Artificial Intelligence-related Mobile Application for Smart Intercity Bus Tracking and Booking System in Sri Lanka

WMNNC Wanninayaka#, DU Vidanagama

Department of Information Technology, Faculty of Computing General Sir John Kotelawala Defence University, Sri Lanka

Abstract. Overall, the bus service is the mode of public transportation that is most frequently used. In particular, in the present situation of Sri Lanka, in a crowded town or city, a bus is the most accessible, most practical, and least expensive mode of transportation. Passengers who are unfamiliar with the timetables and details of the buses may be wasting time, missing the bus, or boarding an overcrowded bus. The best information on existing systems, employed methods, and techniques, Requirements gathering and data analysis techniques such as questionnaires, interviews, and literature surveys are presented, as well as their benefits and drawbacks. The proposed application for intercity bus tracking and booking was identified as the ideal response to a problem area using the aforementioned requirement-gathering methodologies. The best approach to make it available to the users so they can locate the bus and make reservations is through a mobile application. The Quick Response (QR) code technology is used for passenger counting and paying online. The passenger who has logged into the system can pay for a ticket by scanning the QR code. The bus is tracked using the Global Positioning System (GPS) technology. A passenger can track a preferred bus and reserve seats by choosing destinations. Artificial intelligence (AI)-based camera technology is used to count passengers. The technology can assess whether a passenger has seated or not a seat by estimating the distance between the camera and the seat. The development of this app uses tools like Google Firebase, React, and React-native.

Keywords: *Quick Response (QR) code, GPS, Artificial Intelligence (AI), Mobile application*