

Network Security: A study on Emergency security signal technology for safety

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Abstract: - It is very recent technology which is mainly used in network security, networking, computing, and distributed computing. These types of service reduce the information technology overhead for end users. It is reliable to handle and provide flexibility and on-demand services. This service provides reliability even when we are traveling. It becomes an important task to security for the devices that we are dependent so much. This device is used to provide safety signal. To handle this types of service a new service device come into use that is SOS. SOS means stay safe! The SOS signals come from Morse code distress signal. The SOS term use for various phases. The Morse code distress signals are firstly replaced with Global Maritime Distress Safety system. This paper, is tell us about security signals used in emergency for safety. It gives a view on various security services for safety that are replaced with old one.

Keywords:-SOS, Morse code distress signal, GMDSS, CQD.

1. INTRODUCTION

SOS [1] is used description for the international Morse code distress signal (...---...). This distress signal was first adopted by the German government in radio regulations effective April 1, 1905 and it becomes the worldwide standard under the second international radiotelegraphic convention. This was signed on November 3, 1906 and become effective on July 1, 1908. SOS reminded the maritime radio signal until 1999. When it was replaced by the global maritime distress safety system. SOS is still recognized as a visual distress signal. The SOS distress signal is a continuous sequence of three dits; three dahs and three dits, all run together without letter spacing. SOS is a Morse “procedural signal” and the

formal way to write it is with a bar above the letters: SOS. In popular usages, SOS becomes associated with such phrases as “save our souls”, “save our ship” and “send out succour”. These may be regarded as mnemonics, but SOS does not actually stand for anything and is not an abbreviation, acronym or initialize. SOS is the only 9-element signal in Morse code, making it more easily recognizable, as no other symbol uses more than 8 elements. SOS is the first type of safety application for women. It is the best android application for safety of women. A shake to alert application in case of emergency. Turn your Smartphone into an emergency safety device. When use it you feel secure. When you use it generate alarm during signals. It’s a very nice application really simple and user friendly

interface. It is compatible with your device. It is a mobile application to the rescue in case of emergency. SOS-Stay safe! Application is features on androidtrapp's "30+ best android application and games".



Fig: SOS logo

Morse code:-It is a method [2] of transmitting text information as a series of on-off tones, lights or clicks that can be directly understood by a skilled listener without special instrument or equipment. Morse code is popular among amateur radio operators, although it is no longer required for licensing in most countries. Pilots and air traffic controllers usually need only a cursory understanding.

GMDSS:-The global maritime distress and safety system [3] is an internationally agreed-upon set of safety procedures, equipments and communication protocols. GMDSS consists of several systems. GMDSS sea areas serve two purposes: to describe areas where GMDSS services are available, and to define what radio equipment GMDSS ships must carry. The system is used to perform the following functions: alerting, search and rescue coordination, locating, maritime safety information broadcasts, general communication. The system also provides redundant means of distress alerting and emergency sources of power.

CQD:-CQD [4] transmitted in Morse code as $_ _ _$. $_ _ _ _ _ _$ is one of the first distress signals

adopted for radio use. Land telegraphs had traditionally used "CQ" to identify alert message of internet to all stations along a telegraph line and CQ had also been adopted as a "general call" for maritime radio use. This distress signal soon becomes known as "SOS". Germany had first adopted this distress signal in regulations effective April 1, 1905.

2. FORMALIZATION

The use of the SOS [5] signal was first introduced in Germany as part of a set of national radio regulations, effective April 1, 1905. These regulations introduced three new Morse code sequences, including the SOS distress signal. In 1906, at the second International Radiotelegraphic Convention in Berlin, an extensive collection of Service Regulations was developed to supplement the main agreement, which was signed on November 3, 1906, becoming effective on July 1, 1908. Article XVI of the regulations adopted Germany's Notzeichen (distress signal) as the international standard, reading: "Ships in distress shall use the following signal: $\cdot \cdot \cdot _ _ _$ $\cdot \cdot \cdot$ repeated at brief intervals". The first ship to transmit an SOS distress call appears to have been the Cunard liner Slavonia on June 10, 1909, according to "Notable Achievements of Wireless" in the September, 1910 Modern Electrics. However, there was some resistance among the Marconi operators to the adoption of the new signal and, as late as the April, 1912 sinking of the RMS Titanic, the ship's Marconi operators intermixed CQD and SOS distress calls. However, in the interests of consistency and water safety, the use of CQD appears to have died out after this point.

In order to designate the proper sequence of dits and dahs for a long special symbol, the standard practice is to list alphabetic characters which contain the same dits and dahs in the same order, with a bar atop the character sequence to indicate that there should not be any internal spaces in the transmission. Thus, under the modern notation,

the distress signal becomes SOS. (In International Morse Code, VTB, IJS, VGI, and SMB, among others, would also correctly translate into the ···---··· distress call sequence, but traditionally only SOS is used). The first recorded use of SOS as a distress signal was by the steamer SS Arapahoe on August 11, 1909. The signal was received by the United Wireless Telegraph Company station at Hatteras, North Carolina, and forwarded to the steamer company's offices.

3. SECURITAS SOS

Introduced by Securitas [6] security services USA, Inc., the nation's leading security provide, Securitas SOS automatically alert paramedics, police, and loved once in case of an accident or a fall. You can call a nurse or tow truck with a touch of a button and be forewarned about traffic crime, news and weather hazard –all with your android phone. Securitas SOS will alert you about:-

- Traffic problems along your route, including accidents, road closures, or construction
- Special safety alerts, including severe weather, and terror threats
- The latest crime statistics in your current GPS location
- The latest weather updates displayed automatically as new information become available
- The location of your child, or employee, if they have strayed outside a boundary

With patent-protected impact detected technology, your android phone equipped with Securitas SOS detects crashes and impacts and automatically alerts paramedics to get help to you fast in any critical emergency or dangerous situation. Securitas SOS will alert 911 emergency responders and will request help based on your GPS location.

WHAT THIS APPLICATION DOES:

It sends an automatic text message/SMS and/or an email to your contacts with your name and a voice recording. It sends your exact location to your contacts. It sends the signals “the battery level of your phone”. These are sent at regular intervals to provide real time GPS tracking for your location. Messages are sent discreetly-without you having to even look at your device.

4. VERSION

On September 24, 2012 SOS provide a device named Securitas SOS is a personal safety and security application that provides emergency services to help you stay safe and secure no matter where you are-domestically or internationally. It requires 2.1 and up android with 902k size and installed on 10 to 50. Its current version is 4.0.32 with low maturity content rating.



Fig: SOS

On 26 February, 2014 SOS provide sentinel personal security SOS. Sentinel is the ultimate application for improving personal security. Sentinel can send instant alerts in case of danger. The requirement of android varies according to device. The size of sentinel SOS varies with

In this, unlocked mobile phone with panic SOS button to alert relatives in emergency. It will back a Google Maps link text with text command to the phone. Senior friendly large font with numbers repeated as you dial. It built-in GSM and GPS antennas. In this, you can get location via SMS and GPS+LBS positioning. It supports 3 family numbers and 6 speed dial numbers. It uses 1.7 black/white screens with backup battery with 10000mAh. It provides the features of torch, FM Radio, voice monitoring, sliding key lock for flexible operation. It provide three SOS numbers for emergency alarm. SIM card required for

Specification:

- GSM 850/900/1800/1900 MHZ
- Built- in high sensitive SiRF/MTK GPS chip
- Built-in GSM and GPS antennas
- Get location via SMS and GPS+LBS positioning
- Tracking sensitivity :-159dBm
- Acquisition sensitivity :-144dBm
- Locating time cost : Hot start : <2 sec

device and installs 10000-50000 at a time. It provides low maturity content rating. It available with various version like sentinel v3.5.5, sentinel v3.5.4, sentinel v3.5.3 etc.

SOS Elderly Mobile Phone:

mobile technology operation. This is a mobile phone with an additional SOS alarm button that sends calls and text messages to 3 numbers on repeat until someone answers. If the SOS button is pushed it autodial to three relatives phone until someone answers. This is followed by SOS text message. Location of person with phone can be obtained by texting the phone and getting Google maps link back. This can literally be a life saver. SOS elderly mobile phones have Google maps link text sent to a family member or carers phone to check the location of an elderly person.

- Warm start : <15 sec
- Cold start :<38 sec
- Built in antenna supports hands free
- Battery : 1400mAh/3.7Vdc
- Dimension : 115.0(L)
*51.0(W)*16.5(H)mm
- Weight : 74g

Possible emergency scenarios:

- Being stalked when walking home from work
- Hiking/camping/picnic emergencies
- Being followed by a stranger vehicle at night
- Attempted assault in a deserted area
- Attempted burglaries at home

Famous SOS calls:

- HMHS Britannic
- RMS Lusitania
- RMS Titanic
- SS Andrea Doria

5. Compare the benefits of the SOS

[7] trauma unit:

- Easy to operate, single on-off lever reduces responder anxiety.
- Pre-set oxygen flow allows the safe operation by any non medical responder. Meeting or exceeding FDA requirement.
- Dual purpose face mask provides for both inhalation and resuscitation.
- Includes a trauma kit with emergency supplies, personal protection equipment the kit can be customized to yours needs.
- Convenient storage keeps all emergency supplies in one place.
- Easy to carry with a side handle for greater balance.
- Two stage brass regulators deliver oxygen for 60-88 minutes meeting or FDA requirement.
- Handy wall mount for convenient storage.
- All of our customers receive a unique complete service and maintenance program.
- It is complete and ready to use the moment an emergency occurs.
- It is designed to serve commercial, industry and municipal businesses with its ease of operation, durability and reliability.

6. Discussion:

Additional warning and distress signals followed the introduction [8] of SOS. On January 20, 1914, the London International Convention on Safety of Life at Sea adopted the Morse code

Signal TTT (– – –), three letter Ts (–) spaced correctly as three letters so as not to be confused with the letter O (– – –), as the "Safety Signal," used for messages to ships "involving safety of navigation and being of an urgent character." With the development of audio radio transmitters, there was a need for a spoken distress phrase, and "Mayday" was adopted by the 1927 International Radio Convention as the equivalent of SOS. For TTT, the equivalent audio signal is "Security" for navigational safety. It is interesting to note that "Mayday" actually originated as the French m'aidez ("help me") and that there is a third, lesser distress call (before *securité* and after Mayday): "panne (French for "breakdown") Spelled "pan" in English. French was the international language at the time that these were formalized. Ships and coastal stations would normally have required quiet times twice an hour to listen for priority signals. However, many merchant vessels carried only one or two radio operators in which case the SOS may not be heard by operators off duty. Eventually equipment was invented to summon off-duty operators by ringing an alarm in the operators berth. This was triggered by the operator of the ship in distress transmitting twelve long dashes of four seconds duration each. These were sent prior to the SOS hopefully ringing the automatic alarm in ships so equipped. If possible a short delay was given before transmission of the SOS proper. This was to give those off watch operator's time to get to their radio office.

7. Conclusion:

This is the latest trend and new concept SOS in network security. It becomes an important task to security for the devices that we are dependent so much. When anyone is in trouble then he/she does not have any option but SOS is device that provides you safety features. This device is used

to provide safety signal. When anyone in trouble then the device provide safety signal. When it was replaced by the global maritime distress safety system. This paper, it explain how security signals are become more sufficient day-by-day. These devices are become more power now. It also explain that how much these devices are important in our life.

8. Reference

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