A new generation of RFID-Radar system provides a function of detecting the targets’ locations with the measurements of range and angle by using a reader and an antenna array to transmit and receive the RF signals. It enhances the application value for RFID combined with the geo-spatial information. In this study, an information system embedded with a plane coordinate detection function has been developed by using the spatial data provided by the RFID-Radar system, in order to expand the application of indoor locating and meet the requirements of the inventory management. The in-house developed management system is capable of providing the target’s location detected by the RFID-Radar system and realizing the target’s spatial movement occurred between the two detecting epochs through a designed GUI (Graphical User Interface). The system has been tested to show an internal precision of 0.7 m for locating and effectively demonstrate the functions for detecting target’s movement and archiving the inventory’s management information with a database.