Research on WhatsApp Message Functionality

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Version History

Version	Date	Author(s)	Changes
1.0	April 2021	Florin	First draft
2.0	May 2021	Florin	Finished arguments and conclusion

Contents

Introduction

In this document we will discuss possible options for automatically sending WhatsApp messages when a visitor's license plate is recognized. The choice should include the functionality to input a visitor's phone number and a message to that visitor automatically. It should also be able to smoothly integrate into our SpringBoot/React application. One other constraint would be that it is free to use, or if that is not possible in any way have a trial that we can renew or a low price.

Research methods:

In this document the following research methods from the DOT Framework were used:

Library method: considering our available options and see if they fit our required criteria for the project. Also going into the documentations of analyzed choices and seeing how they function and integrate into our project.

Lab method: using the considered options and seeing if it is a good fit for our project

Considered options:

Because of the WhatsApp terms and conditions of use, we are not allowed to send messages to WhatsApp users who have not explicitly given their consent (Facebook). If we somehow managed to do that from our phone numbers that would mean we would be at the risk of WhatsApp blocking our phone number completely. Because of this limitation, going forward we will only be sending messages to users in our who explicitly opted in to receive them.

1. WhatsApp Gateway API ("Whatsmate")

This is the first found option while looking for solutions. It is a REST Api which can be easily integrated into our Java app. The problem with this option is their pricing: the trial costs 3euros

for 2 weeks and then their commercial option costs 10EUR per month. Although it provides the functionality that we need, because of even the trial costing money, there are better alternatives.

2. Twilio's WhatsApp Service

The company Twilio offers a very simple to register and integrate service that we could use. They have a very easy registration guide that also explains their functionality. It would be a perfect fit for our needs if not for the flat fee per message sent (Twilio). The fee is as follows:
0.0085USD WhatsApp fee+0.005 twilio fee=$0.0135 total fee per message
For testing and demonstrating purposes we can choose this as when you sign in, you get a trial budget which is enough to demonstrate the functionality.

3. WhatsApp Business API ("WhatsApp Business API")

This API is given directly by whatsapp and it allows sending and receiving messages from users. If the app we build was actually used by a company this would be a good fit because in order to use it you need to have a whatsApp business account and you also have to apply in order to be accepted.
Because this is a school project there is no way for us to be accepted to use it, so it is not a suitable option.

4. Yowsup

This is a python library that enables building applications that can communicate with WhatsApp users ("Yowsup"). Because it is a library it means we would have to make all the code connecting the application with whatsApp ourselves which would be complex enough to be a project on it's own. Integrating it into our Spring Boot project would also be difficult as we would have to use external tools to import the functionality from the python code into our project. Because of the above mentioned reasons we will not use this to send WhatsApp messages to our users.

Conclusion

All in all, we are facing constraints which limit our options because of the limitations imposed by Facebook's policy regarding WhatsApp messaging. The fact that available services are intended for business/commercial purposes and not student learning purposes also limits us in what we can choose.
Based on prior arguments we will use Twilio's WhatsApp service in our application as it is the best fit to our needs based on prior arguments

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