

ZAWSZE GOTOWI, ZAWSZE BLISKO



**TERRITORIAL DEFENCE FORCES**

[WWW.TERYTORIALSI.WP.MIL.PL](http://WWW.TERYTORIALSI.WP.MIL.PL)



**[Freestyle] - CryptoAudioSMS**

2007



2012



2019



# PROBLEMS

POLAND



BLACKOUT USA



COVID-19



# EXAMPLE PROBLEMS:

**2007**

1997 Central European flood

- millions affected
- no power for prolonged period of time
- no access to Internet nor GSM network
- significant problems in communication between emergency services

**POLAND**

**2012**

2012 Blackout USA

- millions affected
- no power for prolonged period of time
- no access to Internet nor GSM network
- significant problems in communication between emergency services

**BLACKOUT USA**

(multiple times in recent history)

**2019**

- significant problems in communication between emergency services, military, police, and volunteers
- security of transports and confidentiality of medical cases become an issue

**COVID-19**

# WHAT IT IS ABOUT:

- When the Internet and GSM will fail this app will allow anyone to exchange encrypted data over ANY legacy analog radio with no additional hardware needed!;

# SHORT DESCRIPTION:

- Manufacturers, military and civilian defense implement their different communication standards (DMR, TETRA, dPMR, NXDN etc.) but when there is a crisis and the need for secure information exchange they fail to cooperate as these are simply incompatible. The security of information exchange becomes an unstable element during a critical situation. What any Policeman, Soldier, ambulance and truck driver will have access to is a simple analog radio. This radio along with the simplest of the android device (that is cut off from the world) will enable anyone to send vital information in encrypted form over standard analog frequencies. No connectors or cables between radio and android devices are needed for this solution. The idea is that any radio operator (emergency services, military, civilian defense, and volunteers) should be able to protect the content of their situational reports and other mission-critical data while sending over the air with ANY equipment.

# FEATURES:

no cables, connectors, etc needed to get it to work - instant configuration - properly stored, distributed and generated XOR key (in-app) makes transmission unbreakable - short text messages for vital information only - a long list of ways to generate and distribute the cryptographic keys (BT, WiFi and in future PKI infra very similar to GPG for email) - since it uses audio as a way of communication the solution is compatible even with radios from 100 years ago

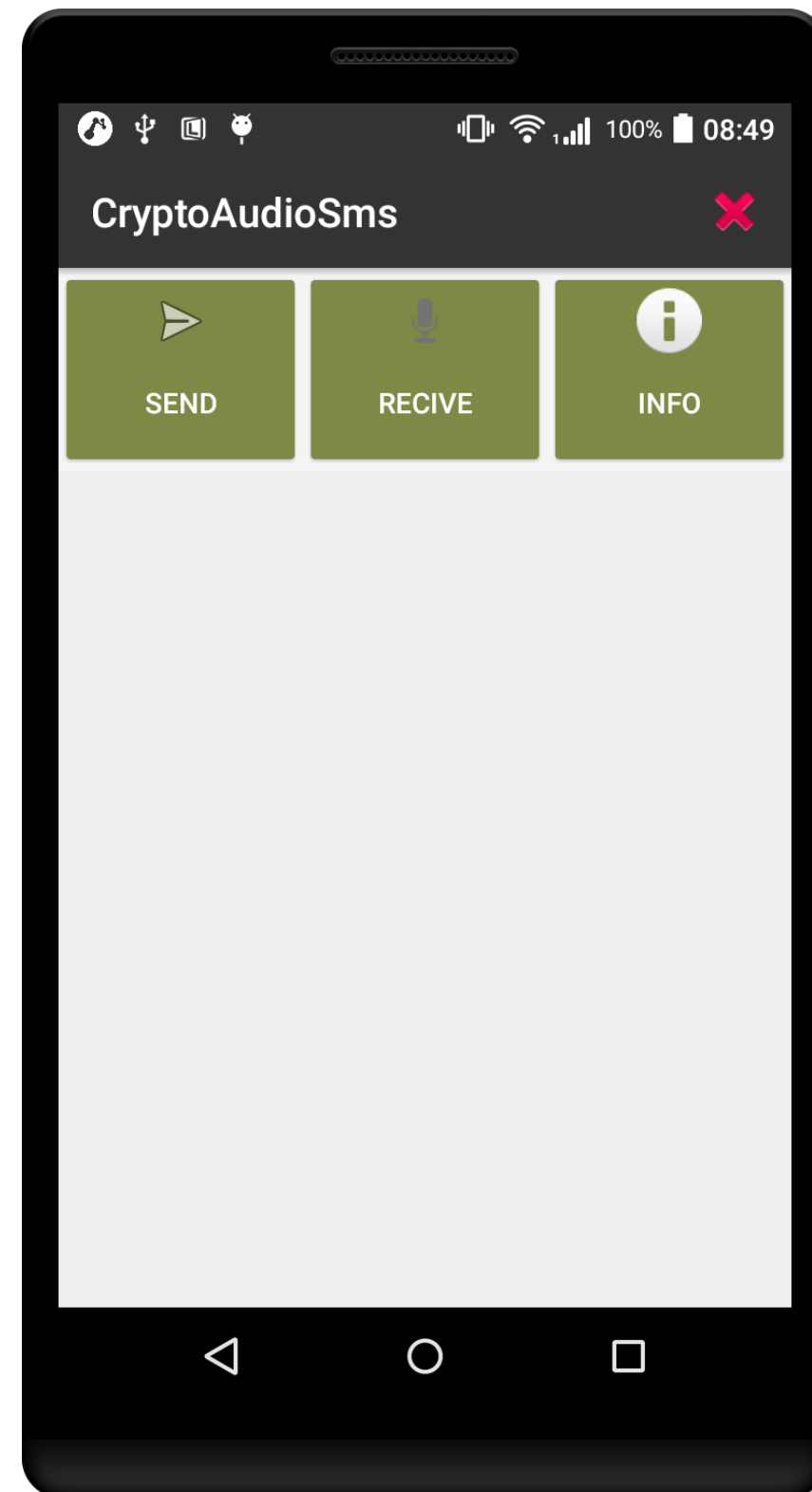
# **COSTS:**

No costs whatsoever on top of what every emergency service already have during the emergency (radios and mobile phones - even when not connected to the Internet nor GSM)



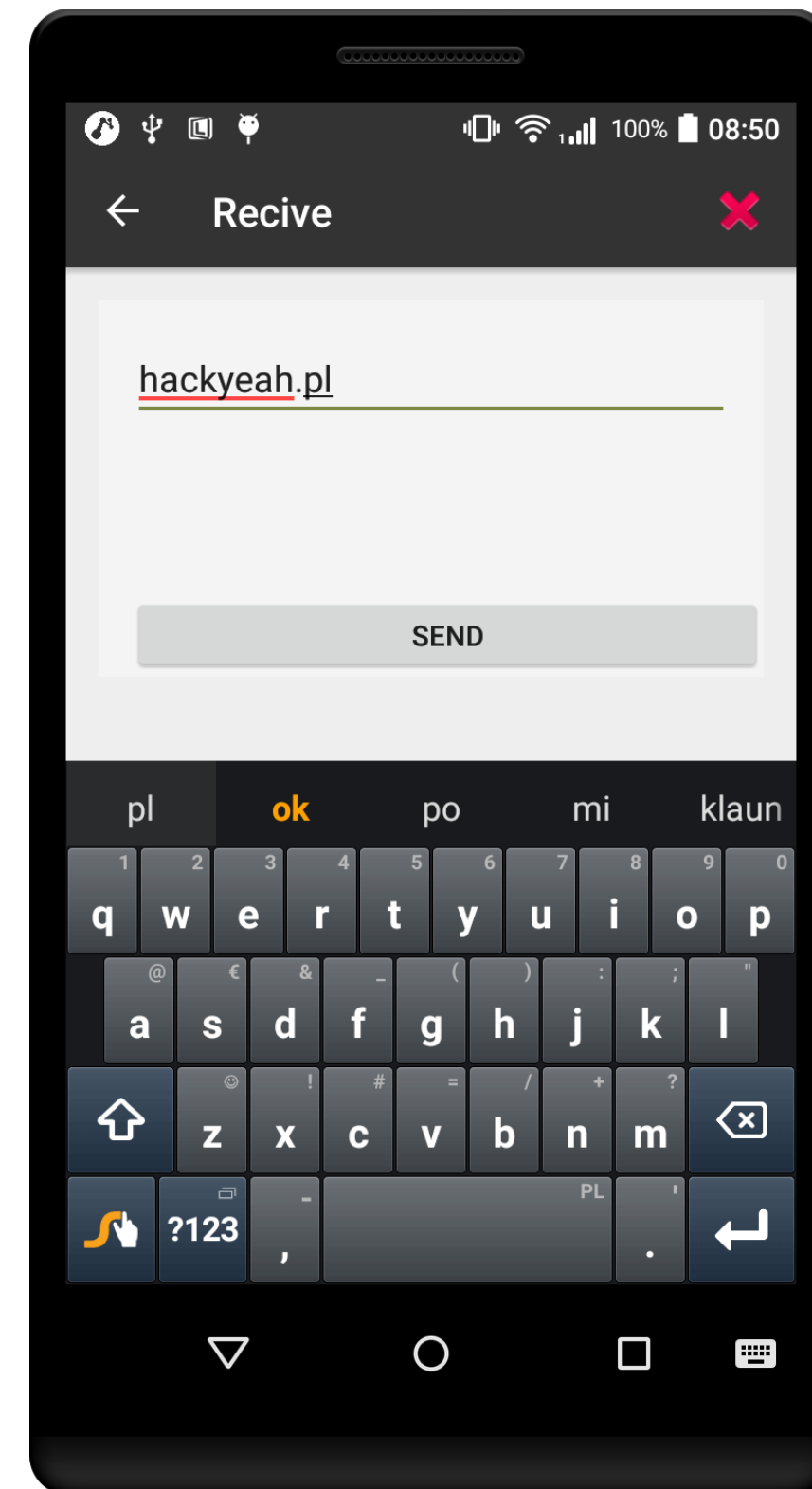
# AN EXAMPLE OF USING THE APPLICATION:

1



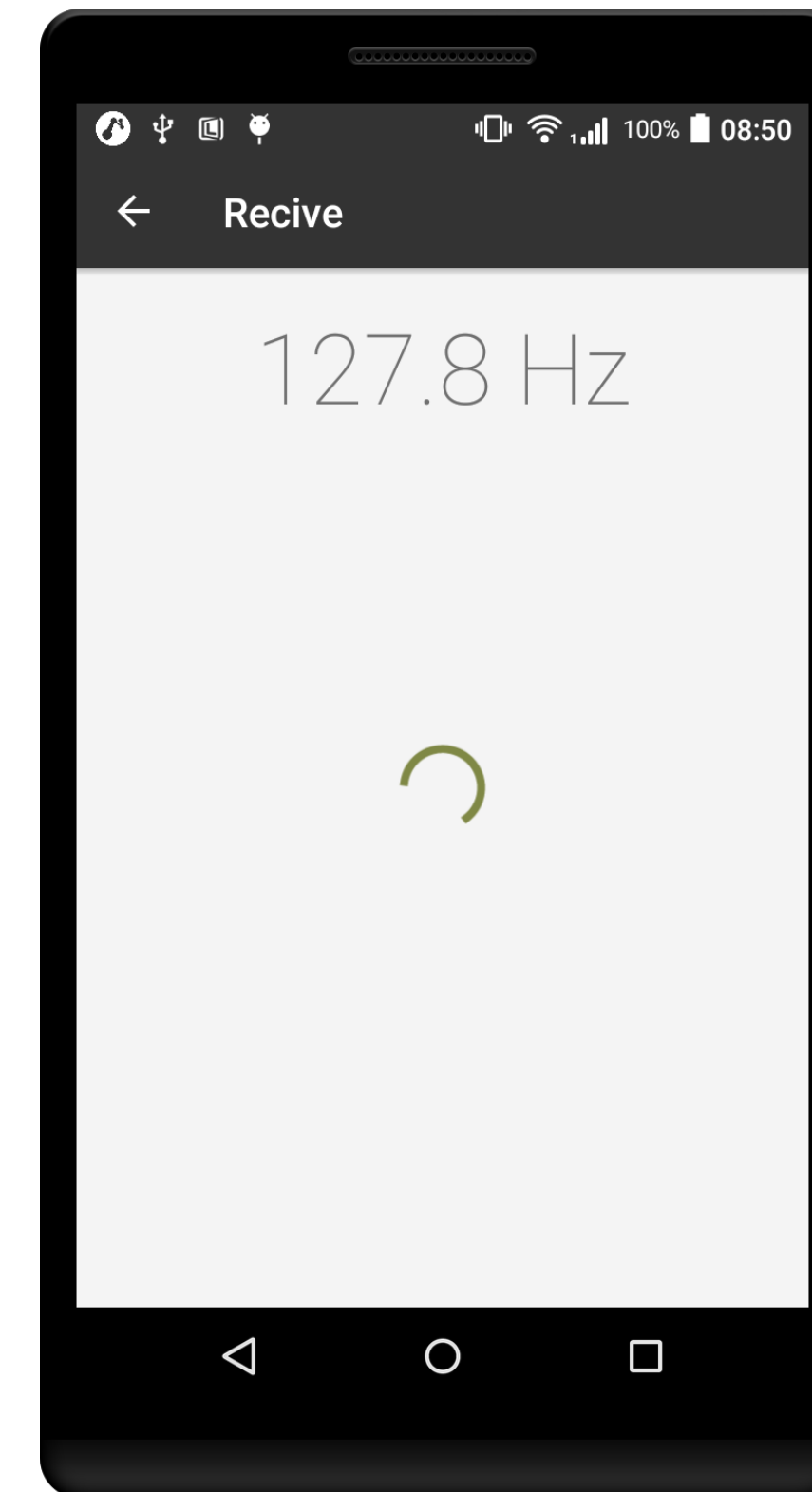
**we can send and receive using the same APP**

2



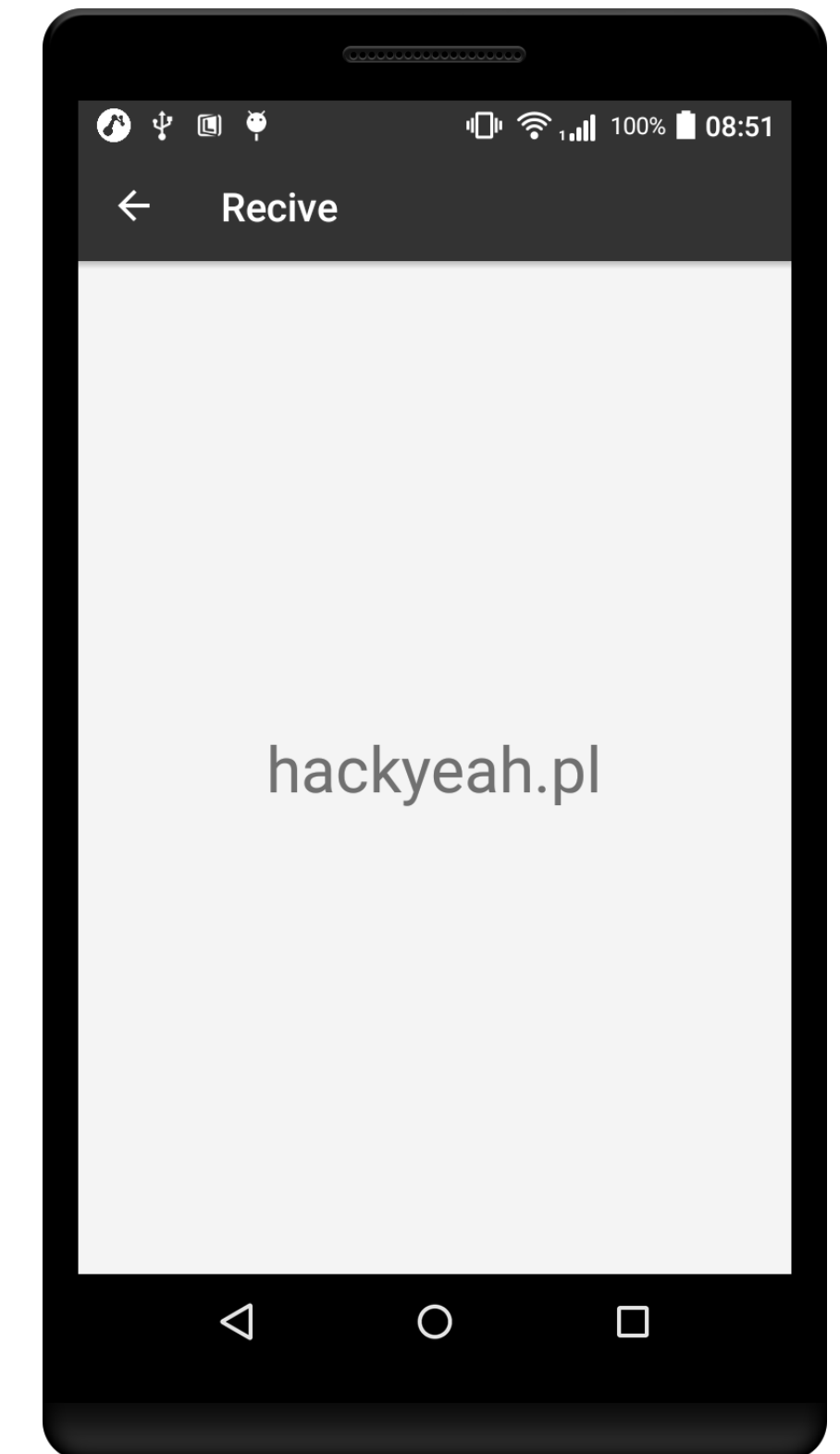
**we can input any text message, just like in SMS**

3



**APP is encrypting our message and it starts to generate the audio code**

4



**APP on the receiver side is decrypting the message**



**Konrad**



**Maciej**



**Daniel**