

Assignment - SWOT Analysis – Summary Table and Conclusion

Shaun Pritchard

Rasmussen College

COM3278

Jacob Johnston

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SWOT Analysis – Proposed Communication Methodology

A lingua franca is a language used to make communication between groups/people who do not share similar native languages. Lingua Franca is known as a bridge language used to make communication possible between people who do not share a native language. The origin of the term “Lingua Franca” is traced back to the Middle Ages when it was used to describe a language or jargon used around the eastern Mediterranean by traders and Crusaders (University of Witwatersand, 2019).

This early lingua franca featured the use of invariant forms of nouns, adjectives, and verbs. Today, lingua franca has been incorporated throughout the world to bridge the gap of communication. For many reasons including commercial, cultural, religious, diplomatic, political, and administrative. It is used as a means of exchanging information between, doctors, politicians, scientists, and business owners, of all different nationalities (*CIA, 2020*).

Derived from the English language I propose the use of a more technological approach to allow us the ability to communicate fast enough to manage the infections and explain preventive measures before as you said "it engulfs the entire content."

I propose we implement the use of Extensible Markup Language (XML), with a web-based interface engine that can deliver structured guidelines and content to people in affected and likely effected areas. I feel that XML may offer advantages in implementing communications services, tracking, updates, and communication efforts.

While English is a known Lingua franca in most of the world and even through some of the top affected areas such as Ethiopia, Egypt, Morocco, Sudan, Gabon, Chad (where the CHIR virus was first identified and report it).

XML is an extendable version of HTML which is used for web-based applications. Most if not all of these web-based applications rely exclusively on HTML, the Hyper Text Markup Language (CDC, 2020). XML is an emerging standard for structuring web documents. This could aid in defying the standards of the current situation and have on the second information available online and ready to go at a moment's notice.

Also, XML can handle multilingual, emotional, data tracking, many other capabilities within the syntax which can be easily adapted to the technology. Essentially communicating faster than spoken or written languages of mixed native tongue. XML is used as the schema for exchange of computational information that can be implemented with HTML markup to add visual graphics and UI.

With this markup language we can implement graphical user interfaces and web-based applications that can be updated by the microsecond with asynchronous data on the spread of the virus. I propose using XML to build out a digital hotspot map of infection rates with numerical database to implement the rates of infection and asymptomatic cases.

XML can provide visual data with color coordination for hotspots, graphics, and other non-verbal data using specific XML based tags to communicate the urgency and state of areas without words being needed. We can communicate other data inducing resources, contact information to break down location while integrating multilingualism capabilities through and graphical interface with option to select co-native languages while implementing the same data

and resources. This also allows for a centralized system that can facilitate training and prevention communication way faster and more effectively through structured data and graphical data (National Library of Medicines , 2000).

WHO directors will need to use lingua franca language in order to have a better communication with subordinates and peers. Also, to alert populations, providers, allocate resources, infection rates, supply chains, prohibitions, safety measures, and quarantines. When we move on to other nations it will become vital to use lingua franca to quickly communicate the basis of situations, imagery and other resources and data points.

The available data reveals that over 62% of world language are in decline that particular languages are not being passed to next generation (*Linguistic Society of America, 2020*). It will have to be the main objective of training to enhance the operational awareness as well as the soft skills of the employees, patients, and general public through and it is better communication. It will bridge the communication gap making it much easier between the group regardless of culture differences and ethical background.

I feel that XML may offer advantages in implementing guideline services that are difficult (if not impossible) to accomplish with HTML alone. Also, using XML will enable us to evaluate the risk perception and communication through table data and risk analysis that can be implemented with the markup language. Allowing us to think through the risk perceptions might influence the affected populations and, therefore, how you communicate about those risks.

SWOT Analysis – Strengths and weaknesses

Analyzed strengths and weaknesses:

The proposed technological approach of using a lingua franca the use of extendable markup languages such as XML could help bridge the gap of the information conflict being experienced by this pandemic outbreak. XML can offer advantages in implementing communications services, tracking, updates, web and mobile-based portals, notifications, and communication efforts. We can implement technologies and tools that are readily available with natural language processing while having the computational speed of providing up-to-date accurate information and resources to specific locations. Also, collect data that can be inferred to save lives and prevent the spread in other regions.

While lingua francas can solve communication problems among people of different linguistic backgrounds. Its strengths are that it maintains mutual understanding between people who can communicate with each other in different languages. Also, provides access to computational resources, such as translation services, visualization, symbolic, and natural language processing data.

Some of the weaknesses of using this would be in the implementation. Allocating all the resources necessary in a fashion for the specific event has to be properly scoped, tested, and deployed. Using Information Systems, one must understand that they do not understand the complexities of language let alone multiple languages in multiple regions. We will have to work diligently to find the correct and most important aspects of the technology while building the assets we need for our particular venture to spearhead the operation.

We must also be aware that implementing technology in this fashion could lead to linguistic imperialism in the sense that one language is taken as better than the other might lead

to the death of native languages especially in central Africa or being overrun due to the underestimated implementations their language lower than the language of the lingua franca.

While our main concern is overcoming this virus and pandemic, we should be aware of what we are introducing in specific regions of the world and be mindful of cultural appropriation.

Resources:

To implement this technology in an orderly fashion that could be readily available to doctor physicians and rural residence of many parts of the nation we will need to scope out and manage this project with efficiency. I propose that we build a progressive web application(PWA) using a specific web framework such as Angular Universal (*Angular, 2020*) to build from template a web application with a manifest that has integrated markup JavaScript framework that utilizes web-based HTML, CSS, JSON, and XML markup languages.

This will give us the ability to have a web-based mobile application that could be used for practitioners in areas with limited data connectivity and internet service. Also proposed that we develop an internal API(application interface) to give access to other areas to the application data and build custom web applications to further calculate data and web assets in many other native languages and environments. Also, this will give us the ability to collect rapidly collect real-time data and many of the hard to reach or limited regions.

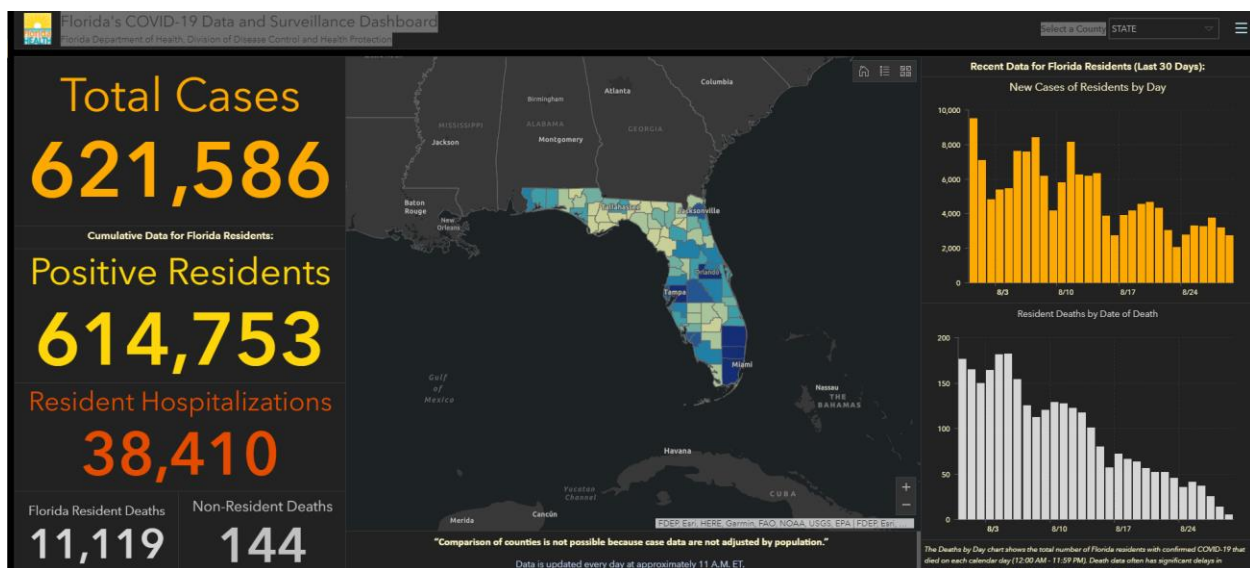
Using this framework with HTML based markup languages, we can implement open source dependencies and plugins that will allow us to use natural processing and translation of the page's information. letting the users of many different regions and areas across Europe and Africa that we are concerned with obtaining the communication efforts fast and effectively.

We will essentially need to assemble a team and a budget of twenty-five thousand dollars. First, we will need a project manager to the scope and track out the project, a software

architect to implement the designs and data allocation, several software engineers to build the logic of the application, front-end web & mobile UI developer to design the application, a database engineer to design the back-end of the application, and we will need several researchers to start working on the content and designs of the information will you need to use to spearhead gap the communications between all these affected areas.

The proposed web framework has XML based schema utilizing a JavaScript framework and pre-made templates ready to build that will save us an immense amount of time from having to build an entire application from scratch (*MDBootstrap, 2020*). Also, this provided us will an application framework that can be used for either the web or mobile devices even when the user is offline(not connected to the internet). Libraries offer rich UI components that will make it simple to create Hotspot data surveillance dashboard Maps and integrated dashboard for tracking and communicating the real-time data.

We can see here is an example of a data surveillance map being used stateside in Florida incorporating the same technology (*FDH, 2020*).



Pros and cons:

The advantage of this proposed markup languages is the technology is adaptable to all types of devices whether it is a desktop, browser, web interface, or a mobile device. It can be utilized to do the means of an application. Simply building a website page might not be effective on a mobile device that is on a mobile device it is not connected to the internet. Using markup languages gives us the ability to transpose data different devices and different mediums a Technologies allowing us the fastest way to correlate and communicate information. Not only that but the markup language is effective in communicating with different scripting languages which allow for visualizations, collection of data, and real-time communications such as messaging and notifications. XML is the native design language for Android mobile devices what is there are 2.5 billion Android places currently active on the planet including in many of the areas of this pandemic concern (*Taylor Kerns, 2019*).

Markup languages provide many different advantages such as low maintenance, stability, complete UI elements, many open source programs, and libraries have been written to facilitate specific needs, visualizations, robust architecture, scripting, and data allocation. Some of the disadvantages are of course the implementation learning curve, dependency of specific frameworks and libraries, and security.

Possible issues:

Some of the problems that I foresee initially would be scoping the project out. We can use agile methods to get the basis of the information that we need right now in the application to track virus data and communicate awareness. Getting pertinent information into the hands of Physicians and possible affected areas and regions. After we delimit the scope of the project the

implementation could be an issue depending on the complexity of the scope. It could cause issues and delays with building logic inside the technology. This is why we should focus on what is important now then add what we need as we go.

Other problems could be scope creep or design conflicts what's the design and implementation, but this is why I suggested having a project manager to make sure that all team members stay within specific guidelines with a specific goal to reach. As far as the technology is concerned about implementing libraries and plug-ins for the translation of specific regions we will have to be overlooked and possibly reprogram.

We have to remember that this is computer programming, and markup languages are basic instructions from a computer that do not know specific intricacies ,voice, tone or other complexities of the human language. Due to this many natural language processors and translators might be able to translate specific words according to what they are programmed but the dialect in the syntax of real human native languages might come out wrong. Possibly confusing people who read it in different languages in rural regions (*ARIKA OKRENT, 2016*).

Conclusion:

I believe this implementation could save us a lot of time and a save many lives we have many advantages such as implementing markup languages such as XML and HTML are easy to create, fast to work with, and can't communicate on all types of devices. Some of the disadvantages are this is going to take some time, some effort, and some coordination to build correctly. Also, the application resources we are implementing are not decentralized. Web pages must be edited and develop separately and strategically. In light of the current situation we are facing I believe these risks far outweigh theses minor discrepancies. It would be in our best interest to facilitate this application as quickly as possible to start breaking down the barriers

holding us back from communicating with the various regions about this virus and spearheading the situation. Also, this will allow us to collect detrimental data that can be inferred and used from these regions that will give us a long-term advantage in overcoming this virus.

SWOT Analysis - Opportunities and Threats (External Factors)

Several restrictions could raise possible issues with implementing markup languages in specific areas. I have researched the demographics and infrastructure of all the primary and secondary transmission zones. listed below are the results and findings

Primary and secondary transmission zones analysis

The Egyptian health system has a strong infrastructure of physicians, clinics, and hospitals, availability of technology and pharmaceuticals, and excellent physical access to care, with 95% of the population being within five kilometers of a medical facility (*CIA, 2020*). They have a secure infrastructure and place adaptability to technology to implement the communications effort application with a markup language.

They do have known terrorist organizations that could become hostile during interventions of medical treatment. Egypt is a source, transit, and destination country for men, women, and children subjected to sex trafficking and forced labor; Egyptian children, including the large population of street children, are vulnerable to forced labor in domestic service as reported in the due to this implication W.H.O could have trouble treating patients or working with the local authority to quarantine. Cairo is a major hub, that supports local government and has a secure infrastructure for communications. Also, the native language there is Modern Standard Arabic (*CIA, 2020*).

Ethiopia has the lowest level of income-inequality in Africa and one of the lowest in the world. Ethiopia also has known terrorist organizations and rebellion forces that may pose a threat to operational WHO administrators. This destabilization is based in many areas that are highly probable to affection and transmission. Especially due to the low rate of infrastructure and economy (*WHO, 2020*). The inner cities have the only means of implementing technology that could be used with the application of markup language. Trying to communicate the data would serve as an issue outside major districts.

Ethiopia's health care system includes primary health facilities, clinics, and hospitals. Only major cities have hospitals with full-time physicians, and most of the hospitals are in Addis Ababa (*Minstry of Health Ethiopia, 2020*). Access to modern health care is very limited, and in many rural areas, it is virtually nonexistent. also, the native language of Ethiopia is Amharic (*CIA, 2020*).

Morocco has limited centralized infostructure and older technology. The do have internet access and the native language is Arabic (*CIA, 2020*).

Khartoum in Sudan has limited medical resources and the health care delivery system. Yet their native language is Arabic, but they do incorporate English on a national level. In Libreville, Gabon W.H.O has a regional office and a progressive infrastructure to communicate via markup application. There are several native languages in Libreville including French, Fang, and Bantu. There are no translation modules in the Bantu language (*CIA, 2020*).

N'Djamena in Chad where the virus was first identified. Has a limited infrastructure and every poor survival rate for citizens (*CIA, 2020*). At 381/338 people, with the average life

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expectancy of 53/55 years old. The native languages include some French and Toumaï mini urbanize areas in Chad that do not allow this language to be spoken (*WHO, 2020*).

Many other countries in secondary locations such as Zanzibar, Tunis, Monrovia, Luanda, and Accra all have limited communication infrastructure, limited health facilities but do have access to internet services in most places (*World Health Organization, 2020*) (*CIA, 2020*). Also, in many of these cities exist terrorist organizations, rebellion forces, and Warring factions. These regions have specific native languages that have many different dialects and can be miscommunicated quite easily through English based markup.

Angola, Algiers, Cape town, Johannesburg, Marrakesh, Port Louis, and Zanzibar city all have more modernized health and communications systems with access to internet services. All of these areas have individual native languages inducing English in South Africa (*Telecommunications in Angola, 2020*).

As you can see, several factors can cause issues with the use of implementing and communications application with markup language to communicate awareness. Between unstable regions, terrorist, unreliable communications infrastructure, poor healthcare systems, and communications barriers pose a challenge to implementing the markup.

If the outbreak spreads beyond the African continent. I have identified how the markup language communication method I have proposed could be expanded beyond the initial implementation. To meet the issues of communication barriers we could implement software plugins that will do an immediate translation. though there might be some miscommunication based on the syntax.

I think that we could use keyword-specific search terms for the general internet identifying the symptoms as well. I think we can collect data using a WHO health emergency dashboard. An application that is interactive, letting possible patients and cases select their areas visually on a map.

Then allocate data collection using more visualizations such as The Wong-Baker Faces scale (*Wong-Baker FACES Foundation, 2020*). This scale is used globally and could detect how severe symptoms are in digital format. also, use different close-up images people with an individual symptom such as cold, hot, coughing, fever, and other visual representations in the markup language for those with languages barriers to directly communicate and submit their symptoms, then a visual bar chart could pop up to display options for the patient and instructions of what to do next. some severe symptoms could directly alert the WHO Health emergency department to send immediate help to the specific area.

While markup languages can facilitate transversal communication and information via internet and Technology infrastructure like any other programming language, they are limited to what they are developed for. Markup languages can transmit and receive information very quickly more effectively than many other means of transmission. This is good because we can get pertinent and information to the specific locations we need to.

While on either hand using visual communication methods such as symbols pictures people can automatically relate the communication as soon as they see them. The good thing about using markup languages that we could interject pictures symbols data charts and graphs to represent the criteria of the market.

Using images and symbols in markup we can trigger actions through programming languages to get quick results and notifications and communication. But again imagery and symbols have to be implemented on top of the markup language. Using markup language tags that describe specific computer-readable and human-readable information that is interpreted through web browsers and mobile devices. The images are the actual documents and DOM objects that allow people to fully interact with them.

Conclusion:

Given the primary and secondary transmission sites that are many challenges due to the poor infrastructure instability in the regions and major language barriers. Using a markup technology through the world wide web and implementing common structures in indicators as an interactive layer do the medium that we will be creating. Will allow us to collect and allocate specific data in targeting and eradicating this virus. Though there are many different communication barriers between different languages symbology and visual representation will be are the greatest chance at success.

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Swot Analysis 4 square summary table:

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|--|--|
| <p>Strengths</p> <ul style="list-style-type: none"> • Can be used as Lingua Franca • Simplicity • Openness • Embed existing data • Distributed data • Fast implementation • Usability • Extensibility | <p>Weaknesses</p> <ul style="list-style-type: none"> • Project planning phase • Prioritizing communication methods • Must have access to the web • Time constraints • Many project Resources |
| <p>Opportunities</p> <ul style="list-style-type: none"> • Track outbreak sources • Collecting data • Tracking data • implement symbols • Fast communication to beat the spread of the virus | <p>Threats</p> <ul style="list-style-type: none"> • Language barriers • Poor infrastructure • Unstable regions • Project deadline • Strategic plan of deployment |

The effects and success defined in the SWOT analysis are based on the topics in the SWOT analysis summary table.

Strengths:

As discussed before using XML in markup language we can create a graphical application. This application will be used to allocate specific information to different regions, translate, communicate, and collect data to strategically bridge the communication gap that could ultimately resolve and saving lives. XML can provide visual data with color coordination for hotpots, graphics, and other non-verbal data using specific XML based tags to communicate the urgency and state of areas without words being needed. This will also offer the capabilities to select co-native language data resources allow for a centralized system that can facilitating training and prevention to regions way faster and more effectively.

Simplicity makes XML easy to read and understand. The openness of the XML platform gives us the ability to adapt many different Technologies using the same type of XML and markup languages for our specific purposes such as language translation. It also allows us to embed existing data mapping existing data structures like file systems are relational databases very simply.

This also provides a way for us to distribute data. XML documents can consist of nested elements that are distributed over multiple remote servers. XML is currently the most sophisticated format for distributed data. The World Wide Web can be seen as one huge XML database according to the case study (*Mulberry technologies, n.d*). Because of these many factors that give us the ability to implement and build the project very fast this will effectively help us had of the communication gap. This also offers usability which provides platform users can perform tasks safely, effectively, and efficiently use while communicating and collecting data.

Extendibility gives us a lead way to extend this application to overcome our communication gap and to provide information into specific regions and facilitate more technology and resources.

Opportunities:

Building this application and provide many opportunities we will be able to communicate efficiently but we would be able to collect data on Infected patient's possible outbreak zones and other areas of concern. With a graphical hotspot map that we will continuously add data to. Another opportunity is for us to Simply collect data. This is a valuable resource that can be used not only for real-time turn efforts but for statistical analysis and inferences to locating the source and possibly preventing future outbreaks by learning from the data.

We can also track this data to specific locations, areas, users, and regions. XML gives us the advantage and flexibility of implementing graphics and symbols that can be used to collect data very quickly. With graphics and symbols, we can identify patient's health status, locations, symptoms, the many other factors. XML is also able to do this and communicate very fast so we can beat the further spread of the virus.

Weaknesses:

Well, the plan is to build an effective application there are some weaknesses. First, the project planning phase is going to take a well-coordinated team to develop the scope of the project. Also, to avoid any conflicts with project planning deciding which implementations should be developed first. This will take time and careful planning. Deciding which implementations are most crucial for the overall goals we are trying to reach is also crucial. Furthermore, this application only extends to those infrastructures that have web access or satellite internet access with proper infrastructure. While prioritizing Physician needs in local

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areas. This will only be effective if they have communication means. With Project Planning and Development, we have time constraints that we need to model out as well. We also need to allocate how many project resources we are going to need before we can get started. This will also take time.

Threats:

As referenced in earlier correspondence, there are several threats that we need to be aware of. There are many different language barriers we are going to have to overcome. Some languages are native and do not have translations that we can Implement with the application interface. This is why we are going to have to create visual graphics and symbols which will also add constraints on time for the overall project.

The other threat is there are many poor infrastructures in affected zones. With limited resources or Internet capabilities. Especially those in major infectious zones. They are all so many unstable regions with terrorist activity or rebellions. We do not have any idea what it will take to save people's lives in these situations or these areas. All these factors must be assessed including the project resources and the Strategic plan of deployment. We need to figure out a deadline to get this project done and allocate the resources to get it done effectively and soon. As we stand, we have no plan and have no idea when we are going to deploy.

Conclusion:

I can clearly see there are some obstacles that we have to overcome and there are many weaknesses that will infringe the start of this project. But all in all, the strengths outweigh the weaknesses and the threats. This will far surpass the communication methods that we have tried

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thus far and needs to be clearly implemented as soon as possible. I believe we could plan this project in minimum time with the right team behind us. Also, we will be able to save lives

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