

Defibrillator Finder Ballinrobe



Executive Summary

The name of our service is Defibrillator Finder Ballinrobe. Our team includes Katie Fraser, Siobhán McGrath, and Tamara Schulte. We are from a rural town, Ballinrobe in the west of Ireland.

We have created a mobile application called “Defibrillator Finder Ballinrobe” that provides the locations of all working AEDs in our town. We work closely with the AED owners to ensure the defibrillators are in top condition and all our information is up to date. Our project is an ongoing service, and this app is a step forward for us. This January we launched our website with the same function as our app.

Our app is designed to save lives. In Ireland, 14 people die per day of sudden cardiac arrest. The app locates your nearest defibrillator in an emergency along with all the information needed to save someone’s life.

Unlike other apps, we work on a local level. We provide in-depth, accurate, and up-to-date information to meet all your possible needs in a moment of panic. This means we can fix the fatal problems other services face and provide you with a trustworthy service.

A sudden cardiac arrest can happen to anyone, at any given place, at any given time. Instead of approaching this problem one app at a time, we believe the solution to this is a community-by-community approach as we are doing.

Company Description

Defibrillator Finder Ballinrobe is a social enterprise.

When working on this project, we worked to our strengths. Tamara takes care of the coding and management of our app and website. Siobhán writes up any documents or scripts needed for our service. Katie is the spokesperson, handling all communication, and is in charge of the legal aspects of our project.

Our mission is to provide people with the best chance of surviving a sudden cardiac arrest (SCA).

Approximately 5,000 sudden cardiac arrest deaths occur every year in Ireland, which is an average of 14 deaths per day. This is according to a recent article by Shirley Ingram of the Irish Nurses Midwives Association.

When a cardiac arrest occurs, time is *precious*. For every minute a victim goes without defibrillation, survival rates decrease by 10%. This means you need to locate your nearest defibrillator immediately.

However, in our town Ballinrobe, Co. Mayo, we discovered a lack of knowledge on the locations of Automated External Defibrillators (AEDs). Our results show that 51% of residents don't know where their nearest defibrillator is! This demonstrates the importance of the app we can now provide.

Consumers of our app will be anyone and everyone in Ballinrobe. Our app will be free to any individual who requires it as we are unwilling to put a price on someone's life. We aspire to develop this into a successful, sustainable service that can be used in an emergency and expand to the entirety of Ireland.

Our town has already suffered many losses due to sudden cardiac arrests. Only last year, we had an incident where a defibrillator wasn't available for a victim due to it not working. It took 28 minutes for an ambulance to arrive, but thankfully the victim survived due to an on-scene nurse who performed continuous CPR during this time and the victim had a return of spontaneous circulation.

As members of this community, we've created our app for these victims and their families. We will consider all the obstacles during a SCA so an incident like this never occurs again. Not only must people know where their nearest AED is located, but they must also know how to get to it and be guaranteed it will work. All possible obstacles during this time must be considered.

Competitor apps like ours have key downfalls such as mistakes or insufficient information. In a life-or-death situation, mistakes are fatal. A high standard is vital. Working on a local level means, for the first time ever, we will meet the standard required. We believe we are not the better way to approach this problem, but the **only** way.

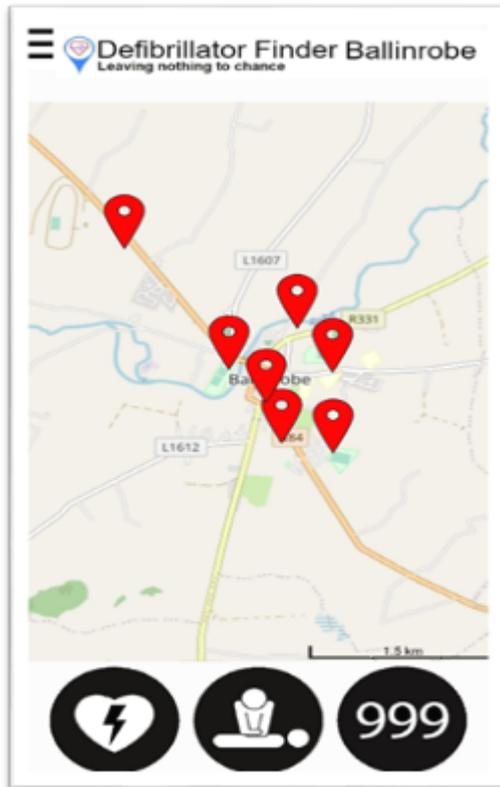
Service Description

Our app is an emergency rapid response service.

This means we primarily focus on quick and easy use. On our home screen, you immediately see the map of our town with the seven AEDs displayed.

Since we worked on a smaller basis, we were actively able to search for AEDs. Because of this, we found 12 defibrillators and uploaded the 7 suitable ones on our app.

We provide the address for each AED on our app. We are also able to provide the opening hours of the building it's located in, how to gain access to the AED e.g. code/key, the Eircode, and the operator's contact details.



All our AEDs are in top condition. We use our **Success Criteria** to decide if an AED is suitable for our app. This ensures the AED is publicly accessible, stored properly, batteries, pads, and accessories are kept in date, it's checked regularly, and serviced when needed. Before the AED is inserted onto our map, the AED owners agree to fill out a **Monthly Form** to ensure our information is kept up to date and still correct.

These forms are sent out the first Monday of every month, consisting of questions on the AEDs condition and the information we provide on it.

Owners have signed a waiver promising to fill it out to the best of their knowledge and they understand someone's life may potentially be at stake.

Both aforementioned methods have been approved by John Fitzgerald, the Chairperson of Community First Responders (CFR), Ireland.

On our home page, we also have a link to 999, and buttons on how to administer CPR and how to use a defibrillator. These images and instructions are updated to consider Covid-19 regulations. Our source can be found under references and at the bottom of the instructions on our app.

Our other features are found in our menu bar: register a defibrillator, report a vandalised AED, defibrillator facts, about us, and contact us.

For the options to register an AED, contact us, and report a vandalised AED, we used 'form validation' in App Inventor. Any queries or information inserted will be sent to our shared admin email.

These forms are one of our methods of staying close to users of our app. We plan to work very closely with the residents of Ballinrobe to perfect our app to their needs.

Our app relies on the AED owners to provide us with the necessary information and fill out our monthly forms.

In the future, we plan to address this issue by creating a feature where AED owners can create an account on our app, so AED owners have the convenience to enter their monthly form through the app at any time within the month or answer it by email or have us deliver it in person.

To create a positive relationship with the owners, we also delivered a small easter egg to each AED owner during the Easter holidays, where we received warm welcomes in response. Other incentives for AED owners to work with us are helping their local community and potentially saving a life.

In the future, we also plan to only show the AED icons when they're available. For example, the Tesco AED is only available when the building is open. When it is locked, the AED icon would be taken off the map for a better user experience.

Defibrillator Finder; Ballinrobe isn't just an app, it is an ongoing service. Last year, we entered BT Young Scientists and created a website with the exact same layout and purpose as our app. The pros of the website are that both IOS and android can access it, and when we update or change it, it doesn't require users to update as our app might require. It has been up and running, available to everyone since January 2021, and we've already received and been answering queries over the previous months.

Our app is a new step forward for our service. We believe it will be easier accessible for users in an emergency and lead our project to a brighter future.

Market Analysis

We analysed the competitor market and looked at two of the most popular apps available called 'Staying Alive' and 'Save a Life'. These are the most popular apps for locating defibrillators. Save a Life is based in England and Staying alive is based throughout Europe. Most apps like these that locate AEDs work on a large scale e.g. national to their countries or even across Europe. However, there are no up-to-date apps that have AEDs registered in Ireland.

In terms of these competitors, some of the key downfalls include, but are not limited to, the following:

- AEDs are not actively searched for. This means very few AEDs are uploaded onto the app so your nearest one shown is almost certainly too far away to be used in an emergency.
- These apps aren't in charge of the information displayed. AED owners and users have complete control of the information provided and the condition of the AED. This means there is no guarantee of correct and up-to-date information, or that the AED is fit for use.
- Users have also commented on having problems updating, changing, and viewing information which increases the risk of incorrect and outdated information.
- We've also found that most apps only insert the location of the defibrillator. This can lead to unforeseen obstacles such as an inaccessible AED. Many are located inside a

building that is locked at certain hours. Others are stored in a case that requires a key/ password to access it due to the threat of vandalism. When each second counts, this can be disastrous.

The pros are their other features and accessibility.

These apps have CRP and sometimes even guides on how to use a defibrillator. They provide easy-to-follow instructions with coloured images, capable of being used in an emergency. Staying alive also provides 18 different translations for Europe and has a link to 999. Both apps are free.

Because of this information, we decided to incorporate our own instructions which can be viewed on our website and app.

We also interviewed John Fitzgerald, the Chairperson of CFR as part of our market research. His organisation had a database of AEDs across Ireland. They checked that the conditions from their success criteria were met and contacted the owners each month to ensure their information was valid and still up to date. However, they stopped updating three years ago, as the workload involved on a national level was unsustainable.

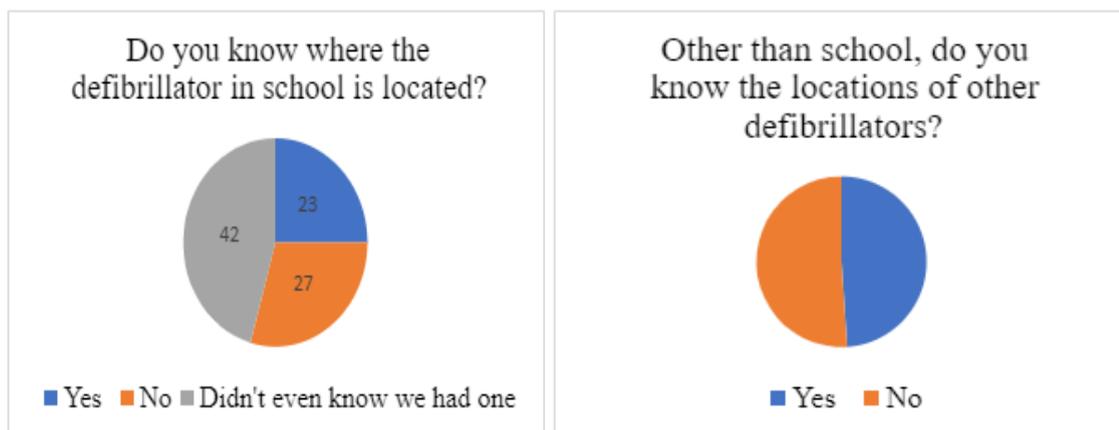
We have applied our methods of success criteria and monthly forms to our own service.

Working locally, we can do everything John Fitzgerald aimed to do and more, with a sustainable workload. For all these reasons, we believe we will be successful where others haven't.

For research on AEDs, we interviewed 4 other experts in their field: Mark Callahan from the National Ambulance Service, Brian Renton from University Hospital Galway, Ger Tierney from Fleming Medical, and Ger Hickey, a managing director from Ce-Tek Medical.

When conducting research in our town, we asked 194 people from Ballinrobe if they knew where their nearest AED was: 51% answered that they didn't. We also surveyed students in our school.

Survey Results:



We interviewed 92 students in our school: 46 students from Junior Cert and 46 students from Leaving Cert. We discovered that:

46% of students didn't even know we had an AED in school.

49% of students didn't know any other locations of AEDs in Ballinrobe.

A surprising result was that 33% of students didn't know the purpose of an AED. Because of this result, we added a defibrillator facts section you can now view on our website and app.

Strategy and Implementation

The consumers of our app are everyone and anyone.

When promoting our service, we will target a broad audience. Firstly, we plan to create stickers with QR codes to our website/app and stick them around town which targets all residents of Ballinrobe. Posters are also a viable option.

We also plan to feature in the church's newsletter and the local newspaper to target the older audience.

In our school, we will aggressively promote our service to students as they are comfortable with technology and it is a quick, impactful, and free method of promotion for us.

One primary source for promotion will be social media. We currently have an Instagram and Facebook account, with over 300 followers on the latter. We've found that Facebook is a very popular site among businesses in Ballinrobe. We've also been featured on high profiles such as our schools, Ger Hickey's from Ce-Tek Medical, Community First Responders, BT Young Scientists' and Believe in Ballinrobe's page which is our town's committee.

Word of mouth and indirect promotion has also been very successful for us. We've been congratulated over the school's intercom, been in the school's newsletter, and mentioned in the local newspaper over the success of our project in the BTYSTE competition. We were also invited to present our research at Community First Responder's Ireland annual conference where our project was viewed all over Ireland.

Our logo (seen at the top of this document) and the slogan 'Leaving nothing to chance' are also their own form of promotion. Our slogan means exactly what it says: we promise to leave nothing to chance, so you have the best chance of saving a life.

We used our website as a prototype for our app. We received feedback such as change the spelling to UK-based and remove the CPR images from the homepage which we've done for both our website and app.

We believe our app should be available in every community.

In the beginning, we will encourage other communities to do what we've done by promoting and visiting neighboring schools. We will teach people about the importance of AEDs, and the stark statistics of sudden cardiac death (SCD).

Potential members are town committees, Community First Responders' groups, the GAA, LGFA, the County Council, etc.

To ensure the expansion would run smoothly, we would create a program where people could register with our service, agreeing to uphold our methods and standards. In return, we'd provide the needed code, so no coding skills are required, all needed information to complete this project, and an available fully developed app to insert their AEDs onto.

When expanding, every person would download the same app with a map showing the entirety of Ireland, accommodating for communities across the island. Once users agree to use their location, the app would immediately zoom into wherever they are.

Development of the map would be easy. When inserting a new AED, all they would have to do is find the coordinates (longitude and latitude) shown in Google maps and insert it into the code we've provided for the AED icon to show.

This icon, the red marker, is where the information on each AED would be inserted: the address, availability hours, how to gain access, the Eircode of the nearest building, and the AED operator. Other helpful information would be up to their choosing.

Each community would be in charge of locating AEDs, gathering their information, and ensuring it's still updated and correct each month. This would keep the workload sustainable for our service. For each community, a certain degree of independence would also be given to better accommodate their town.

However, our methods of success criteria and monthly forms would be strictly upheld along with the layout to provide users with an unwavering standard of consistency, familiarity, and a trustworthy service no matter where they are.

With the promotion and the reputation of our service, AED owners would also be more willing to collaborate with us.

Plan for Expansion. Year 1

Develop and launch the app for residents in Ballinrobe, and have people download it.	Promote our service across the town (QR codes, posters, keyrings, etc.)	Develop this into a program where other communities could get involved.	Gain a reliable reputation and a large number of users for our app and website to entice local businesses to advertise on them.
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Year 2

Become financially self-sufficient.	Gain a steady income from advertisement agreements, sponsorships and donations made through the website and app.	Within the first sixth months, expand to 1 other community. This would serve as a trial run to overcome obstacles and evolve our service for the better.	Expand to another 2 communities after the first six months of trial run.
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Year 3

Expand to 6 communities, with a total of 10 communities' part of our program.

Financial plan and Projections

Our app will be free, and for maintaining the app we would rely on donations through our app and website, sponsorships, and advertisement.

Regarding capital promotional costs (e.g. our promotional QR code stickers), we hope to get local sponsors. In return, we will promote their logo and name on the sticker.

Currently, we've already received a sponsorship of €70.00 from Ger Hickey, a managing director of Ce-Tek Medical, a company that retails defibrillators. This has covered most of our costs so far for our project.

Projected income and expenditure for the following months:

	May	June	July	August	Total
Cash Inflows					
Personal Investment	8.00	8.00	8.00	8.00	32.00
Sponsorship				30.00	30.00
Total Inflows	8.00	8.00	8.00	38.00	62.00
Cash Outflows					
Website server	8.00	8.00	8.00	8.00	32.00
QR Codes				30.00	30.00
Total Outflows	8.00	8.00	8.00	38.00	62.00
Net Cash Flows	0	0	0	0	0
Opening Balance	0	0	0	0	0
Closing Balance	0	0	0	0	0

Regarding the cost of the promotional QR codes, we hope to get a local sponsor to pay for them. Our limit for this cost will be €30.00.

During Year 2:

At the beginning of Year 2, we will have a fully developed service with many users for our website and many downloads for our app. Because of this, we will begin an advertisement agreement with a local business, so it is mutually beneficial. We will also have a developed expansion program.

During Year 2, we will expand to 1 community during the first six months, and 3 others before the end of the year, totalling 5 communities' part of our Defibrillator Finder program. In Year 2, we also aim to be financially self-sufficient, and personal investment will no longer be a source of income for us. As mentioned before, we will rely on donations and advertisements to maintain, promote, and expand our service. Sponsorship is also a likely option of income and we will use this as a method to pay for any capital costs along the way.

Donations

Currently, we're aiming at a minimum of three people per community to donate €1 per month. Our projections are based on this assumption for now but will likely change in the future. We believe people will be willing to donate to a local cause, and both promotion of our service, and promotion of AED and sudden cardiac death facts will act as incentive.

Income during January – February: €3.00 per month.

March – June: €6.00 per month (2 communities).

By the end of Year 2, we hope to receive an average €15.00 per month (5 communities).

Advertisements

We will advertise local businesses logo and name at the bottom of our home screen and in a page in our menu bar at the cost of €50.00 per 6 months, (This will be on our website, app, and social media pages). Options to pay for it monthly (€10.00) will also be available.

Due to this being a rapid-response service, we will only allow a maximum of three businesses being advertised on the home screen of our app at any one time. We will strictly prioritise no possible obstacles on our home page for users in an emergency.

Projected Income and Expenditure for Year 3 Jan – April:

	January	February	March	April	Total
Cash Inflows					
Donations	15.00	15.00	15.00	15.00	60.00
Advertisement	150.00				150.00
Total Inflows	165.00	15.00	15.00	15.00	210.00
Cash Outflows					

Website server	8.00	8.00	8.00	8.00	32.00
Easter eggs for our AED owners				25.00	25.00
Total Outflows	8.00	8.00	8.00	33.00	57.00
Net Cash Flows	157.00	07.00	07.00	(18.00)	0
Opening Balance	0	157.00	164.00	171.00	0
Closing Balance	157.00	164.00	171.00	153.00	153.00

As we continue to expand, donation income will increase.

Currently, this will be a social enterprise. All profits made will go towards capital costs, maintaining, expanding, and promoting.

References

Our information for CPR and defibrillation: [How to do CPR on an adult | St John Ambulance \(sja.org.uk\)](https://www.stjohn.org.uk/first-aid/cpr)

Desk research (Documents): OHCAR annual report 2018 and 2019,

HPRA External Defibrillators

HTA of Public Access Defibrillation,

Reducing the Risk: a strategic approach from the task force on sudden cardiac death

Our Facebook page: <https://www.facebook.com/DefibrillatorFinderBallinrobe/>

Our email: defibrillatorlocatorapp@gmail.com

Our Instagram account: <https://www.instagram.com/defibrillatorfinderballinrobe/>