

# Project Research Document

## Church Finder

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### 1 DETAILED DISCUSSION

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This application will allow the user to find Churches and see the Mass times for that particular Church. The application will use the GPS on your phone to get your location and then it will list the nearest Churches. You could also increase the range of the search if you want to find Churches in other cities. You can also search for a Church by name or you can select a city/town, and then it would list all of the Churches stored in the Database for that particular city/town.

Many features will be implemented in this application, and some of them will make this application unique. I will list each of the features that I intend to implement, but along implementation, the possibility of new features being developed and added to this project can also occur.

- In this application, the user can get detailed directions to the Church that the user selects. The application will use the GPS to guide the user until it reaches the final destination, which is the selected Church.
- When the user selects a Church, they will be able to see the Mass times for that particular Church. Each Church will have its Mass times stored in our Database.
- The user will be able to add Churches to a Favourites tab, which will contain all Churches that were added to Favourites by that user.
- The application would search the Web for the selected Church, and it would list news that are related to that Church.
- The user will be able to set notifications for a particular Mass at a particular time/date. When a Church is selected, the Mass times for that Church are displayed to the user, and they can set notifications, which would remind them of the Mass they wishes to attend.
- One of the features that I plan to add is a Login option, which would store the user preferences in a Cloud service. This way, if the user lost or restored their phone, he would have the option to restore their preferences from the Cloud. This idea is yet to be decided.
- Another feature that is yet to be decided is the ability to post pictures of a particular Church that you found or visited. The idea is that when a Church is selected, you could post pictures of the Church so that other users could see what the Church is like. This would create a small social network within the application, which would allow users to comment on pictures and get to know other Churches. This option would only be available for registered users.

This application would be very useful for people that are new to a city/town and do not know about the Churches or the Mass times. It would guide them to Churches and notify them about a Mass, and because I travelled a lot, I know how difficult this is if you are new to a city/town. This application would not be useful only for that type of user; it would also help people that already live in the area, but wish to know more about Churches in other cities. The idea of a small social network within the application would extend the limits of this app, and it would make it unique. The ability to post pictures for a particular Church or even comment on pictures by other users would help people to get to know more about other Churches using pictures and text.

## 2 EXISTING APPLICATIONS IN THIS DOMAIN

Application name	Similarities	Differences
Church Finder by Aabasoft	<ul style="list-style-type: none"><li>- List Churches based on user's location</li><li>- Can give directions to the user</li></ul>	<ul style="list-style-type: none"><li>- Does not have a Favourites option</li><li>- Does not contain news or Mass times for the selected Church</li><li>- Does not have Reminders for a Mass</li></ul>
Local Church Finder by Golden Lampstands	<ul style="list-style-type: none"><li>- List Churches based on user's location</li></ul>	<ul style="list-style-type: none"><li>- Does not have a Favourites option</li><li>- Does not contain news or Mass times for the selected Church</li><li>- Does not have Reminders for a Mass</li></ul>
Church Finder by AppAspect Tech	<ul style="list-style-type: none"><li>- List Churches based on user's location</li></ul>	<ul style="list-style-type: none"><li>- My application would not show the Churches on the map, at least not in Version 1</li><li>- Does not have a Favourites option</li><li>- Does not contain news or Mass times for the selected Church</li><li>- Does not have Reminders for a Mass</li></ul>
Church Finder by SoftSolutions	<ul style="list-style-type: none"><li>- List Churches based on user's location</li></ul>	<ul style="list-style-type: none"><li>- My application would not show the Churches on the map, at least not in Version 1</li><li>- Does not have a Favourites option</li><li>- Does not contain news or Mass times for the selected Church</li><li>- Does not have Reminders for a Mass</li></ul>

A few applications similar to mine already exist, but all of them only have the functionality to list the Church and only one of them can give you directions to the Church. My application would contain features that are going to make it unique compared to any other similar existing application.

### 3 PLATFORM, TECHNOLOGIES AND LIBRARIES

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This application will be developed for Android users. I plan to develop it for Android 2.3+ users. The reason for this is that there are many versions of Android on many devices, and if I develop my application based in this Android version, many devices would support it. Of course, this will depend on my features and their requirements. If one of my features requires a higher version of android in order to run perfectly, then I will have to upgrade my application to support higher versions of Android.

I chose Android because the majority of the market uses Android (85% Global Market Share on September 2014). Then plan for the future is to write this application for iOS and Windows Phone users.

Java is the language used if you are developing Android applications. Java runs in a VM (Virtual Machine) and this is a big plus for users. You do not need to recompile your application for every phone that uses Android. It is secure, because it cannot use other processes on your phone, therefore one application cannot take advantage of other applications or processes on the phone. All of that is possible because of the Java VM.

For my Database, I will be using SQL, because of its integrity with Android and all the tutorials available on the internet. There is an API available on Android, which is the SQLite package. This is the package I chose for the Database included on this project.

### 4 THE RISKS

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The main risks to this project are not on the features that are confirmed for this application. The risks are on the functionality that will extend the limits of this app. These are some unique features for this type of application, and I will be doing lots of research on the “2 yet to decide” features. These ideas would require a Web service and other type of objects like JSON/XML.

This is the reason why this project is such a big challenge for me. The idea of implementing all these features into one app, using all this technology available for Android developers is a big challenge. I will be depending on a SDK to keep testing my application, but this can be easily integrated to Eclipse, which is the software I plan to use for my development part. Google Maps and its API is also available on Android, and this is another big plus for developers.

In a summary, this project looks interesting and challenging to me, and I will try to make use of every resource available on the web to make this application the best of its kind.