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Intelligent chat-bot: information delivery system for farming

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This research proposes a chat-bot, which is a question-answering system to provide expert support to farmers to make timely decisions on farming. The agricultural sector contributes 7.5% for the national Gross Domestic Product (GDP) of Sri Lanka and provides employment for 80% of the rural community. However, farming has become less profitable and there is a trend for the small-scale farming community to leave farming. Lack of knowledge on modern technologies of farming is a major problem faced by the rural community. Information is the key for knowledge gain on farming and hence, information is a valuable resource for rural development and can assist small-scale farmers in making timely decisions and taking appropriate actions. Mobile phones and the mobile technology are common among rural community, which is important for information delivery in rural areas and hence, the system is implemented on an online platform. The Dialogflow platform is used to develop and train the chat-bot. The intent is to collect information on what the farmers expect from the system and the data was collected through questionnaires and interviews with farmers and experts. The examples are the different ways the farmers explain intent. The Chat-Bot is trained so that when an example is presented, its corresponding intent is predicted. The Chat-Bot was tested with 100 samples of users' inputs. The inputs were collected from the frequently asked questions in the survey and the interviews. The Chat-Bot answers the questions reasonably well. However, there were some instances that the Chat-Bot failed to provide the correct answer as it does not possess relevant information and hence, it should be upgraded with current information. Accessing right information at the right time is important for the agricultural sector in Sri Lanka. To achieve this end, an online platform was developed which is integrated with a chat room where users can share their knowledge and experience. Furthermore, a Chat-Bot was developed to answer the farmers' questions on their agricultural products, weather, and other environmental factors related to agriculture. As this system is running on an online platform, the users can easily interact with it.

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