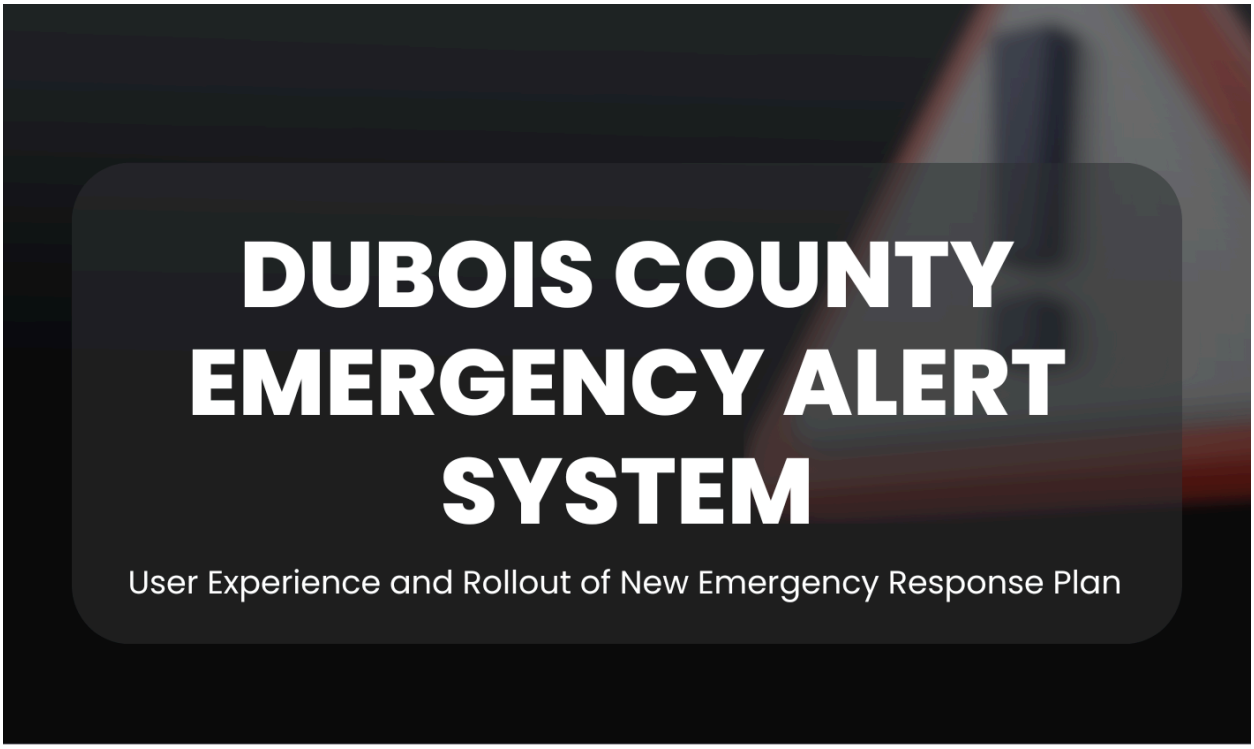

DUBOIS COUNTY EMERGENCY ALERT SYSTEM

User Experience and Rollout of New Emergency Response Plan

Final Report

CITY OF JASPER INDIANA | INDIANA UNIVERSITY

REPORT BY EMERGENCY ALERT SYSTEM-2 (EAS1) (C2)

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1.0 Executive summary

Technology has significantly enhanced the lives of humans over time, offering both advantages and disadvantages. One notable use case of technology is to ensure people's safety. The Emergency Alert system has become indispensable in this regard, saving countless lives and reinforcing the wisdom of the saying "prevention is better than cure." It provides alerts for various situations, ranging from minor disruptions like water, electricity, and wifi outages to critical alerts such as shootings, severe weather, and accidents. These alerts have proven instrumental in protecting individuals and communities to save themselves and others from various dangers.

When delving into the workings of Mass Alert Systems, two prominent terms that frequently emerge are IPAWS(Integrated Public Alert & Warning System) and FEMA(Federal Emergency Management Agency)[8,9]. These entities constitute the primary national framework for Emergency Alerts across the United States, standing at the forefront of the Alerting system hierarchy[8]. They dispatch alerts to broadcasting stations and vendors, who subsequently disseminate them to users via geo-tagged notifications or opt-in notifications[8,9]. We consulted with a broadcasting manager from a city in Wisconsin and an Emergency Alert manager from a county in Michigan to gain insights into how alerts are sent, their functioning, and to seek advice on vendors they have utilized for their respective areas.

Jasper City is working to establish a strong Emergency Alert System that prioritizes resident safety and provides timely notifications for emergencies and inconveniences alike. Their primary goal is to ensure residents' safety and offer assistance during any situation, big or small. The council members also expressed that they would like a system that could allow them to send customized alerts as required to their residents. For example, roadblocks, issues related to utilities, and any major announcements from the council to their residents.

Insights from a survey we conducted with 94 respondents from Jasper City shed light on residents' expectations for an Emergency Alerting system. The survey indicated that 51.6% of respondents did not consider the current system efficient, and an additional 17.9% were uncertain about its effectiveness. Only 30.5% of respondents believed that the existing alert systems were sufficient. Furthermore, the survey revealed that residents not only desire alerts but also seek detailed information and guidance on necessary actions during emergencies or disruptions. This feedback underscores the need for a comprehensive Emergency Alert System that caters to residents' needs beyond simple alert notifications.

Residents of Jasper City expressed concerns regarding the effectiveness of sirens during emergencies, citing instances where sirens did not work or were not audible from certain locations such as northern parts of the city or indoors. Additionally, some residents mentioned missing alerts due to not being tuned into radio broadcasts or lacking subscriptions to local TV channels. A significant portion, approximately 43%, reported not receiving alerts when expected and experiencing delayed notifications in the past.

In our effort to find the best system for Jasper City residents, we conducted thorough research on over 26 verified vendors. From this extensive list, we carefully selected the top 5 vendors that best suited our client's needs: Onsolve's Redcode, Everbridge, RAVE, HQE, and Genasys. Our decision-making process was guided by several key criteria that are essential for an effective Emergency Alert System.

These criteria included -

1. Assessing the user-friendliness of the interface
2. Evaluating scalability options
3. Considering the quality of training provided
4. Analyzing deployment timelines
5. Exploring customization capabilities
6. Evaluating customer support services
7. Reviewing pricing structures and,

8. Assessing industry reputation.

Through this rigorous evaluation, we aimed to ensure that the selected system not only meets but exceeds the expectations of Jasper City residents. We prioritized reliability, efficiency, and comprehensive support to provide residents with a strong emergency alerting solution tailored to their needs. We took an additional step to talk to the Vendors and get a demo of their products and proposals for the city council.

Our next steps involve sending the proposals and research findings to Jasper City. The council members intend to review the report themselves and schedule a demo to make a well-informed decision. We will also provide them with analyzed survey data to better understand their residents' needs, aiding in the decision-making process. Additionally, Jasper City will evaluate research conducted by the cybersecurity team to validate cybersecurity aspects related to their residents' safety. Another critical consideration for Jasper City is obtaining IPAWS certification for their county/city before finalizing vendors or selecting a vendor that provides IPAWS certification.

2.0 Introduction

2.1 Project Overview

Our project aligns with the goal of enhancing safety and convenience for the residents of Jasper City, Indiana. With Jasper City seeking solutions to establish its emergency alert system, our team, composed of students from Indiana University, has explored various types and mediums of such systems. Our focus involves gaining deeper insights into Jasper City's specific needs and dynamics, allowing us to look at different types and mediums of Emergency alert systems and learning more about Jasper City to provide them with insights and suggestions on existing Alert notifications services and a base structure to create an Emergency alert system from scratch for their city. This report provides an overview of our decision-making process and the rationale behind our recommendations.

2.2 Project Goals

Emergency alert systems can be sent through various mediums like sirens, signage, radio, TV and news, smart devices, and more. These mediums are used for various alerts such as weather, accidents, shootings, missing persons, road blockages, and more. But, how do we effectively customize these alerts exclusively for the people of Jasper City? Answering this question is the main motive of this project.

The Government of Indiana provides mainly two types of alerts for its people, Amber and Silver alerts[1]. Amber Alerts are designated for missing children, and Silver Alerts are specifically for missing individuals in Indiana. Users also receive weather alerts through geo-location towers, providing timely notifications.

These alerts are authorized by federal agencies and include geo-tagging for accuracy. They are limited to critical, life-threatening situations and do not encompass alerts for events like active shooter incidents or thefts.

There are currently three teams working on this project. Two of them are from HCI and one is from Cyber security, all belonging to Indiana University. The two teams from HCI are focusing on researching Emergency alert systems and understanding resources and vendors to establish a new, better, and more communicative way of integrating Emergency alert systems for the residents of Jasper City. On the other side, the Cybersecurity team is working on understanding how this can be integrated securely, reducing mistakes and errors. Though our goals are similar, our tasks are divided to get as much information as possible.

Our ultimate goal is to suggest features and vendors to Jasper City and the next steps for them to follow.

2.3 Methodology Overview

In our research, we implemented various methods to gather data and insights regarding EMS (Emergency Alert Systems).

1. Conducted extensive market research to identify existing Emergency Alert Systems (EAS), domestic products, and services commonly used by people in everyday life, including popular online apps worldwide.
2. Discovered FEMA and IPAWS as certified standards relied upon in the United States during the initial research phase.
3. Researched existing Emergency Alert Systems utilized by Jasper City and identified their limitations.
4. Performed a competitive analysis of various Emergency Management System (EMS) vendors, evaluating their features, capabilities, and suitability for Jasper City's requirements.
5. Narrowed down a selection of vendors based on the competitive analysis.
6. Conducted online surveys and user interviews to gather personalized data and understand user preferences as part of primary research efforts.
7. Conducted vendor interviews and demonstrations of their systems to gain a clearer understanding of interfaces, features, and user-friendliness for potential selection by Jasper City.

3.0 Research Findings

3.1 Desk Research

Through our desk research, we gained valuable insights into the functioning of emergency alert systems, their dissemination to citizens, the emergency alert systems adopted by neighboring counties and cities for citizen protection, as well as the strengths and weaknesses of existing alert systems. Additionally, we identified key features that could be incorporated to enhance security systems and also did a competitive analysis of the Vendors.

3.1.1 Current Emergency Alert Resources in Jasper City

Dubois County utilizes the outdoor warning siren system as its primary formal emergency alert system. In addition to the sirens, the county also receives alerts through radio and local TV channels to disseminate information to citizens.

The county does not have a comprehensive, integrated emergency alert system that combines multiple channels like text/email alerts, mobile apps, and social

media. The current approach relies on outdoor warning sirens as the primary formal system, supplemented by ad-hoc use of radio, TV, and social media channels. The primary resources are:

1. Facebook pages: The "Dubois County Free Press" and "Dubois County Emergency Management Agency" [11,13]pages are used to share community news, traffic updates, safety information, weather alerts, and emergency notifications. The Emergency Management Agency page, with around 3,300 followers, serves as the main source for emergency alerts and test notifications.[11,13]Emergency alerts and updates are also posted on their social media pages, like Facebook, to reach a wider audience.

2. Outdoor warning sirens: Dubois County relies on outdoor warning sirens as the only formal system for emergency alerts.[11]These sirens are designed to warn citizens of impending severe weather or other emergencies to everyone.

3. Local TV and radio: Jasper City also utilizes the Emergency Alert System (EAS) to disseminate emergency alerts through local TV and radio channels, in addition to the outdoor sirens. Dubois County is part of the Northwest EAS region in Indiana, and these are the Local Primary (LP) radio stations that should be monitored for EAS information in that region. [14]

Radio Stations:

- WLJE (FM) - 105.5 MHz[14]
- WXRD (FM) - 103.9 MHz[14]
- WZVN (FM) - 107.1 MHz[14]

While these resources provide various means of reaching citizens with information, the county lacks a comprehensive, integrated emergency alert system capable of promptly notifying residents through multiple channels, such as text messages, email, or mobile apps, in addition to the existing outdoor sirens and local media.

3.1.2 Emergency Alert System: How it works

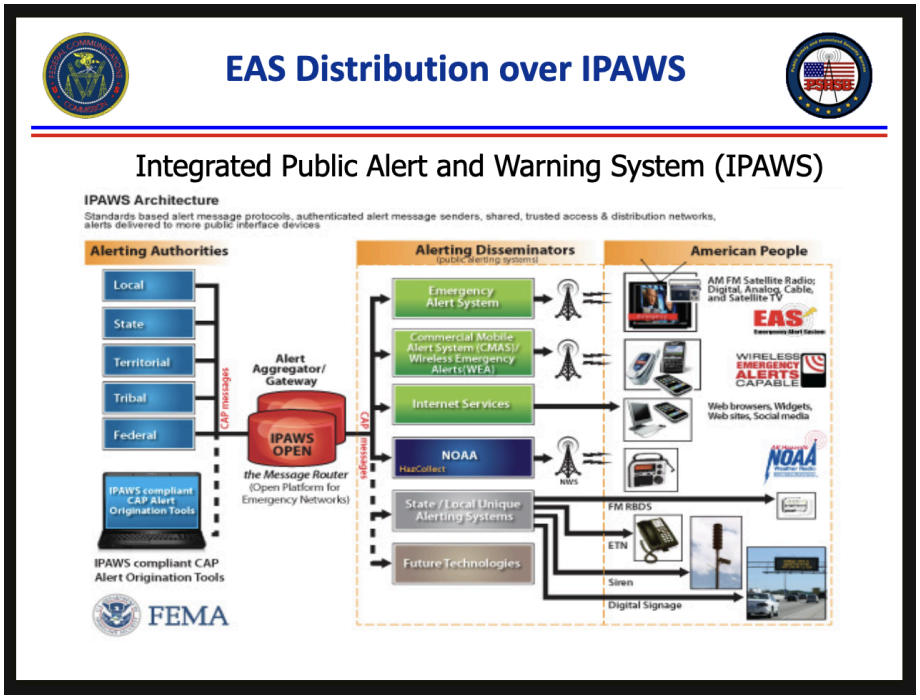
An emergency alert system is designed to disseminate crucial notifications to the public through diverse communication channels such as mobile phones, radio frequencies, antennas, and other applicable mediums[2]. This system serves as a critical mechanism for swiftly broadcasting important information during emergencies, ensuring individuals receive timely and effective alerts to enhance overall preparedness and safety[2,3].

These alerts can be issued by state and local authorities through a nationwide network of radio stations continuously broadcasting vital emergency information directly sourced from the nearest National Weather Service office. This framework ensures pertinent alerts, ranging from weather updates to critical emergencies, are swiftly communicated to the public, enhancing preparedness and response efforts.[15][16]

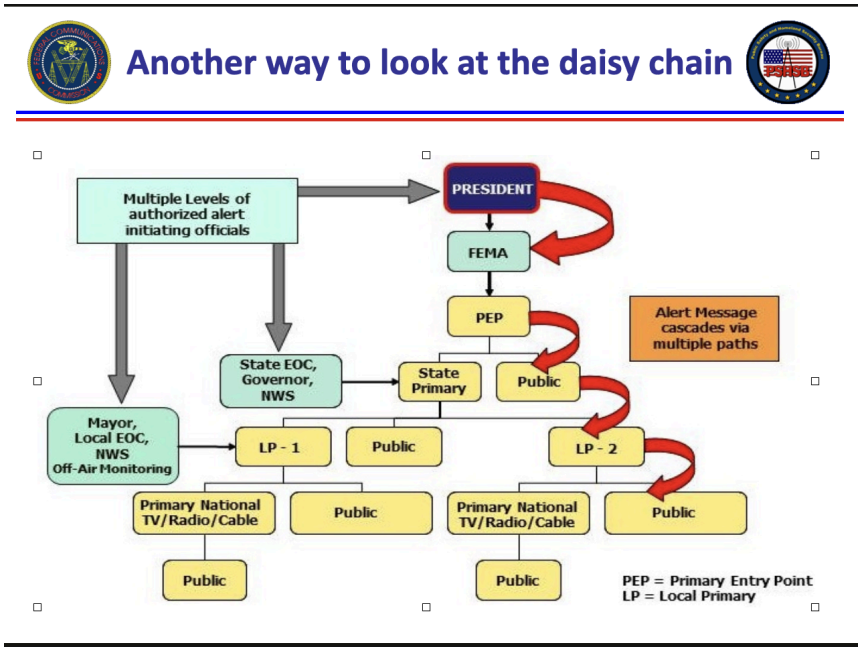
The Emergency Alert System (EAS) follows a structured flow for community preparedness and preventing false alerts. It incorporates Live Code Tests using actual alert codes, enhancing community response proficiency. Participants are allowed to deliver public service announcements with simulated EAS signals. To prevent false alerts, participants must configure equipment to reject invalid digital signatures and set specific time limits. In case of a false alert, participants must report to the FCC's Operations Center within 24 hours. This streamlined process ensures EAS integrity, and public safety, and minimizes false alerts.[15][16]

Jasper City does not currently employ a comprehensive emergency alert system like the ones described above. The existing resources, such as Facebook pages and outdoor warning sirens, are ad hoc and do not constitute a structural emergency alert system.[17][18][19]

Regarding which system to recommend, both the nationwide Emergency Alert System (EAS) and the structured flow for community preparedness and prevention of false alerts have their merits. However, implementing either of these systems may require significant resources and coordination with state and federal agencies.[16]



(Figure 1, how the EAS warning system works and the hierarchy of sending out alerts)



(Figure 2, The Daisy Chain)

3.1.3 Pros and Cons of an Emergency Alert System [4,5]

Emergency Alert Systems (EAS) are designed to provide timely and effective communication during emergencies, enhancing public safety and preparedness. However, like any technology, they come with advantages and disadvantages. In this section, we will explore the pros and cons of EAS in more detail, with proper references, and then summarize them in a table.

Pros:

1. Lifesaving and Citizen Protection: EAS plays a crucial role in saving lives and protecting citizens by disseminating critical information during emergencies, such as natural disasters, severe weather events, or other hazardous situations. This allows individuals to take necessary precautions and follow safety instructions [4].

2. Free and Easy Access for Citizens: EAS alerts are typically free for recipients and require minimal interaction. Users can subscribe (if optional) or automatically receive geo-targeted alerts on their mobile devices without any constant interaction [4].

3. Local-level Implementation: EAS allows for local-level implementation, enabling authorities to issue alerts specific to their geographical area and tailored to the needs of their community [5].

4. Combating Misinformation: In the age of social media, where anyone can spread unverified information, EAS provides a reliable source of information directly from official authorities, helping to reduce the spread of misinformation during emergencies [5].

5. Delivery to Multiple Devices: EAS alerts can be delivered to various devices, including mobile phones, televisions, radios, and other compatible devices, ensuring widespread dissemination [4].

6. Speedy Delivery: EAS is designed to deliver alerts promptly, ensuring that time-sensitive information reaches the public as quickly as possible [4].

7. Customization: EAS allows for customization, enabling authorities to tailor alert messages, delivery methods, and target audiences based on specific emergency situations [5].

Cons:

1. Risks for Abuse Victims: For individuals in abusive situations, emergency alerts delivered to their concealed or secret phones could inadvertently reveal their location and compromise their safety [4].

2. Distractions for Drivers: Constant alerts received while driving could potentially distract drivers and increase the risk of accidents [4].

3. Catastrophic Systems Failure: In the event of a major system failure or outage, the EAS could become ineffective, leaving communities without a critical emergency communication channel [5].

4. Outdated Contact Information: If individuals fail to update their contact information or opt-out preferences, they may not receive relevant alerts, reducing the effectiveness of the system [5].

It's important to note that some of the cons mentioned are situational and may not be permanent flaws. Additionally, ongoing improvements and safeguards can help mitigate these concerns.

To summarize -

Pros	Cons
1 . Helps save lives, protects citizens, and makes their lives easier. 2 . Free and easy to receive 3 . Enabling local-level implementation 4 . Stopping the spread of misinformation Delivery to different	1. Risks for abuse victims 2. Distractions for drivers 3. Catastrophic systems failure 4. Outdated contact information

devices 4 . Speedy delivery 5 . Allowing for customization	

Some of the cons mentioned in most of the articles were situation-based and not a permanent flaw. Thus, it can be considered a solution feature. Through pros and cons, we can conclude that the Emergency Alert System comes with a lot of benefits, and implementing one could help residents in various situations.

3.1.4 Emergency Alerts Broadcasting Services (Market Research)

Nations worldwide are utilizing various services and products to assist with their daily emergency alert needs. Each offering is unique in terms of service provision and functionality. Some widely used options include:

- **IPAWS for America (www.fema.gov) -** In the US, FEMA's IPAWS broadcasts warnings across radio, TV, and cell phones, ensuring broad coverage even at the state level. Meanwhile, apps like Citizen Mobile enable real-time local incident updates driven by user-generated reports, although misinformation risks exist. Japan employs J-ALERT, a mobile app tailored for immediate earthquake and tsunami alerts, prioritizing targeted responses to specific threats. In the US, CMAS delivers alerts directly to mobile devices, integrating seamlessly with wireless carriers to reach almost every device[8].
- **Citizen Mobile App** - Private
- **Japan J-ALERT Emergency Broadcast System** (NHK World App)
- **CMAS** (Commercial Mobile Alert System)

Each nation has customized its alert systems to address local risks and communication preferences, leveraging existing infrastructure like broadcast stations and mobile networks. These adaptations reflect the diverse range of options available, demonstrating the importance of tailoring emergency communication strategies to meet the needs of the populace during crises.

3.1.5 Alert Systems Used by neighboring counties

Through our desk research, we investigated the emergency alert systems utilized by neighboring counties to understand the currently used systems and their effectiveness.

- **Floyd County:** Residents can now receive **Code Red Alerts** instead of Everbridge Mass Notification. Code Red is a free service for receiving updates about weather, traffic, and emergencies through phone, text, or email.
- **Clark County:** Residents can sign up for phone, text, and email alerts through Clark County Alerts, powered by **RAVE**. They can also respond to poll questions, providing vital information to officials during emergencies.
- **Elkhart County:** Elkhart County Emergency Management uses a **live website** for residents to sign up and receive updates.
- **Pike County:** Uses **Smart911** for Emergency Alerts.

We researched to understand the functionality of the Integrated Public Alert & Warning System (IPAWS) and compiled a list of IPAWS-compatible services. Our focus was on gathering information about IPAWS, its features, and the variety of services that align with its capabilities, without making recommendations.
We conducted a thorough analysis of 26 vendors, eliminating those that did not meet any of our clients' requirements. During this process, we also performed an initial competitive analysis to highlight their key features and strengths.

3.2 Competitive Analysis

3.2.1 Neighboring County

EMS System	Website	County	Key Highlights
Onsolve CODE RED	Link	Floyd County	Location-based target alerts, Automated Weather warnings, 24/7/ 365 support available, Compliant IPAWS Solution, Apps, SMS, Emails, and Dedicated applications available.

			Use Cases: ● Missing children or persons ● Evacuation notices ● Police activity and updates ● Severe weather warnings ● Street closures ● Planned power/water outages ● Lockdown advisories ● Viral outbreaks ● First responder and dispatch situational awareness ● Field operative updates
Rave Alerts	Link	Clark County	send a message in an emergency via text, email, desktop, voice, IPAWS-OPEN, WebEOC, public address systems, social media, digital signage, ISmart911 app. The Rave Alert interface can also be customized so administrators can have tools and options based on their roles or needs. Use Case in Clark County: ● To notify you in the event of an emergency situation that exists at Clark College. ● Inclement weather announcements about delays or cancellations.
Elkhart County EMA Website	Link	**Elkhart County**	Serves our residents as the first line of response for emergencies that occur in Elkhart County. Use Cases in County: ● Our agency actively supports our residents by assisting and responding to disasters,

			• Reducing any vulnerability to a hazard as well as assisting other agencies in times of disaster and emergency.
Everbridge	Link	Bartholomew County, Monroe County	**Mass Notification with incident communications, Connect with and inform your entire organization before, during, and after a critical event with targeted two-way communications.** Use Case: • Severe weather, • Workplace violence, • Active shooters, • Terrorism, • IT and power outages.
Smart 911	Link	Porter County	Allows you to sign up online to receive customized alerts via text message, email, and voice message as well as social media (Facebook and Twitter). This service is provided by Porter County at no cost to the public; however, message and data rates may apply. Use Case: In addition to emergency alerts, you can choose to receive customizable notifications such as severe weather, health, and special event information.

3.3 Primary Research

As a part of our primary research, we are conducting Surveys and Interviews. With these, we are understanding the personal experiences of people from Jasper, residents of the US, and also emergency alert deputies and managers.

3.3.1 Surveys

We sent out a joint survey from both the teams from HCI to the residents of Jasper and received 94 responses. The main questions we are getting answers to are what alerts are the residents receiving right now, what their future requirements are, and

the type of alerts they want to receive.

The survey revealed widespread dissatisfaction with the current emergency alert system in Dubois County. Respondents highlighted issues with sirens and social media as primary notification methods, citing limitations like delayed reporting, limited audibility in certain areas, and unreliability.

Overwhelmingly, residents expressed a strong preference for a more modern and reliable system utilizing text messages, phone calls, and dedicated mobile apps. These channels were seen as more accessible and capable of delivering timely, location-specific alerts with accurate and actionable information about the type of emergency, its severity, and recommended actions. Desired alerts encompassed a wide range of situations including severe weather, public health emergencies, safety and crime notices, missing persons, utility outages, and road closures. Accessibility was also a key concern, with respondents emphasizing the need to cater to individuals with disabilities and ensure they receive and understand emergency information.

While a desire for improvement was evident, some respondents expressed concerns regarding the potential costs and taxation implications of implementing a new system. Overall, the findings underscore the urgent need for a more modern, reliable, inclusive, and multi-channel emergency alert system that effectively communicates critical information to the public.

Survey Questions Link -
https://docs.google.com/document/d/1mmTU1NRZnFk3niXo9kxrRAWL9jFEkeEMx8j4fC6oFpw/edit#heading=h.ctkrfm53qoji

3.3.2 Interviews

For Interviews, we have divided our stakeholders into three parts -

1. **Residents of the USA -** With residents of the USA, we wanted to understand if they use any Emergency Alert system, how it works, and also their experience with Alert systems.

2. **Residents of Jasper City, Indiana -** Since we are recommending systems for residents of Jasper, we wanted their perspective and insights from them about how they want their Alert system and what their current experience is.
3. **Emergency Alert deputies and managers -** The job behind the box(Alert system boxes) has a whole new perspective on how Emergency systems work and what the responses they get from the citizens.
4. **Interviews with Vendors -** We organized conference calls with vendors like Everbridge, Onsolve- Code Red, Rave Mobile, HQE, and Genesys to view demos of their products. The objective was to evaluate how well their platforms matched the requirements of the City of Jasper, emphasizing the efficiency of mass communication and the user-friendly interface.

Interview Questions Link - https://docs.google.com/document/d/1vJfj82CCa2jMJxlVnxHzJ7nngWihj6eMQU6MXWYYC3U/edit?usp=sharing

3.4 Primary Research Insights

3.4.1 Assessing Vendor Demos for Emergency Alert Systems

We went through several vendors who provide Emergency Alert Systems, across the United States and learned how their systems work. Some of them presented their product demonstrations, which gave us insights into what their system looks like, their user interfaces, and how user-friendly and how technical their systems are.

3.4.1.1 Onsolve CodeRed

The centralized control center they have serves as a central hub for all information and feeds it into CodeRed. They provide Geo-Targeted alerts utilizing mapping tools by drawing shapes around specific areas of interest, similar to other vendors. One other thing they provide is customizability, users can customize their UI according to their liking. They provide a lot of grouping categories, so users can easily allocate custom data points for each organization, where there is group selection as well. Users can save templates for user use with preset messages, enabling quick execution for common scenarios like office closures or planned

events. They also support Two-Way communication, allowing recipients to respond to alerts and further configurations. They can also allow residents to check the alert history.

3.4.1.2 Rave Mobile Safety

During their demo, we observed a simple interface that helps create seamless alert creation and dissemination. They mentioned their process has only three steps, which are 1. Naming the alert, 2. Selecting the desired communication channels (like text, email, voice), and 3. Defining target recipients either by saved groups or geographic areas. They have a multi-channel alert-sending system including text messages, emails, voice calls, and more.

3.4.1.3 Genasys

This provider mentioned their core functionality as they have a pre-planned message system using templates, minimizing the workload on admins. They mentioned their templates contain bracketed fields for situational details, which is a notable unique thing amongst these vendors. Their system sends alerts via phone, text, and email. And can automate social media postings like facebook.

3.4.1.4 HQE

Their main interface has Google Maps integration, which they mentioned is for more familiarity of the users. They also provide voice messaging options during alerts, which can be heard in several languages through the links they provide in the messages. They are the cheapest vendor that we have found and can provide a lot of services that the existing well-known platforms provide.

3.4.1.5 EAS Expert

While talking to the vendors, we also had an opportunity to contact an EMS Manager of the neighboring counties of Jasper City, where he discussed the importance of frequent updates, smart integrations, prioritization capabilities, and more. We found his comparison between different EAS systems he worked with really insightful.

He emphasized the need for systems to minimize disruptions and provide continuity. He praised Everbridge's ability to prioritize and cycle through multiple

contact modes like text and calls until receiving a response, improving alert effectiveness. He also mentioned integration capabilities across jurisdictions for handling multi-agency responses to cross-boundary incidents. She recommended focusing on major vendors like Onsolve, Everbridge, and Rave, citing their reliability backed by substantial resources.

3.4.2 Interviewing Residents of USA

We conducted interviews with six residents from different parts of the USA to gain insight into their experiences with Emergency Alert Systems (EAS) and the specific systems they use. The interviews provide a diverse range of perspectives on emergency alerts, showcasing both positive experiences and areas for improvement. Across different demographics, including age, location, and technological familiarity, common themes emerge regarding the effectiveness, desired features, and impact of emergency alert systems (EAS).

Participants generally appreciate the usefulness of emergency alerts, particularly for weather-related incidents, with high ratings for effectiveness when alerts are detailed and clear. However, concerns exist regarding missed or delayed notifications, false alarms, and the lack of precise location information. Desired improvements include customization options based on age, time, and location, as well as better integration with IoT devices for accurate location-based alerts. Participants also highlight the importance of multi-channel communication, including smartwatches, home radios, TV, and social media, to ensure timely and accessible delivery of alerts. Additionally, there is a consensus on the need for educational campaigns to raise awareness and trust in the alert system, as well as the provision of specific details, such as evacuation routes and safety zones, to facilitate better preparedness and response. Overall, the insights underscore the importance of continuous refinement and enhancement of emergency alert systems to meet the diverse needs of communities and improve overall effectiveness in communicating critical information during emergencies.

Interview insights Link -
https://miro.com/app/board/uXjVKUFIWo0=/?share_link_id=429808523281

3.4.3 Emergency Alert deputies and managers

We recently had the opportunity to interview a broadcasting manager from one of Wisconsin's mass alerting broadcasting stations and also an EAS manager from one of the counties in Michigan. A few Insights that they provided are -

- The broadcasting manager emphasized the importance of educating individuals about the critical necessity of alerts, whether for their safety, that of others, or even loved ones. Taking alerts seriously and promptly responding to them is crucial, as ignoring an alert could potentially endanger lives.
- During our conversation, he elaborated on the speed of alert distribution, and the steps involved, and shared insights into the process. He also recommended exploring resources from agencies like IPAWS and FEMA for a deeper understanding of the alerting mechanisms.
- We were fortunate to observe some of the equipment used for broadcasting alerts. He also mentioned that there's no need to collect residents' personal information when notifications are broadcasted through TVs, sirens, radios, and geo-tagged device notifications.

4.0 Findings and Results Summary

- The current emergency alert system in Jasper City, which relies primarily on outdoor warning sirens, is not considered efficient by 51.6% of the surveyed residents.
- An additional 17.9% of residents were uncertain about the effectiveness of the existing alert systems.
- Residents expressed concerns about the reliability of sirens, citing instances where they did not work or were not audible in certain areas
- A significant portion (43%) of residents reported not receiving alerts when expected or experiencing delayed notifications.
- Residents not only desire alert notifications but also seek detailed information and guidance on necessary actions during emergencies or disruptions.
- Residents expressed a need for a comprehensive emergency alert system that utilizes multiple communication channels, such as text/email alerts, mobile apps, and social media, in addition to the existing sirens and local media.

5.0 Conclusion

5.1 Recommended Features for an EAS

After conducting a competitive analysis and thorough research from various sources, we have formulated two significant recommendations to assist the city of Jasper in reassessing its current emergency alert system. Drawing from this comprehensive research and the key suggestions put forward, here are the proposed features for Jasper's emergency alert system (EAS).

A) Comprehensive Platform:

- The EAS should be built on a robust and integrated platform, such as those offered by AlertOps, Juvare, or CivicReady.
- This platform should provide a suite of emergency management and mass notification capabilities, including incident management, resource tracking, and reporting features.
- The platform should enable seamless coordination and communication between different agencies and departments during emergency situations.

B) Multimodal Communication:

The EAS should support multiple communication channels to reach a wide and diverse audience within Jasper, including:

- Text messages (SMS)
- Email
- Mobile apps
- Outdoor sirens and digital displays
- Social media platforms

This multi-modal approach will ensure that emergency alerts and notifications can be delivered through the channels preferred by different community members.

C) Federal Compliance:

- The EAS should be designed to comply with relevant federal regulations, such as those set by the FCC, FEMA, and IPAWS.
- This compliance will enable integration with regional and national emergency communication networks, facilitating a coordinated response during large-scale emergencies.
  The system should be compatible with the Common Alerting Protocol (CAP) and the Integrated Public Alert and Warning System (IPAWS) to ensure seamless information sharing.

D) Accessibility and Inclusivity:

The EAS should incorporate features to ensure accessibility and inclusivity, such as:

- Support for multiple languages
- Compliance with the Americans with Disabilities Act (ADA) for accessible emergency communications
- Targeted alerts based on location, language preferences, and other demographic factors
- These features will enable all members of the Jasper community to receive and understand emergency alerts, regardless of their language proficiency or accessibility needs.

E) Scalability and Flexibility:

- The EAS should be designed with scalability and flexibility in mind to accommodate Jasper's growing needs and evolving emergency communication requirements.
- The system should be able to handle an increasing number of users and support the integration of new communication channels as they become available.
- The platform should also offer customization options to adapt to the specific emergency response protocols and procedures of Jasper's public safety agencies.

F) Redundancy and Reliability:

- The EAS should incorporate redundant communication channels and backup systems to ensure the reliability of the system, even in the event of power outages or network disruptions.
- The system should be designed to maintain functionality and deliver critical alerts during emergencies, ensuring that the Jasper community can receive timely and accurate information.

G) Intuitive Interface and Training:

- The EAS should feature a user-friendly and intuitive interface for both administrators and end-users.

- Comprehensive training resources and support should be provided to ensure that Jasper's public safety personnel and community members can effectively utilize the system during emergency situations.

  By incorporating these recommended features, the emergency alert system for the city of Jasper can be designed to be comprehensive, inclusive, reliable, and adaptable, enabling effective emergency communication and response for the community.

5.2 Recommended Vendors For an EAS

Here are some recommended vendors for the city of Jasper's emergency alert system :

- Genasys - Offers tools for real-time communication and collaboration between different agencies. It also has features for sending targeted alerts across multiple channels.
- Indiana Alarm - Provides solutions with panic buttons, mass notification, and integration with access control systems.
- HQE Systems - Offers emergency response planning and incident tracking capabilities. Their system is flexible and can be customized to meet the specific needs of different organizations.
- Onsolve - Provides easy integration with existing systems to improve operational efficiency. It supports a variety of emergency scenarios like missing people and evacuation notices.

These vendors seem to offer comprehensive solutions that align with the key recommendations for Jasper's emergency alert system, such as multi-channel communication, integration with existing systems, and flexibility.

5.3 Recommended Vendors For an EAS - Competitive Analysis

While there are a lot of vendors, we wanted to look into a few aspects before finalizing the recommended vendors. These criteria included assessing the user-friendliness of the interface, evaluating scalability options, considering the quality of training provided, analyzing deployment timelines, exploring

customization capabilities, evaluating customer support services, reviewing pricing structures, and assessing industry reputation.

Recommended Company	IPAWS certification	Opt-In & Opt-Out	Provides Training	Social Integration
Onsolve CODE RED	YES	YES	Yes, but only for the first 12 months for the amount of only 6 hours.	YES
Genasys	YES	YES	YES, ongoing training	YES
RaveAlerts	YES	YES	YES, ongoing training	YES
Everbridge	YES	YES	Yes, at no additional cost	YES
HQE Systems	YES	NO, can opt into all or none at all.	Yes, at no additional cost	YES

Link to Proposals we received: Proposals for Jasper City

6.0 Reflection

6.1 Challenges with Emergency Alert Systems

- The main challenge does not lie within the alerting technology, but rather with people's reactions and attitudes towards the alerts.
- Users often complain about alerts disrupting their regular activities, indicating a need for better public education on the importance of emergency alerts.
- Ignoring or dismissing alerts can potentially endanger lives, underscoring the need for residents to take alerts seriously and respond promptly.

6.2 Challenges we faced during the project

- Delayed Survey Link and last minute Insights

- Although we were able to assess demos from most vendors, Everbridge presented a challenge, stipulating the presence of a city council member for their demonstration. Nevertheless, we proceeded to collect proposals from the remaining four vendors for further evaluation and consideration.
- Trouble getting Interviews from various managers
- Conflicting data from different websites.

7.0 Next steps

We completed the selection of recommended vendors and features and presented them to Jasper City.

- **Getting Ipaws Certified -** The first step for Jasper City is to get Ipaws Certified.
- **Focus groups with Jasper residents -** Organize focus group sessions with Jasper residents to understand their perspectives and concerns regarding mass alert systems. Discuss the importance of alerts for safety and gather feedback on their experiences with alerts during media consumption.
- **Survey insights:** Analyze the survey insights for a better understanding of what the residents want.
- **Talking to Vendors (the council)-**The clients Take demos and talk to the Vendors for the final decision-making.
- **Finalizing vendors and recommendations:** Based on the feedback and insights gathered, finalize the selection of vendors for alert broadcasting systems. Develop recommendations for enhancing user education and improving the user experience during alert notifications. Present these recommendations to stakeholders for approval and implementation.

By following these steps, we can integrate community feedback, expert insights, and stakeholder input to improve mass alert systems and promote better alert responsiveness among residents in Jasper.

8.0 Appendix

Table of Contents

Appendix A: Project Definition and Scope

Project Overview:

Our team will collaborate with council members and leaders in Jasper City, Dubois County Indiana, to formulate a comprehensive strategy for implementing a mass communication system throughout the city. Our

ultimate aim is to present our findings and proposals to the leadership of Jasper.

Project Summary:

Our task involved analyzing and conducting competitive research on existing Emergency Alert Systems deployed in surrounding counties and cities to identify their best practices. Following this research phase, we proceeded to conduct interviews with potential users to better understand the effectiveness of our findings and proposed solutions. Throughout the project, ongoing communication with key stakeholders, including Nancy Eckerle, will ensure that their insights are seamlessly integrated into our process.

Additionally, we conducted a comprehensive survey with the residents of Jasper City to gather insights into their preferences and requirements regarding an enhanced emergency alert system. This data will be meticulously analyzed to inform our decision-making process and ensure that our proposed solution aligns closely with the needs of Jasper's population.

By leveraging insights from successful implementations elsewhere and incorporating feedback from both stakeholders and residents, we aim to recommend a solution that effectively addresses the unique needs of Jasper's community.

Client Goals:

The project's primary objectives, as outlined by the client, focus on establishing emergency communication networks for the city of Jasper. These objectives include:

1. **Feasibility Assessment:**
    - Evaluate the feasibility of implementing a new mass communication system to facilitate rapid emergency communications.
2. **Understanding Best Practices:**
    - Understand how the County plans to utilize the new system to improve the overall user experience for residents.

- Identify specific services desired by the public from the emergency communication system and preferred communication channels, including text, email, or phone calls.

3. **Marketing and Orientation:**
    - Promote widespread adoption of the upgraded emergency alert system by advocating for effective communication strategies and engagement campaigns.

Our Methods:

1. **Literature Review and Desk Research:**
    - Conducted a comprehensive review of existing literature and desk research to understand the current landscape of emergency alert systems, best practices, and challenges.
    - **Findings:** Identified various types of emergency alert systems, their features, pros and cons, and the importance of effective communication during emergencies.
2. **Competitive Analysis of Emergency Alert Systems:**
    - Researched and analyzed emergency alert systems which are IPAWS certified and FEMA recommended. Additionally used by neighboring counties and nations worldwide.
    - **Findings:** Identified a range of emergency alert systems tailored to local risks and communication preferences, showcasing the diversity of available options and highlighting the importance of customization.
3. **Primary Research - Surveys:**
    - Conducted surveys among residents of Jasper to gather insights into their experiences with the current emergency alert system and their preferences for a new system.
    - **Findings:** Revealed widespread dissatisfaction with the existing emergency alert system, with residents expressing a strong preference for a more modern, reliable, and inclusive system utilizing multiple communication channels.
4. **Primary Research - Interviews:**

- Conducted interviews with residents of the USA, residents of Jasper City, Indiana, emergency alert managers, and vendors to gain diverse perspectives on emergency alert systems.
- **Findings:** Provided insights into users' experiences with emergency alert systems, identified key features desired by residents, and highlighted challenges faced by emergency alert deputies and managers.

5. **Assessment of Vendor Demos for Emergency Alert Systems:**
    - Evaluated product demonstrations from various emergency alert system vendors to understand their features, user interfaces, and technical capabilities.
    - **Findings:** Identified features such as geo-targeted alerts, multi-channel communication, customization options, and support for two-way communication offered by different vendors.
6. **Analysis of Findings and Results:**
    - Analyzed the findings from literature review, competitive analysis, surveys, interviews, and vendor demos to identify common themes, concerns, and recommendations.
    - **Findings:** Highlighted the need for a comprehensive emergency alert system with multi-channel communication, federal compliance, accessibility, scalability, redundancy, and intuitive interface. Recommended vendors based on alignment with these requirements

Appendix B: Timeline

Date	Task	Deliverables

Week 1 - 01/24/2024	Project Introduction	
Week 2 - 01/31/2024	Desk Research - Phase One	Project Definition
Week 3 - 02/07/2024	Desk Research - Phase Two	Project Scope
Week 4 - 02/14/2024	Desk Research - Phase Three	Research Findings
Week 5 - 02/21/2024	Research - Phase One	Team Briefing
Week 6 - 02/28/2024	User Research	Desk Research & Market Research
Week 7 - 03/06/2024	User Research	Interim Report-1
Week 8 - 03/13/2024	Break	Break
Week 9 - 03/20/2024	Analysis	Initial Survey & interview preparations
Week 10 - 03/27/2024	Analysis	Interim Report-2
Week 11 - 04/03/2024	Analysis	Competitive Analysis, Interviews with US residents and vendors
Week 12 - 04/11/2024	Finalization	Interim Report-3
Week 13 - 04/18/2024	Finalization	Finalizing the interviews
Week 14 - 04/23/2024	Finalization	Final Presentation

Week 15- 04/30/2024	Finalization	Final Report and client Debriefing

Appendix C: Initial Competitive Analysis of Verified Vendors

Website/Link	Use Cases	Main Features/Recommendations	**Federal Compliance**
AlertSense /Konexus	Emergency notification and critical event management platform	via mobile push, email, SMS, voice, fax, and more with Konexus' emergency alerting capabilities.	
Alertus Technologies	Mass Notification Products for Facility-wide Alerting	Panic Buttons, Outdoor Notification, Alerting Appliances, Alertus Alert, Beacon, Desktop Alerting, IP Speakers, Digital Signage, VoIP Phone Integration	
Asher Group – Hyper-Reach	Mass Notification COST-EFFECTIVE ALTERNATIVE TO EVERBRIDGE OR CODERED	Phone, text, email, Social Media, RSS, Desktop pop-ups, Internet Advertising, Web-Services API, Digital signage, Sirens	Yes
ATI Systems – MassAlert	Mass Alerting - Is associated with several government Agencies https://www.atisystems.com/wp-content/uploads/2020/10/Hudson-County.pd	https://www.atisystems.com/solutions/community-solutions/ - This page has its key features, compliance, Local and Federal Project Funding Agencies, and more importantly Info	Yes

	f Hudson County, New Jersey		
https://www.civicready.civicplus.help/hc/en-us	Provides emergency preparedness and response solutions for local governments and communities.	Offers tools for mass notification, incident management, and public engagement. Recommends incorporating multi-channel communication options and integrating with other emergency systems.	
https://genasys.com/	Provides protective communications tools for public safety agencies, hospitals, businesses, etc. to communicate with the public during emergencies and crises.	- Secure real-time inter- and intra-agency communication and collaboration. - Geo-targeted, comprehensive, zone-based alerting and multi-channel communication. - LRAD systems for delivering clear voice and tone messages at safe distances	Yes
https://www.signl4.com/	Provides mobile alerting and incident response capabilities to IT, IoT, SCADA, and other technical systems to enable faster and more effective responses to critical alerts, incidents, and urgent service requests.	- Persistent mobile push, text, and voice call notifications with acknowledgment and escalation - Integrated duty and shift scheduling to alert the right people - Mobile app for managing alerts and communicating with experts	
https://aler	Provides an enterprise-grade	- Multichannel delivery (SMS, email, voice, mobile app, etc.)	

tops.com/features/	emergency communication system for businesses to rapidly send and receive messages across multiple channels during critical events.	- Two-way communication and pre-built notification templates - Automatic syncing with HRIS or Active Directory for accurate contact information	
https://in-alarm.com/	Provides emergency alert and incident management solutions for schools, hospitals, and other facilities.	Includes features like panic buttons, mass notification, and integration with access control systems.	Yes
https://www.hiplink.com/	Specializes in emergency communication and mass notification services for healthcare organizations.	Offers features like on-call scheduling, automated call handling, and reporting capabilities and incorporates redundant communication channels and secure data management.	Yes
https://alertops.com/features/	Delivers a comprehensive incident management and emergency notification platform for enterprises.	Includes features like on-call scheduling, incident tracking, and reporting and has a scalable solution that can handle multiple communication channels and seamlessly integrate with existing systems.	
https://hqesystems.com/	Provides emergency management and mass notification solutions for various industries, including	- Offers features like emergency response planning, mass notification, and incident tracking. - Offers a flexible and customizable system that can	Yes

	education and government.	adapt to the specific needs of different organizations.	
https://www.alertfm.com/	Focuses on emergency alert systems that leverage FM radio broadcasts to reach a wide audience.	- Features include integration with local radio stations, weather alerts, and mobile apps. - Has a multi-channel approach to ensure maximum coverage and redundancy.	
https://ilogcorp.com/iris/iris_transportation.aspx	Specializes in emergency management and transportation-related notification solutions.	Offers features like real-time traffic updates, incident management, and emergency messaging for transportation agencies.	
http://new.wens.us/index.php/capabilities/	Provides a comprehensive emergency notification and mass communication platform for various organizations.	Includes features like multimodal communication, location-based alerts, and integration with social media.Offers robust data privacy and security measures.	
https://www.juvare.com/	Delivers emergency management and response solutions for government, healthcare, and other industries.	Offers features like incident management, resource tracking, and multi-agency coordination.	Yes
[https://www.ontheg	Specializes in emergency alert and mass	- Provides features like two-way communication,	Yes

oalerting.com/	notification services for schools, campuses, and communities.	mass SMS/email alerts, and mobile app integration. - to engage with a diverse audience	
https://www.digitalalertsystems.com/	Emergency notification and management for government and public safety organizations.	- Seamlessly combines EAS with emergency operations center functionalities - Utilizes advanced encoding and decoding methods for efficient circulation of alerts	Yes, with FCC regulations
https://www.motorolasolutions.com/en_us.html	Mass notification and critical event management for public safety agencies and enterprises.	- Unified voice, video and data feeds - Manufactures devices and networks, engineered to work well in challenging conditions	Yes
https://www.everbridge.com/products/nixle/	An Everbridge's product, helps local public and safety departments	Two-way communication, Targeted messaging, real time mass alerts through SMS, Email, and social media	Yes, with FCC regulations
https://www.onsolve.com/	Provides reliable emergency alerts and critical event management for public safety agencies, enterprises, and government entities.	- Easy integration with existing systems, enhancing operational efficiency - Supports various emergency scenarios like missing people, evacuation notices, and more	Yes, with FCC regulations

https://www.ravemobilesafety.com/	Specializes in providing 'enterprise-grade' emergency notification solutions for a wide range of industries, including government, education, corporate, healthcare, and more.	- Sends alerts swiftly via text, email, voice, and more - Seamlessly collaborates with other systems like Motorola Solutions ecosystem	FedRAMP - authorized
https://www.regroup.com/	Provides emergency communication and mass notification platforms for corporations, hospitals, governments, and campuses.	Real-time threat intelligence, multi-channel messaging, instant communications, customizable products, two-way communication, threat monitoring, panic alerts, geofence messaging, SMS auto retry, automatic translation, behavioral threat assessment.	with FCC regulations
https://www.singlewire.com/informacast	Mass notifications and Incident Management Solutions for Various industries like Education, healthcare, government,	- Sends alerts through Push Notifications, SMS, Calls, Emails, Audio Alerts, Visual Alerts - Incident Management tools like scenario planning, virtual collaboration, roll call, reporting	with FCC regulations

	manufacturing and businesses		
https://mp.swiftreach.com/	delivers critical alerts to residents and businesses during emergency situations such as severe storms, evacuations, or dangerous incidents	- Automated telephone calling system for mass notification. - Supports text message, cell phone, and email notifications. - Caller ID displays as "PRIVATE CALLER" with the phone number "508-376-7040".	with FCC regulations
https://www.titanhst.com/	Covers communication and management solutions across various sectors including enterprise, sports & entertainment, hospitality & casinos, education, healthcare, and government.	- Instant reporting with SOS alerts and location sharing - Multi-Channel mass broadcast messaging - Realtime safety status polling - Secure group chat functionality - Provides materials like maps, safety videos, and emergency plans - Real-time translations, AR for locating individuals in zero-visibility situations, and geolocation-based messaging	Yes

Appendix D : Interview Questionnaire

1. Experiences with the Current EAS

- What are your experiences with the response time and accuracy of current Emergency systems in Jasper?

- What specific incidents do you remember receiving alerts for?
- What are the flaws/problems you encountered with the current system?

2. Social Media for Emergency Updates

- We know that Dubois county uses Facebook as one of their modes of delivering Emergency alerts, how familiar are you with it?
- Do you know what alert methods Dubois County officials use through Facebook pages and their types?
- What other social media platforms do you use for emergency updates? How frequently do you check them? Do you receive any kind of notifications when you are away from using them?

3. Recommendations

- What features or capabilities do you think would enhance your emergency alert system?
- What kinds of information (for example Title of the alert, incident description, visuals, location information etc:-) do you like to know through these alerts?

4. Reporting an Emergency and Providing Support Materials

- If you face any incident, do you like to report them to the public? Or do you prefer the officials to do it?
- What if the system protects your information from the public? Don't you still like doing it? What are your thoughts?
- If you can, are you interested in serving your part during the incidents to prevent further complications?
- If you are interested, do you like receiving instructions on how to act regarding the nature of incidents?
- If an alert is posted, and you are willing to serve your part before anyone (including the officials), that means you might be risking your security by exposing your whereabouts to the public. Do you still want to serve your part?

5. False Alarms and Unnecessary Alerts

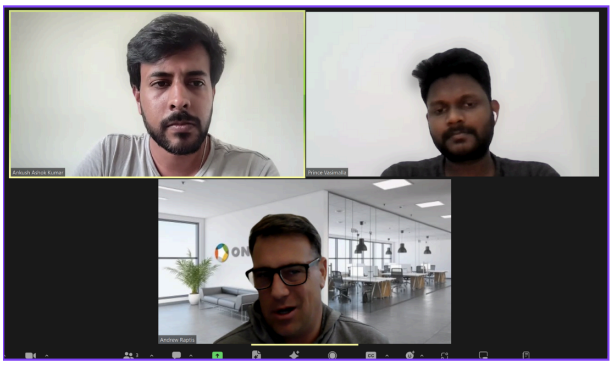
- What are your experiences with false or unnecessary emergency alerts?
- Does this impact your trust?
- What are your suggestions on testing or checking the emergency alert system?

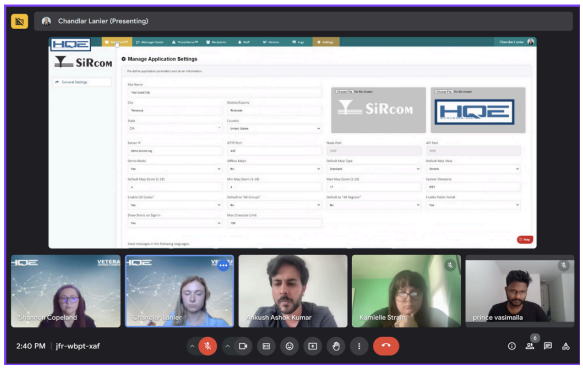
6. Requirements

- What specific types of emergency alerts and information do you need?

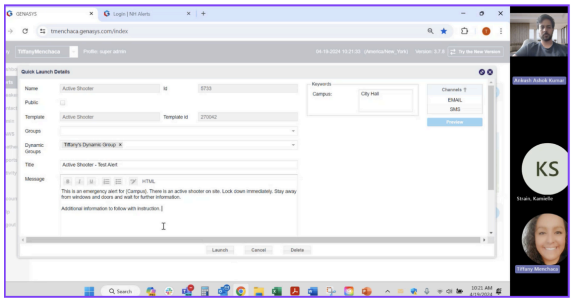
- What kinds of alerts do you prioritize more among them?
- How do you like to Opt in and Opt out into this service?

Appendix E: Pictures Of User Interviews





Interviews with the Onsolve and HQE



Interviews with EMS Manager and RAVE

Appendix F: Recordings of Interviews

Vendor Meeting Recordings:

1. EMS Manager

   Video Recording

2. HQE
   Audio Recording - 1
   Audio Recording -2
   Transcript

3. RAVE
   Video Recording - 1
   Video Recording - 2
   Transcript

4. ONSOLVE
   Video Recording

Appendix G: Interview Insights

(Figure below are - Data Analysis of Interview)
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Interviewee: User 6
Demographic Details
Age: 26 year old
Location: Indiana, USA
Gender: Female
Tech Savy?: Yes
Interviewer: Shivani Kolala Jayaprakash

Question/ Main theme :	Answers:
Demographics	Age - 26; Student; Uses Apple weather EAS; Is open to using other EAS if available, has not explored much
2: Personal Experiences with Emergency Alerts	Was new to EAS; Helpful at certain times; Feels more negative and scary; Have missed sirens a couple of times as I was inside the house; She did get a notification on phone; Delayed notification on phone - Sometimes she does not get any notification until the phone is unlocked.
3: Desired Features and Improvements	Age - 276
4: Impact of Alerts on Behavior and Preparedness	Not witnessed
5: Requriements of EAS, where and when	Weather related; Anything related to mass destruction; Geo tagged life threatening
6: Devices on which you would prefer	Smart watch; Big sound - indoors and outdoors; Does not have phone with him at all times so feel just notifications on phone is sometimes useless; Any unusual sound

Interviewee: User 5
Demographic Details
Age: 28 year old
Location: Indianapolis,IN USA
Gender: Male
Tech Savy?: Yes
Interviewer: Kamielle Strain

Question/ Main theme :	Answers:
1: Personal Experiences with Emergency Alerts	Recieved emergency alerts on phone The only way i knew it was an emergency alert on my phone was the sound it made. uses mobile phone for emergency alerts mobile alerts are effective cause sometimes sirens dont go off. No bad experiences with EAS'S.
2: Perceived Effectiveness of EAS	10 eas are effective when its detailed about whats going on Feel good about the clarity and timeline
3: Factors Influencing Response to Alerts	I look at what county its in and if its a watch or a warning Tornado warnings are the most important
4: Desired Features and Improvements	time and location for eas are important Cant think of improvements on usability or effectiveness
5: Impact of Alerts on Behavior and Preparedness	If its a tornado i look at if its a watch or a warning I light candles or use flashlights if the power goes out from a storm Buy food if i know its going to be a big storm No changes to overall preparedness
6: Accessibility and Inclusivity	Its pretty accessible. I don't have any suggestions.
7: Trust and Reliability	A lot of trust No instances questioning reliability
8: Suggestions for Enhanced Communication	Ham Radio and TV and mobile. Social media to help in enagage with the community

Interviewee: User 4

Interviewer: Srithika Sheetal Suvarna
Note-Taker: Srithika Sheetal Suvarna

Positives | Negatives | Neutrals

Question/ Main theme :	Answers:		
Demographics	Age 23	Asian	Student
2: Personal Experiences with Emergency Alerts	Received Amber alerts	Very rarely receives alerts	After receiving the alert, stayed vigilant
3: Desired Features and Improvements	The alerts were short and to the point	7	If the alert can mention when it is safe or a follow up alert
4: Impact of Alerts on Behavior and Preparedness	being able to provide more details about the alert		
5: Requriements of EAS, where and when	Try to stay safe and vigilant		
6: Accessibility and Inclusivity	No experience with inclusivity/accessibility	Features like audio alerts	
8: Suggestions for Enhanced Communication	Amber alerts seem very good compared to emails		

Interviewer: Srithika Sheetal Suvarna
Note-Taker: Srithika Sheetal Suvarna

Question/ Main theme :	Answers:
Demographics	Age 22, Student, India
2: Personal Experiences with Emergency Alerts	IU alerts, Amber alerts Useful for tornado alerts
3: Desired Features and Improvements	Menioting How serious the situation is maybe
4: Impact of Alerts on Behavior and Preparedness	Nothing
5: Requriements of EAS, where and when	Weather alerts, Shooting alerts, Local area alerts and desired area alerts
6: Accessibility and Inclusivity	Sound
8: Suggestions for Enhanced Communication	

Interviewee: User 2
Demographic Details
Age: 24 year Old
Location: California, USA
Gender: Male
Tech Savy?: Yes
Interviewer: Ankush Ashok Kumar

Positives | Negatives | Neutrals

Question/ Main theme :	Answers:

Interviewee: User 1
Demographic Details
Age: 29 year Old
Location: Dallas
Gender: Male
Tech Savy?: Yes
Interviewer: Prince

Positives | Negatives | Neutrals

Question/ Main theme :	Answers:
1: Personal Experiences with Emergency Alerts	One time I received an Amber Alert on my phone about a child abduction within a 30-mile radius of my location. / During a major flood situation a couple of years ago, I got alerts warning about rising water levels in certain areas / Just last month, there was a severe thunderstorm watch issued for our county, and my phone blasted that emergency alert
2: Perceived Effectiveness of EAS	They sometimes lack precise location information - they just cover a wide circular radius / Feels like they are delayed - by the time the Amber Alert came, the criminals had likely already moved out of that broad area / False alarms and misleadings
3: Factors Influencing Response to Alerts	People can't help if the alerts provide inaccurate/ineffici ent information / People eventually stop believing after a handful of false alarms / I'm willing to do my part during the incident location, as social responsibility
4: Desired Features and Improvements	Vehicle tracking and IoT integration would allow much more accurate location tracking for Amber Alerts / Providing specific details like car model, license plate instead of just 'silver Honda' would be very helpful / Need to improve location accuracy / Having pictures or videos can be a lot helpful
5: Impact of Alerts on Behavior and Preparedness	Couldn't do anything meaningful since most the alerts doesn't provide accurate information / Once a weather alert is received, I immediately ensure my family is inside or not and we have enough supplies for the time being
6: Accessibility and Inclusivity	N/A
7: Trust and Reliability	Even genuine alerts get ignored if the false alarms impact too much
8: Suggestions for Enhanced Communication	Verifying incidents is crucial before updating to the public / Providing instructions for recommended actions would be effective / privacy of the reporters should be a priority

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disseminate emergency alerts and warnings to the public. It's really important for making sure everyone gets the message during emergencies. IPAWS lets authorized officials send alerts through things like the Emergency Alert System (EAS) and Wireless Emergency Alerts (WEA). This means messages can go out on TV, radio and also devices like Personal Computers and Phones. It helps get the word out fast to keep people safe. FEMA's website has lots of helpful information for people who need to use IPAWS to send out alerts and keep their communities safe. It can also send alerts to specific areas which is technically called as Geo-Targeting, so people only get notified if they are in the affected area. This helps prevent unnecessary panic and ensures that those who need to take action can do so promptly. Their website also showcases myths and facts about the IPAWS and provides timely updates. It also contains IPAWS compatible tools, and their hyperlinks to access them | Available at: https://www.fema.gov/emergency-managers/practitioners/integrated-public-alert-warning-system (Accessed: 14 April 2024).

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