**Research**

i. Literature review of chatbots for social needs (i.e. migrant workers/vulnerable groups/mental health)

* Relevant literature found with good critique and adoption of learnings to project
* Consideration of factors in the responsible use of AI (i.e. ethics, PDPA)
* Consideration of factors leading to adoption (i.e. culture and language)

1. NGO focusing on medical and dental services to migrant workers
2. Many of their services and events are run by volunteers
3. Your project will empower Healthserve to raise the awareness of health coverage and onboard volunteers and staff via a chatbot

**Scope**

Use case 2: Onboarding

1. What areas does the Healthserve onboarding slide cover?

2. How should one interact with a migrant worker appropriately and respectfully?

3. How should PDPA be handled?

Possible Discussions include:

* Background and services of Healthserve
* Cultural understanding of migrant workers
* Situational awareness

**Target audience** for Healthserve is work permit holders in the CMP sector

**Source documents**

* References given in your Week 7 pre class assignment
* Your pre class assignments themselves
* Stories by NGO websites (i.e. TWC2)
* Parliamentary responses
* Multilingual resource portal for migrant workers: https://help.healthserve.org.sg/
* Others

1. **Introduction:**

* Begin with a clear and concise introduction that explains the purpose of the literature review.
* Provide an overview of the topic or research question that the review addresses.
* State the objectives or goals of the review.

1. **Body:**

* Organize the body of the literature review into sections or themes. The number and names of these sections will depend on the structure of your review and the topics you are covering.
* Within each section, summarize and analyze the key findings, methodologies, and theoretical frameworks of the relevant sources.
* Discuss the relationships between the sources, highlighting common themes, trends, or controversies in the literature.
* Be sure to provide clear and logical transitions between sections and sources to maintain the coherence of the review.

1. **Methodology (optional):**

* If your literature review involves discussing the methods used in the research you're reviewing, you can include a section on methodology. Explain the research methods employed in the sources you're reviewing and comment on their strengths and weaknesses.

1. **Conclusion:**

* Summarize the main findings and insights from the reviewed literature.
* Discuss any gaps or limitations in the existing research.
* Offer recommendations for future research or directions that can address the identified gaps.
* Reiterate the significance of the reviewed literature to your research topic.

1. **References:**

* List all the sources you've cited in your literature review in a properly formatted bibliography or reference list.

**Introduction**

Streamlining volunteer onboarding processes within non-governmental organizations (NGOs) is pivotal in bolstering operational efficiency and amplifying the impact of volunteer-driven initiatives. Healthserve, an NGO dedicated to providing medical and dental services to migrant workers in Singapore, heavily relies on volunteer support to execute its essential services. However, the onboarding procedures for these volunteers often present challenges, ranging from administrative complexities to information dissemination and engagement. In response to these challenges, this literature review scrutinizes the integration of chatbot technology within Healthserve's framework to revolutionize and optimize the onboarding experience for volunteers and staff.

The recruitment and orientation of volunteers represent critical junctures in ensuring the seamless functioning of Healthserve's initiatives. Volunteers are the lifeblood of the organization, yet the process of bringing them on board efficiently, effectively, and comprehensively remains a notable challenge. Chatbots, driven by artificial intelligence, emerge as a potential solution to alleviate the inherent complexities of volunteer onboarding. By serving as an interactive interface, chatbots offer the prospect of guiding potential volunteers through the onboarding process, disseminating crucial information, and answering inquiries in a user-friendly manner. This integration has the potential to significantly reduce administrative burdens, streamline the orientation process, and ensure that volunteers are adequately equipped and informed to contribute effectively to Healthserve's endeavours.

Through a comprehensive analysis, this review seeks to shed light on the transformative potential of chatbots in facilitating a more efficient and engaging onboarding process, ultimately enhancing the operational capacity and impact of volunteer-based initiatives within Healthserve.

**Body**

**I. What areas does the HealthServe onboarding slide cover**

The boarding slides cover 3 main segments – Organisational matters, Situational Awareness and Department Specific Content.

The Organisational Matters segment consists of the following segments – About HealthServe, Organisation Structure, Workplace Safety and Corporate Governance. Under “About HealthServe”, we learn that HealthServe was founded in 2006 as a registered charity and seeks to meet the needs of migrant workers in the community. HealthServe’s vision is for every migrant worker to live a life of health, well-being, and dignity. Their mission is to bring hope and healing to migrant workers through the provision of holistic health and social care, advocate for the needs and wellbeing of migrant workers and to bridge communities through meaningful engagement and partnerships. HealthServe consists of 3 departments – Medical and Dental services, Casework & Social Services and Mental Health & Counselling services. “Workplace Safety” covers Harassment prevention, and “Corporate Governance” covers Gifts and Hospitality, Conflict of Interest policy, Personal Data Privacy Policy (discussed below), Confidentiality Clause (discussed below), Whistleblowing Policy and Grievance Policy.

The Situational Awareness Segment, which will be discussed below includes – Dos & Don’ts, Interacting with Clients and Culture Awareness. Lastly, the Department Specific Content covers mental health and counselling services HealthServe provides.

**III. How should one interact with a migrant worker appropriately and respectfully**

Under the “Dos and Don’s” segment of the Onboarding Slides it teaches us the following:   
  
To serve with a smile and communicate clearly and politely eg. using simpler words or a common language. Stay humble and be prepared to help with tasks, no matter how small they are. Be on time. Be appropriately dressed and be mindful that any photographs or videos taken of and with beneficiaries must be taken with permission of the beneficiary. Further, these images cannot be published on any public channels with the use of beneficiaries’ real name - aliases or abbreviated names can be used.

While interacting with the migrant workers we should be approachable and not just focused on tasks. Introduce yourself to the migrant workers. We should also put ourselves in their shoes and focus on the person and the needs they may have. Similarly, we should find common ground and learn from them and try to understand their circumstances. We should show compassion and remember simple acts of kindness, smile and greet the migrant workers in their own language. We should be patient especially if there is a language barrier. As for cultural awareness, we should treat the migrant workers like people and not projects.

In Singapore we pride ourselves as a harmonious, multi-cultural and open society as such as a nation we should feel that it is important to build a shared sense of community with the migrant workers that helped build our nation. Hence, locals can also do our part by reaching out to them by introducing the migrant workers to our Singapore culture and help them adjust to life in Singapore. We should recognise migrant workers’ contributions to Singapore. Many of them are treated as invisible and disregarded by society and have not been given enough credit for their contributions to Singapore. Further, the Pandemic exposed the vulnerability and the poor living conditions of those who live in dormitories. We should grow greater care towards these migrant workers and not shy away from going out to include them in our society.

**III. How should PDPA be handled**

According to section 3 of the Personal Data Protection Act 2012, the purpose of the Act is to govern the collection, use and disclosure of personal data by organisations in a manner that recognises both the right of individuals to protect their personal data and the need of organisations to collect, use or disclose personal data for purposes that a reasonable person would consider appropriate in the circumstances.

The following table summarises the main propositions of the PDPA Act:

| Section 12 | Sets out that organisations must develop and implement policies and practices necessary to meet the obligations of the organisation under this act |
| --- | --- |
| Section 13 | Individuals consent is required when collecting data |
| Section 16 | Individuals may at anytime withdraw consent given in respect of the collection, use or disclosure by that organisation of personal data about the individual for any purpose |
| Section 20 | Organisation must inform the individual of the purposes for the collection, use or disclosure of the personal data on or before collecting the data |
| Section 24 | An organisation must protect personal data in its possession or under its control by making reasonable security arrangements to prevent unauthorised access and risks |
| Section 25 | An organisation must cease to retain its documents containing personal data as soon as its reasonable to assume that the purpose for which that personal data was collected is no longer being served by retention of the personal data; and retention is no longer necessary for legal or business purposes |

From the Onboarding slides, all employees of HealthServe are required to use personal data only for the purpose for which the data was provided for. They are to hold such personal data in in strict confidence in accordance with the Confidentiality clause (discussed below). Employees are to destroy or to return to HealthServe, on demand, any document containing personal data. Regarding the Confidentiality clause, all employees must keep confidential all information acquired by or supplied to the employee during their employment. Employees will not discuss or disclose such confidential information to any third parties.

Further, HealthServe’s Personal Data Protection Notice sets out further instructions for their employees. In HealthServe, they do not collect your personal data unless it is provided voluntarily or collect and use personal data without consent or required by the PDPA or other laws. Healthserve only retains personal data for as long as it is necessary to fulfil the purpose for which it was collected, for their business and legal purposes or as required or permitted by applicable laws.

**Potential Challenges:**One potential challenge in implementing chatbot technology for volunteer onboarding at Healthserve revolves around ensuring transparency in information dissemination. Maintaining transparency in the information provided by the chatbot is crucial to establish credibility and trust among volunteers and staff. Transparency regarding the accuracy and sources of information disseminated through the chatbot interface is essential. However, as chatbots rely on programmed algorithms, ensuring complete transparency in the decision-making process of information delivery might be complex. Balancing the provision of detailed, accurate information while maintaining simplicity in explanations could present a challenge. Moreover, the ability to clearly convey the limitations of the chatbot and its responses might pose an additional transparency challenge in managing user expectations.

Addressing privacy concerns and ensuring robust data security is another crucial challenge when implementing chatbot technology for volunteer onboarding at Healthserve. The chatbot system will likely interact with personal data and sensitive information during the onboarding process. Ensuring compliance with data protection laws, maintaining confidentiality, and safeguarding volunteers’ personal information are paramount. Providing clear information on data handling, ensuring data encryption, and minimizing the risks of data breaches could present challenges, especially in a system that inherently deals with sensitive user data. Managing and securing the storage and transmission of data within the chatbot system while providing a seamless and user-friendly experience could be a complex task that requires continual vigilance and adherence to stringent privacy standards.

Empathy, a vital component of human communication, could pose a challenge in the context of chatbot interaction. In the onboarding process, conveying empathy through an automated chatbot might be challenging, especially when addressing individual concerns or complex emotions. Volunteer onboarding often involves addressing queries, anxieties, or unique situations that might require a sensitive and empathetic approach. Ensuring that the chatbot responses are empathetic and understanding, even in the absence of human emotional intelligence, could be a challenging aspect of the system. Striking a balance between the efficiency of the chatbot and the inclusion of empathetic responses might pose a significant challenge in managing user experience and satisfaction.

**Considerations covering the responsible use and adoption of your chatbot:**

1. **Transparency:**

When communicating with a chatbot it is important for the migrant worker to be aware that what they’re speaking to is an AI doing otherwise will risk moral and social implication. If the migrant worker is unaware that the chatbot is an AI they may place too much expectations on the AI. For example they may confide in the AI about their personal struggles hoping in return to ean empathy from the AI. However an AI only programmed to, for example, book consults for the migrant worker based on the conditions mentioned by the user would be unable to give the appropriate response to the migrant workers. This is but the limitation of AI.

Google Duplex, widely considered the smartest chatbot available in the present, is an AI developed by google to help user book or cancel appointment. The AI was able to give human like responses to questions asked by the person on the other line, including even filler-pauses like um, eh similar to what humans do. However outside these strict confines, the AI struggles in giving appropriate responses to questions like how is the AI’s life, what did the AI eat for dinner today, how did the AI find the weather today. The AI not trained for these situations would naturally fail.

A migrant worker seeking to do the same with a chatbot who is not designed for this purpose would face the result, confusion and disappointment at his misplaced expectations. Informing about the AI’s capability is also an important consideration. Even if the migrant worker knows that what he or she is talking to is an AI, if he/she is unaware of what the AI is capable of doing, the same cycle of misplaced expectations will follow. Therefore informing the other party of the capabilities and origins of what is speaking on the other end, Transparency, should be a top priority.

1. **Privacy**

With chatbots another area to take note of is privacy. Under Singapore's PDPA law’s the party disclosing he/she private information should be made aware of the reason why they require his/her information, the information taken should be stored securely and the information gathered should be destroyed once the purpose is fulfilled. In line with this, before usage of the chatbot, the website would need to put out a prompt notifying that hi/her information is being collected and for the party to consent to the information being collected.

Furthermore the AI itself should have the information not stored under permanent storage. When the information is being fed to the AI, the AI should take the information, process the information and destroy the information at the end of the session. Storing the information anymore would be a violation of Singapore's PDPA act. When this information is still being stored, security should also be a priority to prevent any malicious party syphoning the information in its temporary storage. The information stored should be held in an encrypted fashion with the description being privy only to the AI itself. Doing this would uphold Singapore’s PDPA law.

1. **Empathy**

Lastly the reply from the AI needs to take into account the background situation of the migrant workers who choose to engage with the AI. The chatbot is designed for migrant workers who seek help in their personal or work life. We should therefore take into account that they are most likely in a vulnerable mental state. Many of these migrant workers did not choose to come to Singapore, they needed to. They have children/parents to feed back home and the pressure that is on them is immense. The replies we curate for them should take these into mind.

The replies given by the AI should not include any triggering phrases that could potentially lead to them feeling uncomfortable or attacked. In addition to that we could train the AI to recognise when the person is in distress and tailor a reply to meet in response to it.