app are grouped in the IA. Each of those icons, when clicked, opens up a page that displays the various functionalities available under that category. For example, the Happenings icon/link opens up Figure 4. The number notifications at the top of some of the icons are dynamic. They represent how many new items on that category that a user has not viewed; more like what WhatsApp does with the icons of chat groups and persons. This number notifications helps a user know which sections there are new stuffs, so that he/she never misses anything.

Below these 4 main icons are the quick links that give access to sections that users use on daily basis. Though they are bigger on the main screen, on subsequent pages, they are miniaturized and remain at the base of every page and do not scroll off the screen. Furthermore, the Give your Opinion / Join the conversation icon/link is bigger than the other quick links. This is because this represents one of the major reasons/objectives of WISE, which is Valuing Feedbacks. The people interviewed during the User Research stage all expressed their expectations that there would be an integral avenue for them to express their opinion and WISE would take them seriously. The Give your Opinion / Join the conversation icon links up to Figure 5.

The main screen was also designed with the principle of Browsing, Searching and Discovery (Krug, 2013) in mind. The 4 main icons are there for browsing. There is a search box at the top of the main page for searching. This search box also remains at the top of every other page of the app and does not scroll off the screen. Lastly, on the main page, there is the Tab bar to aid discovery. It features posts, information or resources that are just put in, posts that are most viewed by other users as well as posts that might interest the user. It is able to choose post that interest the user by doing some data analysis of sections he/she last visited or mostly visits.

This same principle of Browsing, Searching and Discovery is applied to all appropriate pages throughout the app. The rest of the storyboards are in the appendix of this paper. A working version, a clickable version of the storyboards is attached in moodle. It was designed using Balsamiq Wireframes Software.

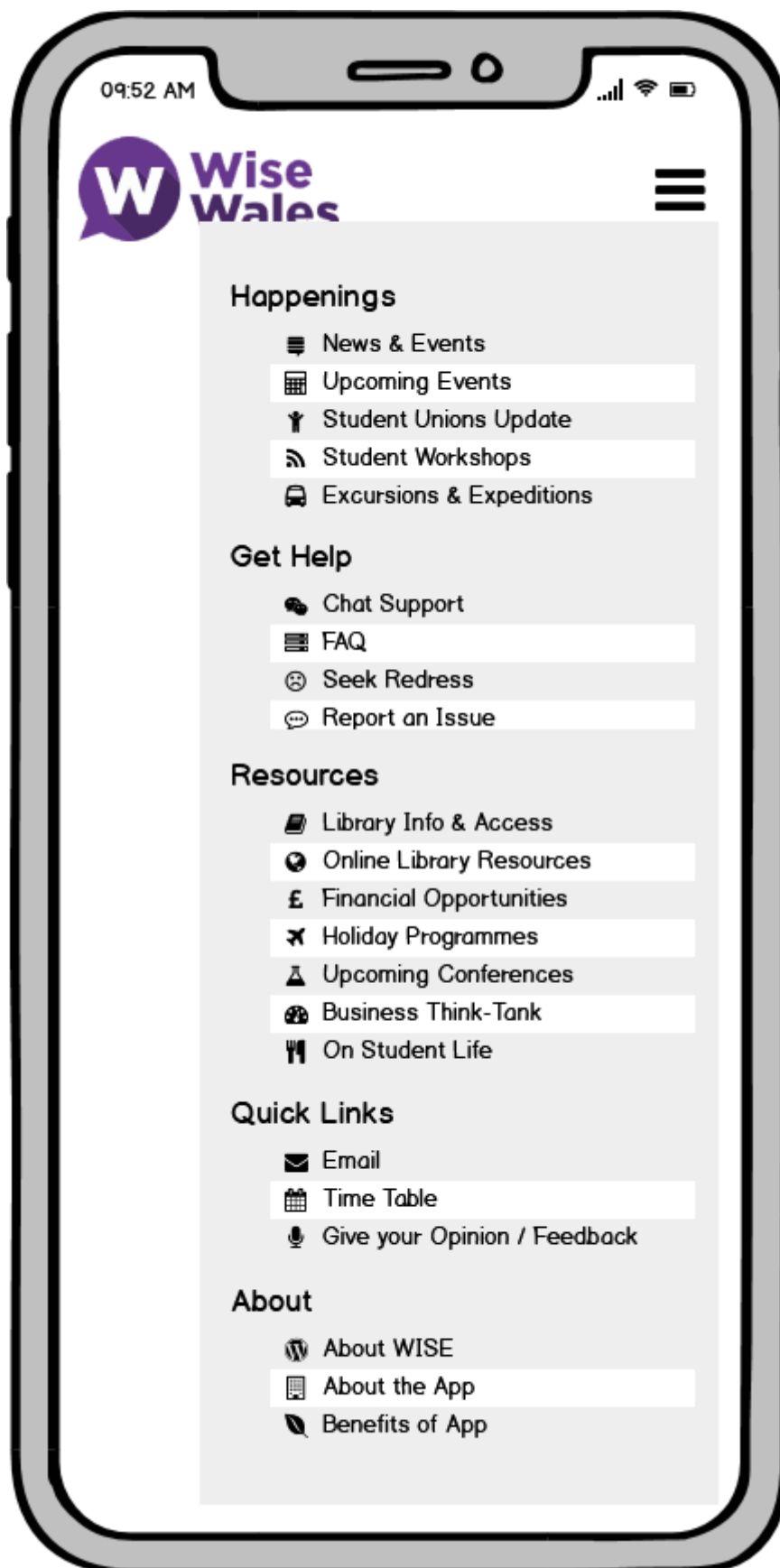


Figure 3: Main Menu of the App



Figure 4: Happenings Category/Page/Group of the App

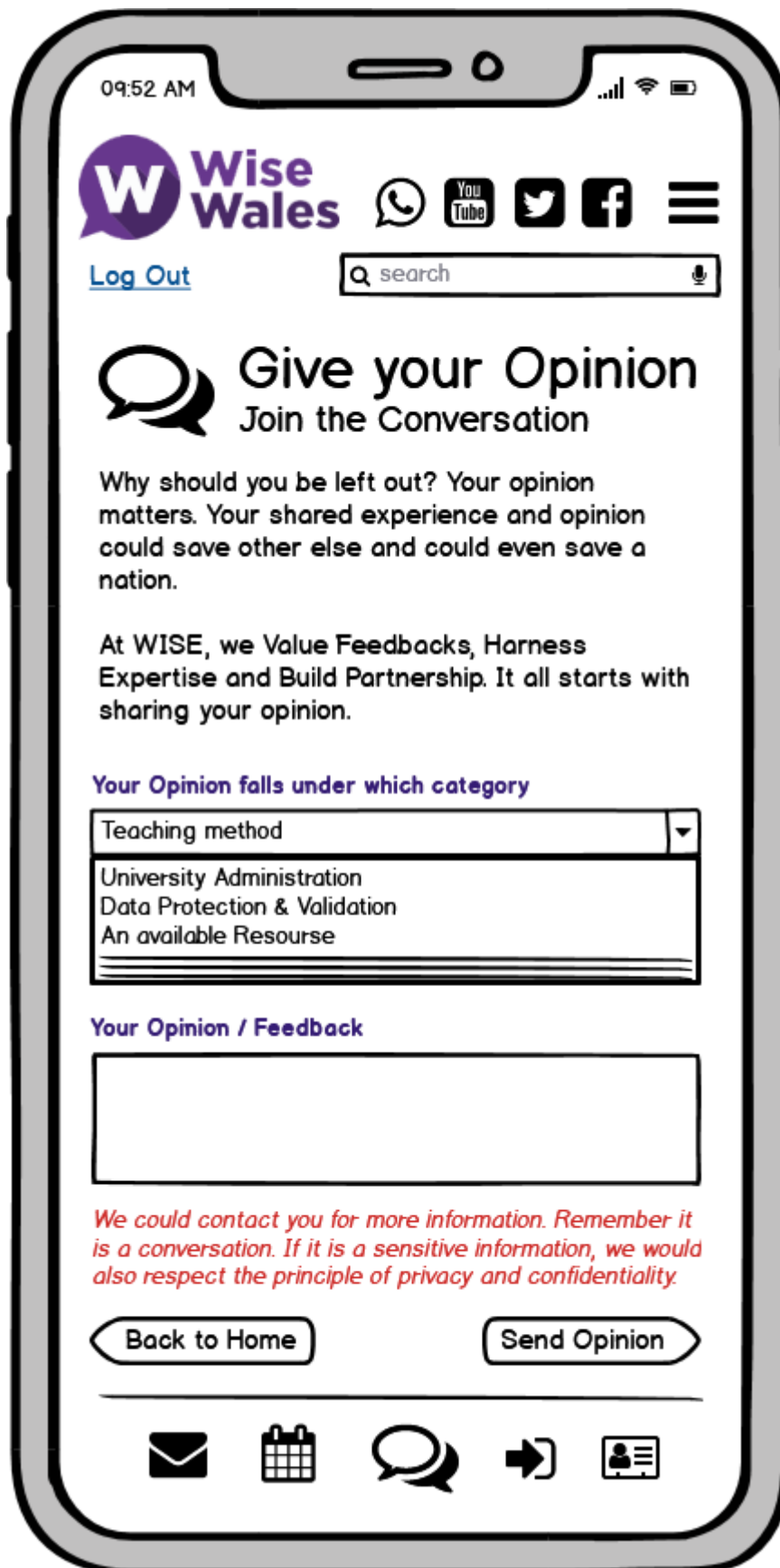


Figure 5: Give your Opinion/Join the Conversation Page of the App

Conclusion

This study has been an enriching one. The user research has been an eye-opening experience. Of course, the project is far from being over. The wireframes of the storyboard are yet to be taken back to the participants of the user research to get their feedbacks. Focus group discussion would be used so that several participants can discuss together and consensus could be achieved where they do not all agree. Certainly, changes to the wireframes are expected during the focus group discussion.

Another method that would be used to get feedback is observation. In this method, the storyboard would be opened in the “Full Screen Presentation” mode of Balsamiq Wireframe Software. Several participants would then be asked to use the app. Their navigation movements, body language and statements would be noted. The lessons from such observations would be used to improve the wireframes and storyboard as well.

References

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Available at: <https://wisewales.org.uk/about/>
[Accessed 25 March 2020].

Appendix

Complete Set of Wireframes of the Storyboard.



Figure 6: Main Screen of the App



Figure 7: The Happenings Category Page of the App

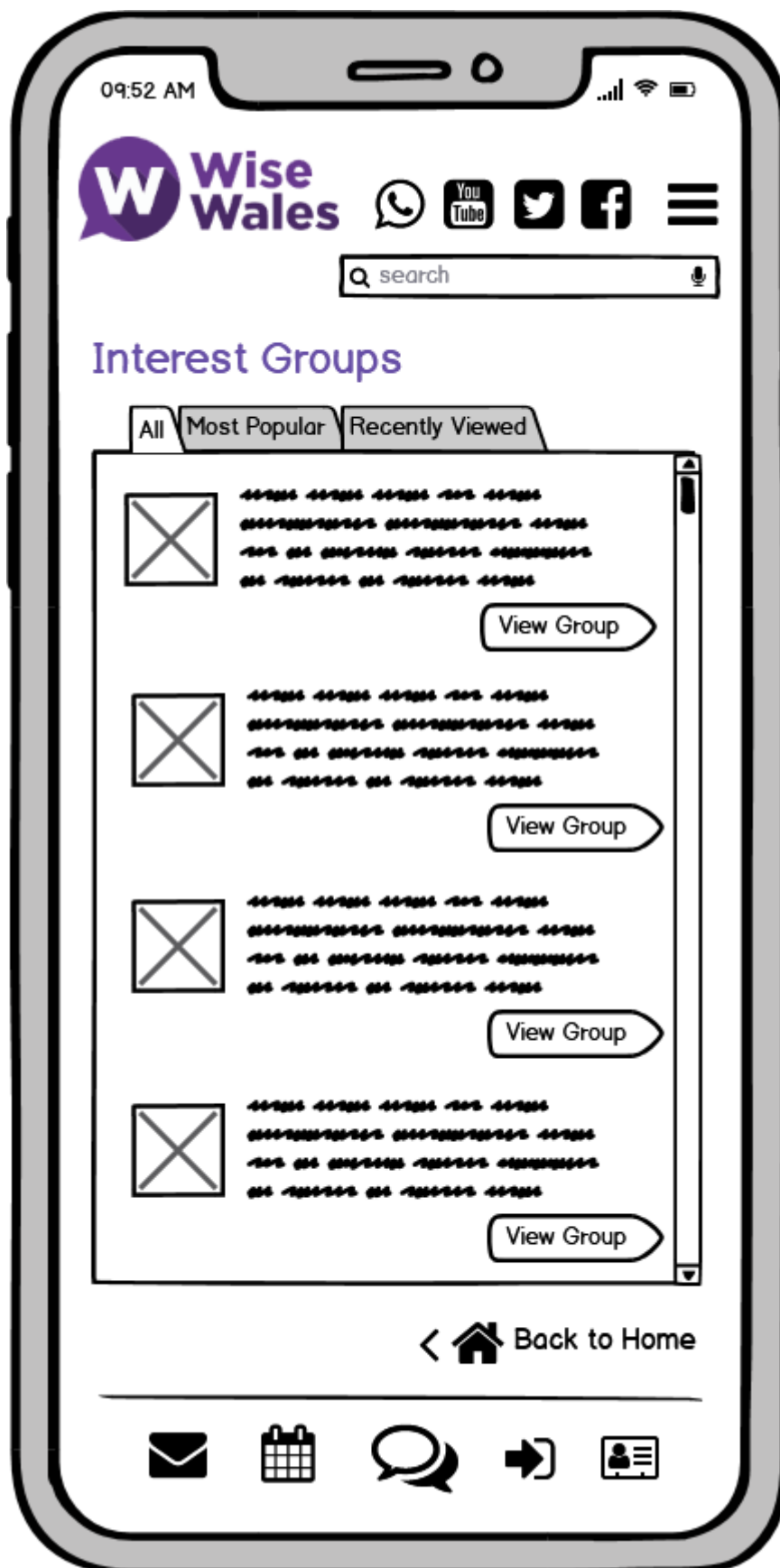


Figure 8: Interest Groups Page of the App

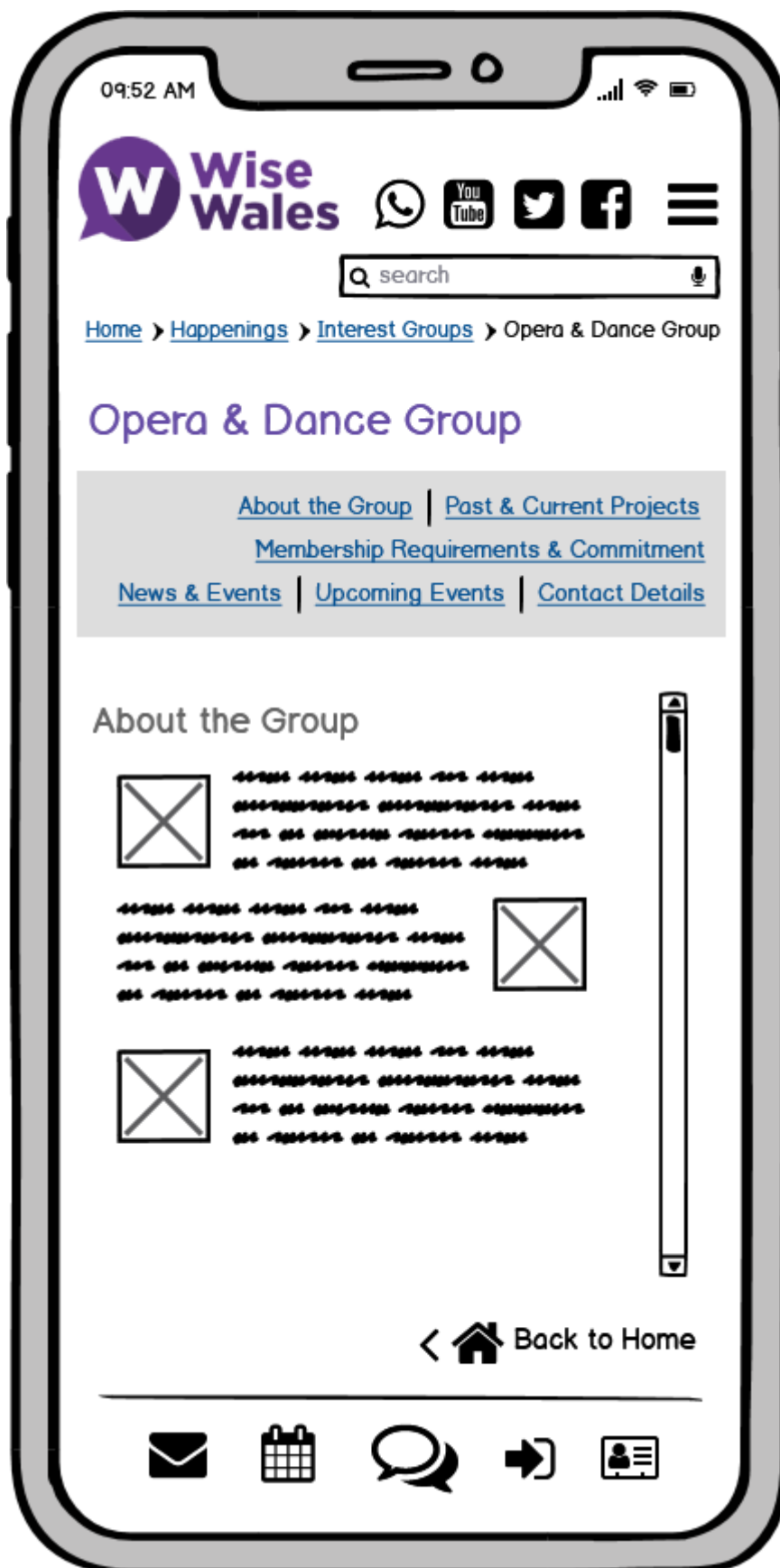


Figure 9: An Interest Group Page in the App

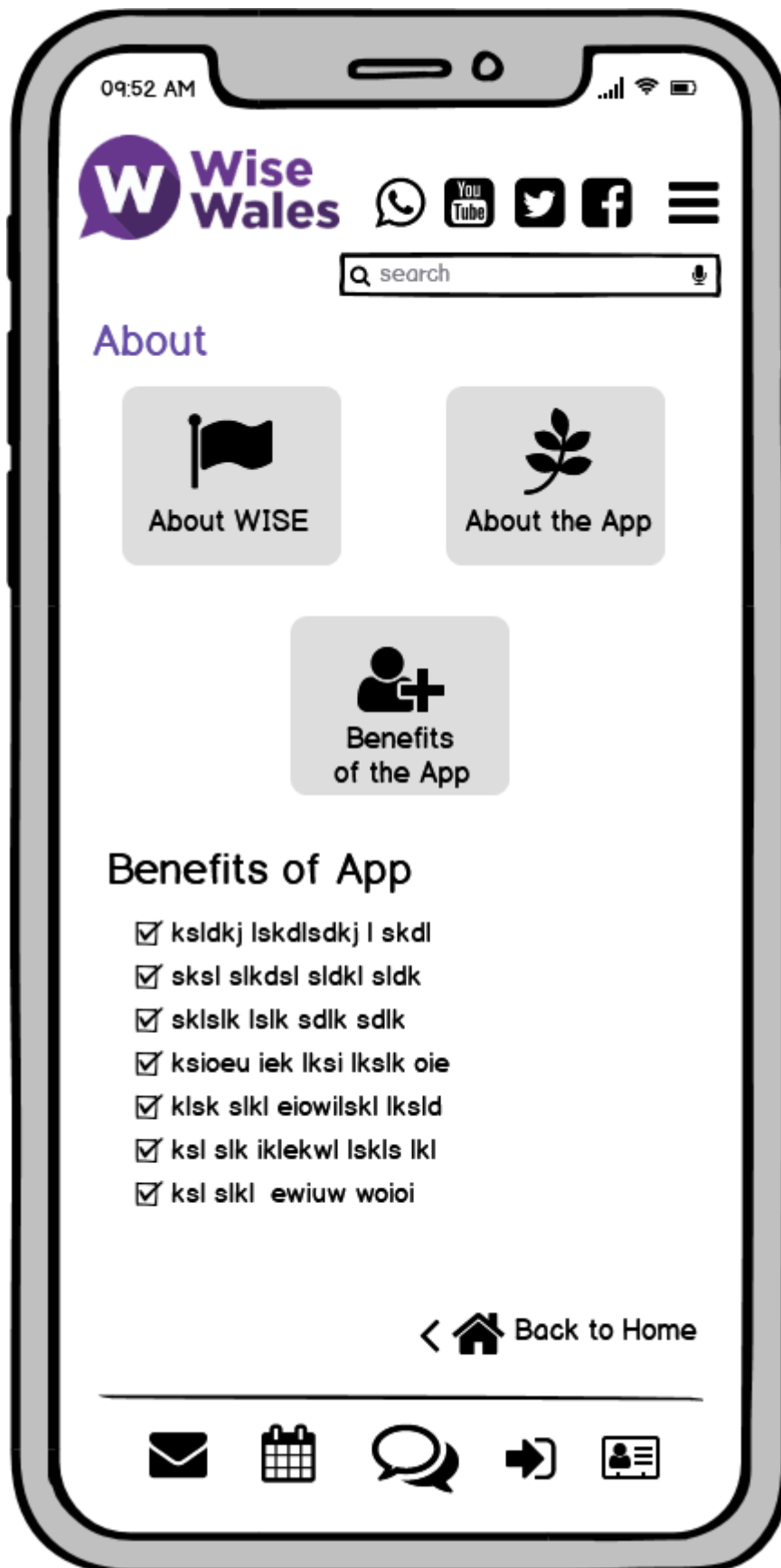


Figure 10: The About Category Page of the App

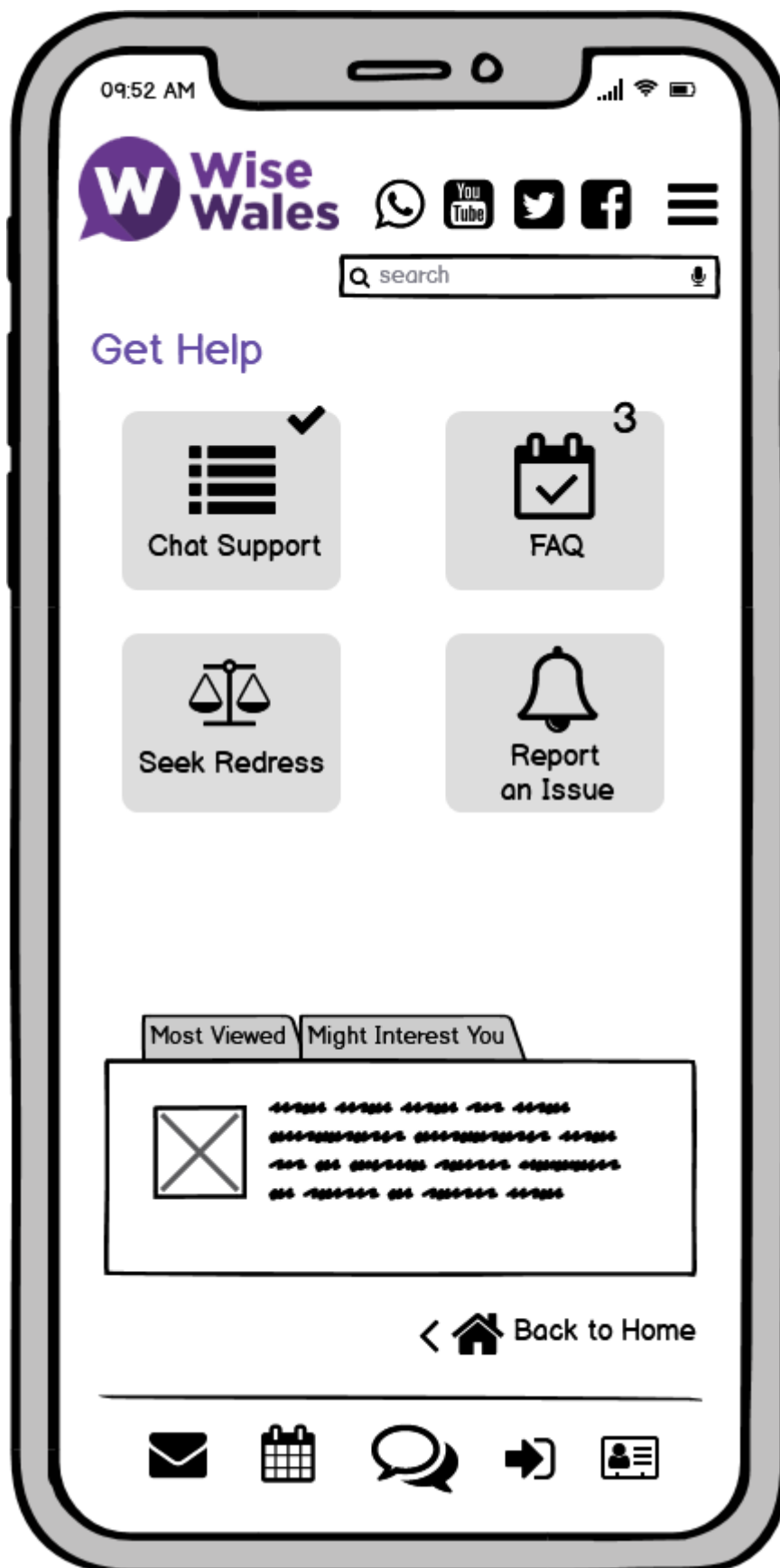


Figure 11: The Get Help Category Page of the App

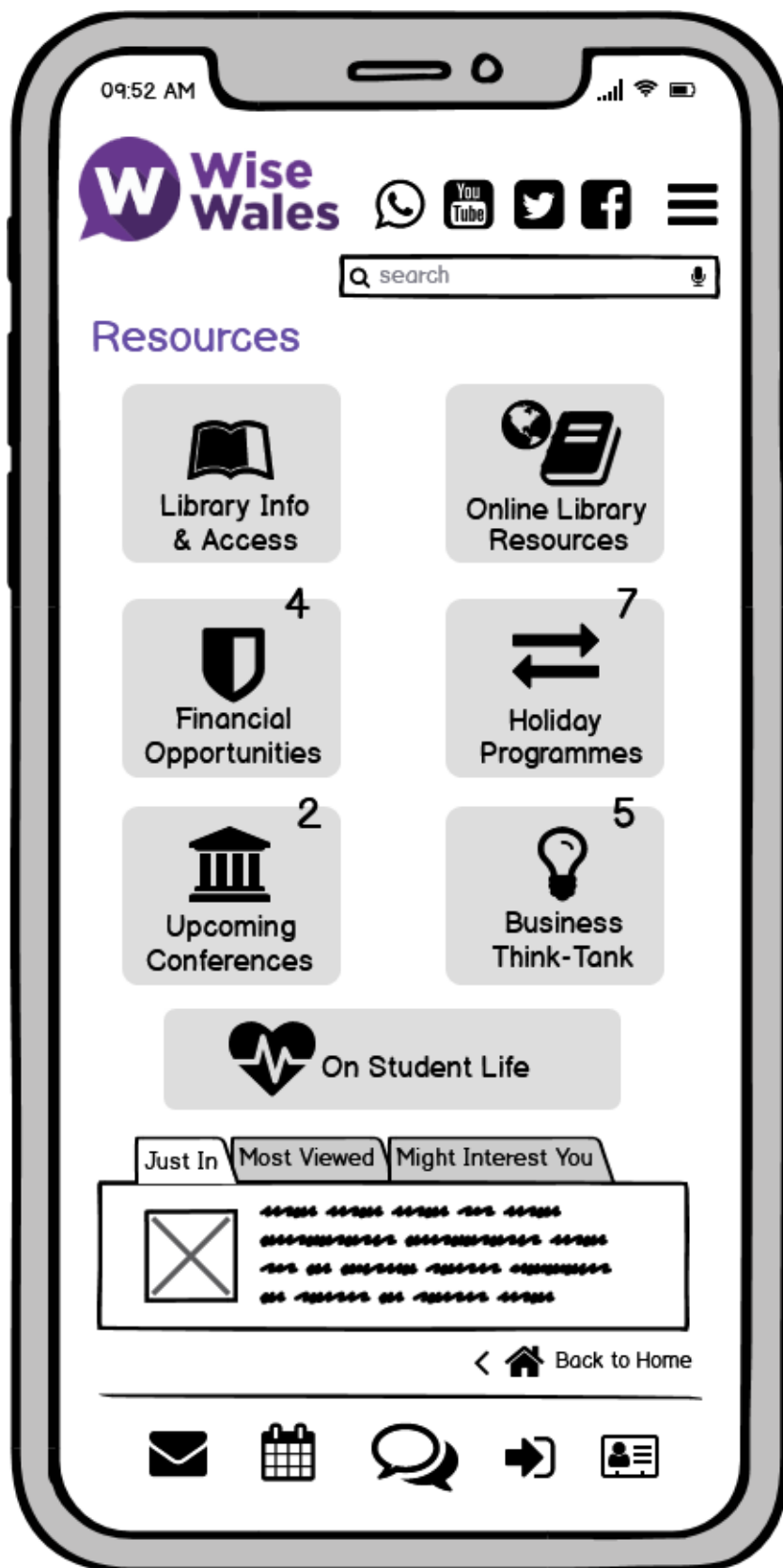


Figure 12: The Resources Category Page of the App



Figure 13: The Student Life Category Page of the App

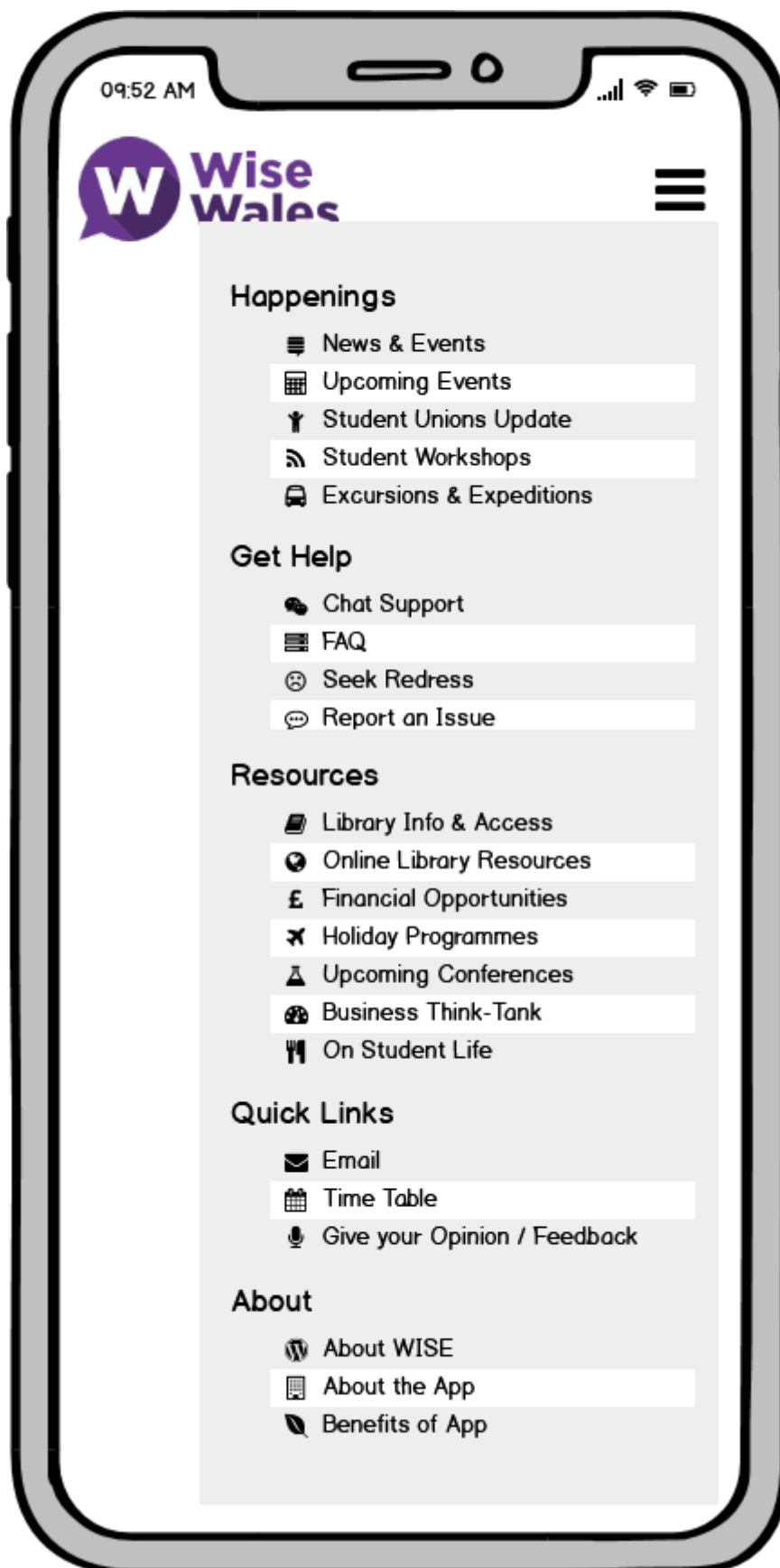


Figure 14: Main Menu of the App

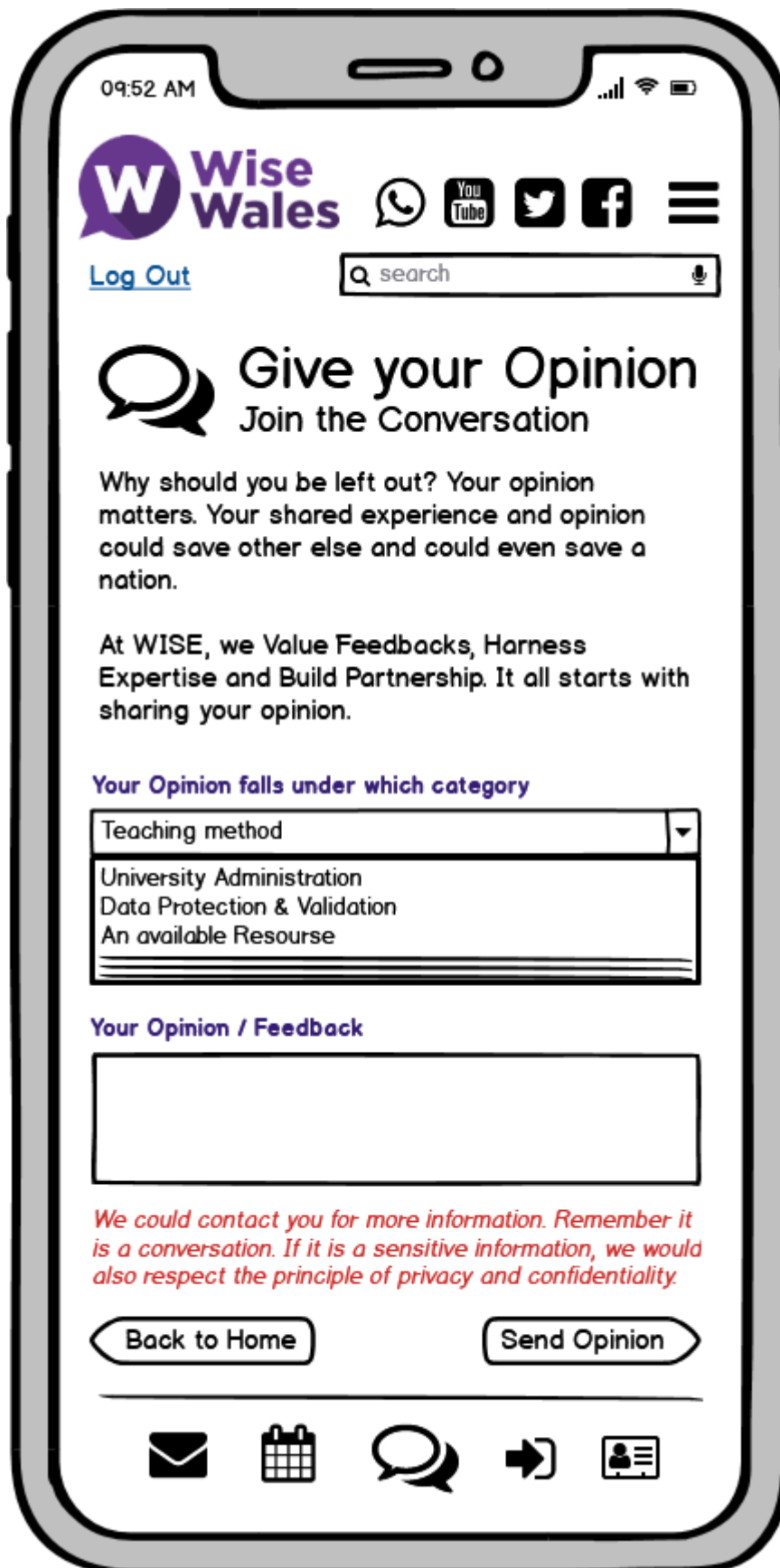


Figure 15: Give your Opinion Page of the App

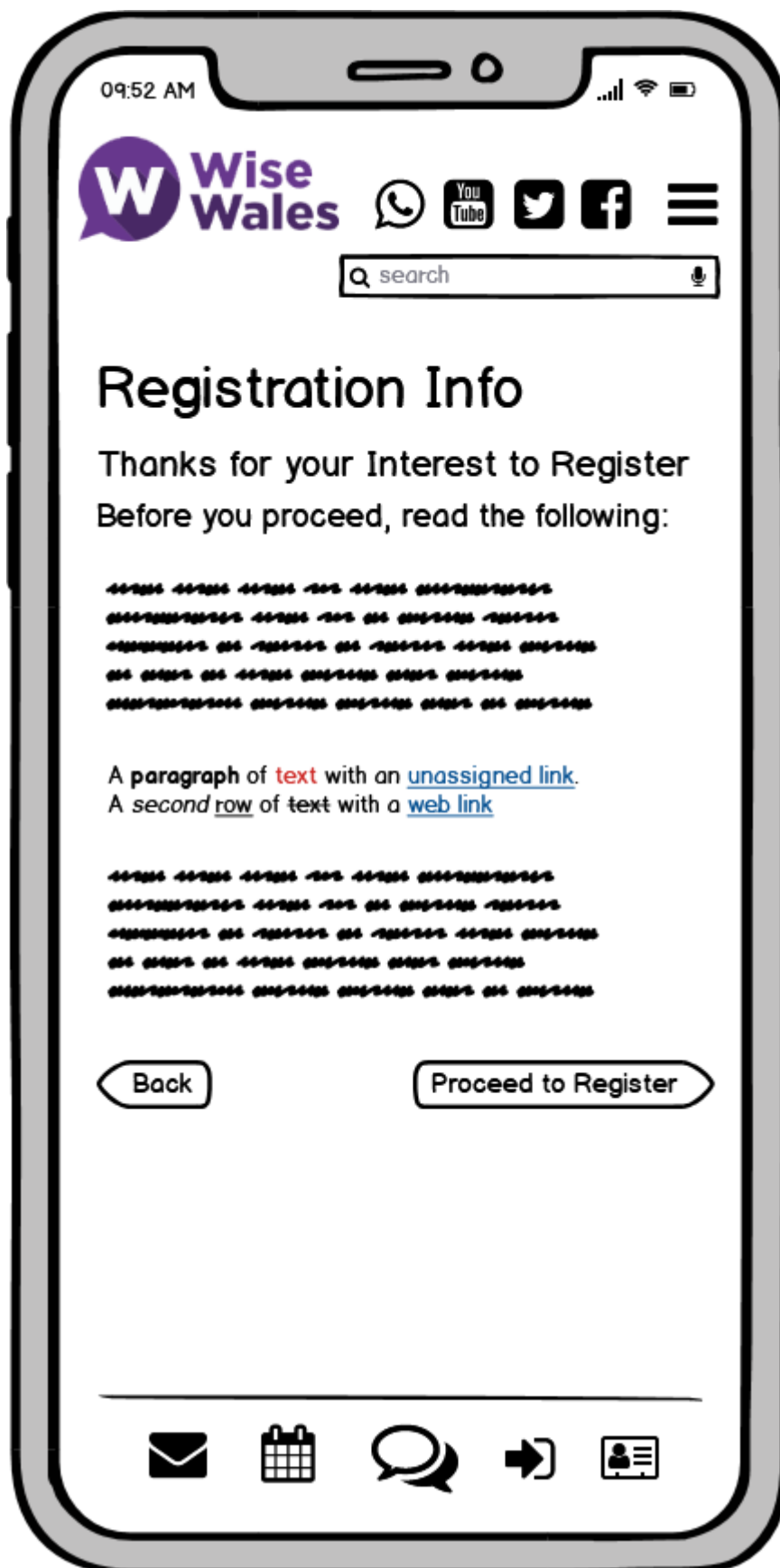


Figure 16: Registration Instruction Page

09:52 AM

W

Wise
Wales

Q

search

Registration

Fill this form

Your Institution Student Number

University of Wales Trinity St David

▼

Swansea University

Cardiff University

Your Institutional Student Number

Student Number

Your Institutional Student Email

Student Email

Password

Should be at least 8 characters long, with at least 1 number, 1 symbol, 1 upper case and 1 lower case

Password

Confirm Password

Re-type Password

Back

Register Now

Figure 17: Registration Page in the App

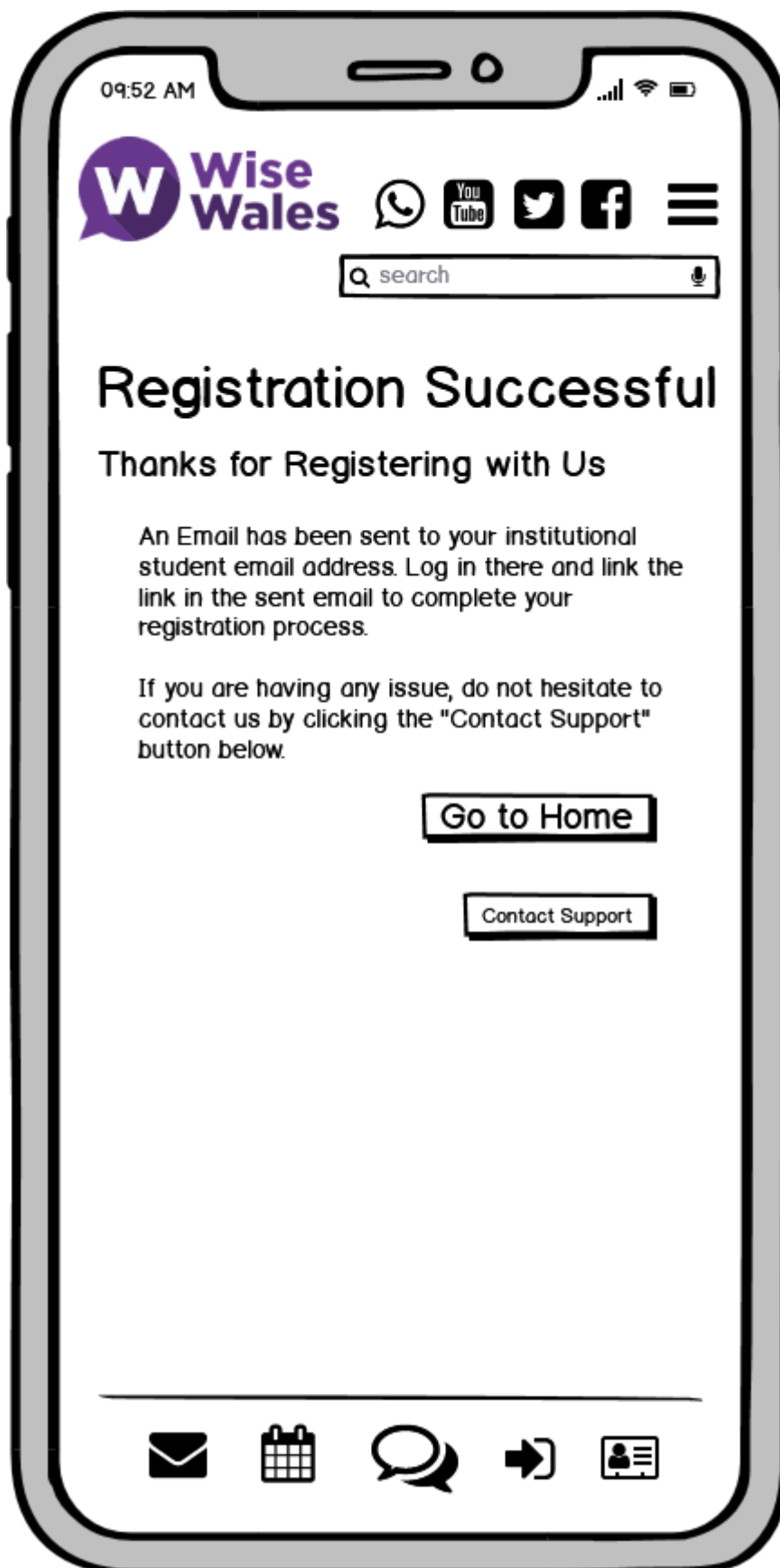


Figure 18: Registration Success Page in the App