

Implementation of Agent-based Smart Parking using IoT

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Abstract: With the day-by-day increase in the number of automobiles on the road worldwide, numerous cities and towns face parking problems with drivers frequently spending the maximum of their time before looking for a place to park. This document presents an agent-based model for a smart mobile parking reservation system for the situation mentioned above. The system considers the position of the wheelman and the speed at which his vehicle is moving. It calculates the most suitable and accessible parking place for him based on the location he wants to go, his destination arrival time, and the parking price he wants to pay. The system is modelled using an agent-oriented approach, whereby each agent tackles a specific challenge. Like, the model proposes seven different agents, assigned specific tasks and working without each other in order to help move a wheelman to a parking place. One of the main benefits of this model is that it considers the wheelman's destination arrival time among other factors when allocating parking places. It also takes into account the analytics for parking place allocations to get on with the allocation process.

Keywords: Smart parking system, Agent-based modelling, Agent-based parking systems, Internet of Things, Smart Devices, Raspberry Pi

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