INFOSEC Artificial Intelligence Accelerators for Haiti

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Abstract—When you think of Haiti you don't think of advanced technology or secure data and information. This is where we come in. It's time for a reboot. It is time for Haiti to move forward and we will start with applied science. Healthcare, education and overall living can all benefit from our research, that will be implemented in the near future. Our research explores the best factors that should be included in the software engineering and programming of systems using AI and Information Security.

Index Terms—INFOSEC, HIPPA, Haiti, IoT, Identity Assurance, User Role, Java EE

I. INTRODUCTION

It's time for a reboot. It is time for Haiti to move forward and we will start with applied science delivered by computer science that is trustworthy because of great security [1].The 2010 earthquake that affected 3 million people and killed 230K of them in Haiti brought in a rush of assistance to the country from international aid sources, but they found that they had to bring with them their own communications infrastructure, as the existing resources were damaged.

Fig. 1. Cap Haitien

Trust issues quickly became apparent, as the different governmental and non-governmental activities did not have methods in place for inter-operability of diverse systems because of needing to protect their systems with information assurance. The recovery from the disaster was slow, in part because of continuing trust issues, and in part for other reasons.

Fig. 2. Earthquake 2010

Today, ten years on, we have more effective and less expensive computer science information security hardware, software, artificial intelligence, and these technological advancements can greatly increase the trustworthiness and integrity of the communications systems of Haiti, as well as supporting resilance and recovery capabilities of the economy of Haiti to adapt to and bounce back from threats to its strength and positive growth.

The last paragraph of your Introduction section always introduces the rest of your paper: i.e., the next section is our Literature Review, followed by our Project Requirements section, followed by whatever section after that.

II. LITERATURE REVIEW

The Second Section is Always the Literature Review. Here find in Google Scholar papers that look like they are on your topic. What you find you might talk about, and each time cite it, and those citations will appear in your Bibliography at the end.

For example, a paper called "Blind People in Location [2]" and you might find an idea there that was good, so you mention it in your Literature Review, and then in the last part of the Literature Review, you say, the problem with the research paper about Blind People was...and you go on about that for a sentence, i.e., that they did not think about how their system would integrate with other systems to enable Blind People to navigate hospitals, because they did not include it in the strategic vision document that should be consulted by every stakeholder in IT in this hospital.

In the last part of your Literature Review, last few sentences, always you find that in all these other papers that you have cited, that you have looked at, you found that there was a great need for something that all of the others missed, which is what your paper has.

Best need for you to find in your research is need for a strategic vision, which your paper is addressing here. You may find the Government of Haiti already has a published Strategic Vision: in that case, you support that vision with your research. Your vision improves that vision with some ideas to expand the topic and encourage contributions from all parts of the community.

III. PROJECT REQUIREMENTS

The goal of this project is to come up with a solution to improve security in communities in Haiti. In our case a community will be regarded as an enclosed area that is controlled and requires some sort of identification to gain access. For now, we will limit our communities to business, hospitals, and schools. Each of the three scenarios have different requirements but they are similar in certain ways. Access to the public, usage of gates at entry points, enclosed areas in either a wall or fence, and having security guards are some of the basic functional needs that are assumed to have existed prior to this project. Other requirements are as follow. All entries need to have at least one security guard and there will be a central security office where the camera stream can be viewed, In addition to that, there should be enough storage available to store events up to a period of time.

All entry points will be equipped with security cameras that are connected to a server for image processing. This will assist in regulating vehicles going in and out of the community. Using the information available to the system, it will determine whether entry is permitted or not. Based on the results from the verification process, an alert will be sent to the security office and from there they will operate the gate. There will be additional cameras that have a clear view of the perimeter as well as others throughout the area.

After preliminary assessments, it is assumed that the hardware requirements are as follow: IP cameras (Wired preferably), multiple servers responsible for image processing, a file server to store security footage, or a fully working security system equipped with facial recognition. There will be a need for a database to store profiles, switches (depending on the amount of cameras used, distances, types of camera, etc..), High speed router, motorized gates (where it applies).

A. User Stories

B. Hardware and Software for AI enabled security cameras

- Security camera(Br Mod?)

  - Will need a plan of the site,
  - Security cameras linked to a Pi that will be doing some computations.

  - Two networks that will be used - how does some information flow between them when needed? A USB drive?
  - one internal network that will be used
- Hardware(compute)
- Wireless Routers(5g/6g vs 5 GHz possible issues):
  - Security
  - signal limitations
  - need high bandwidth all the time
- Solutions:
- wireless devices will allow to
- App reside on intranet.

Make idea diagrams of the flow - you can use Adobe XP or LucidChart (I recommend this - use the free version and share users for collaborative work) for wire frames

This paper will be used by Dean Jonathan Hill and Dr Pauline Mosley to apply for a grant from National Science Foundation to further the work.

C. User Stories

You might need to use (UI/UX) the User Stories (UX) (User Experience) to help illustrate the users of your systems.

User Stories: people whose feeling of security means they are free to make commercial transactions in the marketplace of goods and services in that secure area.

- a mother with children who wants to buy items for her household
- a policeman who is unsure who exactly is the possible criminal
- a merchant who needs to maximize his shelf space but needs visibility of his items for sale
- a banker who has couriers with cash

D. Cruise Ship Tourists

User Stories: people who help the economy of Haiti who are enclosed in a security enclave that keeps them safe from beggars and pickpockets. However, the manpower-intensive method now to create that security perimeter could be made more safe and less expensive by introducing technology that keeps tourists safe from each other.

Additionally, imagine the freedom and liberty of all citizens of Haiti to be able to live their lives feeling as safe as those tourists. Sleeping safely. Moving about safely. Trusting each other. Because when we have safety, we freely exchange ideas, move about, meet each other, deliver goods and services at lower cost, because we are not afraid of theft, of injury, of loss of our property.

This might have been too costly to provide, in the past, to the citizens of Haiti. It was only cost-effective if it was protecting cruise ship tourists who have money to spend to help the Haitian economy, if they are given a safe clean space to make transactions. However, today, with AI technology combined with computer vision, it is possible to economically extend this level of security to marketplaces and schools, to neighborhoods, to hospitals.

- tour operators picking up tourists from cruise ship docks
- restaurants, bars and clubs
- vendors of souvenirs
- anti-terrorist policemen needing to conduct unobtrusive surveillance
- medically frail people, i.e. elderly

E. How to do Figures and Tables

a) Positioning Figures and Tables: Place figures and tables in eye-catching way. Large figures and tables may span across both columns. Figure captions should be below the figures; table heads should appear above the tables.

Insert figures and tables after they are cited in the text. Use the abbreviation "Fig. **??**", even at the beginning of a sentence, to explain the figure or table.

TABLE I
TABLE TYPE STYLES

Table Head	Table Column Head		
	Table column subhead	*Subhead*	*Subhead*
copy	More table copy[a]		

[a]Sample of a Table footnote.

REFERENCES

[1] M. B. Buntin, M. F. Burke, M. C. Hoaglin, and D. Blumenthal, "The benefits of health information technology: a review of the recent literature shows predominantly positive results," *Health affairs*, vol. 30, no. 3, pp. 464–471, 2011.

[2] A. C. Antunes and C. Silva, "Designing for blind users: Guidelines for developing mobile apps for supporting navigation of blind people on public transports," in *User-Centered Software Development for the Blind and Visually Impaired: Emerging Research and Opportunities*. IGI Global, 2020, pp. 1–25.