The Covid-19 chatbot that saved lives

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In the days following South Africa's first case of Covid-19, WhatsApp chats were littered with doomsayers, mask makers and wildly-priced hand sanitisers. And worst of all, there was a lot of fake news being spread by the well-intentioned yet ill-informed.

Meanwhile, over at Praekelt.org, they were busy using WhatsApp for good, building the Covid-19 chatbot using their social impact product Turn. The WhatsApp-based helpline supports people with Covid-related health queries, and points them in the direction of accurate info if needed.

The bot was picked up by the National Department of Health, the World Health Organisation and various governments including Australia, New Zealand, Ethiopia and Mozambique. So it's no surprise that it was used by a million people in the first three days, and more than 20 million since.

The roaring success meant that they were inundated with requests, and approached sister company Praekelt.com for assistance. While their work to date has involved automation and natural language understanding (NLU) through their AI-powered platform Feersum Engine, it's their exploratory data analysis that made the big impact with the Covid-19 chatbot.

Exploratory data analysis (EDA) with topic modelling and phrase clustering means that conversation logs can be analysed quickly, and modifications can be made if necessary. In this case, however, the data analysis has made a much bigger impact – it has supported effective decision-making in the South African government's response to Covid-19.

EDA – as much as automation and NLU – is an essential component of any intelligent chatbot. Praekelt's Feersum Engine applies these technologies to chatbot services for the likes of DStv, Absa and MTN, using WhatsApp to reach millions of people in their own language at any time of the day or night. The data analysis technology currently being developed allows these companies to get fast and effective feedback from the people using their chatbot services.

After working on many commercial chatbots, Praekelt's Head of NLP and machine learning, Bernardt Duvenhage, relished the opportunity for his team to put their expertise to use in a different way on the Covid-19 chatbot. He said: "It was very fulfilling to see our team apply their experience in exploratory data analysis and machine comprehension to such a worthwhile pursuit."

Exploratory data analysis is not the only technology that has contributed to one of the world's most used chatbots. Response automation, machine learning and NLU have also played their parts.

Response automation

Given the interesting ways in which users choose menu options, this type of automation is incredibly helpful in getting them where they need to be. For instance, whether someone types the word *one*, or punctuated variations of the *number* one, the bot understands the intent behind what they're saying, and responds appropriately.

Machine learning and NLU

Natural language understanding (NLU) allows the bot to have conversations with a user, answering their queries based on frequently asked questions. It provides potentially life-saving information in multiple local and international languages. At the same time, it eases the pressure on call centres, because intelligent automation means we can help more users than is humanly possible.

The Covid-19 service has been made freely available by Praekelt.org and Turn to any ministry of health worldwide.

Praekelt's Feersum Engine is an AI-powered conversational platform that builds Intelligent Assistants with the ability to chat to millions of users in multiple local languages.

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