ePark – The 21st Century Family Fun

Client's Story

ePark is a fully computerized theme park, comprising a large number of exciting rides, some of which are defined as "extreme". All the rides are connected to a central control computer through a wireless network.

A child, arriving at the park with an adult guardian, registers and receives an electronic brace, to be worn on the wrist all the time. The brace serves both as an electronic ticket (eTicket) for the rides and as a means to indicate the location of the child in the park at any time. The child's age and height are recorded and loaded onto the eTicket, for ride entrance approval.

The guardian "recharges" the child's eTicket by purchasing entrances to the various rides. This is done using a password which the guardian receives upon registration.

A child may enter a ride only when all the following conditions are met:

- Her electronic tickets contains a valid entrance to the ride
- She conforms to the minimum age and height constrains of that ride
- Her time limit has not expired
- The ride is in active and is standby for use.

In addition, an explicit guardian's prior approval is needed for each extreme ride.

The child can independently enjoy the park, while the guardian can monitor her activities, as described below, through the ePark's internet site, from anywhere. Alternatively, the guardian may stay at the ePark Café, using one of the guardian online workstations over the ePark's wireless network. The ePark map is displayed to the guardian and the child's icon, is shown on the map, updated every 30 seconds. One guardian may register and control more than one child. In this case all the children under his control are shown on the same map, by different icons. Double-clicking a child's icon will open the child's eTicket screen, in which the guardian can purchase or cancel entrances, limit the child’s time, approve extreme rides etc. When the child's time limit has expired, a warning is displayed on the guardian's screen. The eTicket status is updated every time a child enters a ride.
A supervisor monitors and controls the entire park activities using a dedicated workstation, which is directly connected to the central computer. The supervisor is constantly updated about the status of all the rides in the park. The supervisor can define new rides and control the rides' parameters, including age and height constraints, capacity limit and activity (e.g. activate/deactivate rides according to forecasted use). Use 2-hour forecasting is displayed to the supervisor, based upon the total entrance purchasing. Every ride has a self-testing mechanism, which can change the ride's status automatically to out-of-order. Changing a ride back to in-order is done manually by the supervisor. Every change in the rides' status will be reported immediately to all on-line guardians.

A ride can be in-order or out-of-order, an in-order ride can be active or inactive, an active ride can be in standby or running. Each ride has an entrance gate and an exit gate. A ride starts up in standby mode with its entrance gate open and its exit gate closed. Children enter the ride through the entrance gate, which remains open for 5 minutes, or until the capacity limit of the ride is exceeded. Then the gate closes automatically and the ride is running. When the ride is over the exit gate opens automatically and the ride enters into standby mode. The system confirms that everybody exited the ride before closing the exit gate and opening the entrance gate. When the self-testing mechanism of the ride indicates a fault the ride stops automatically, the exit gate opens and the supervisor is reported accordingly.

A monthly report, which is produced for the ePark owners, contains statistics of use, income, ride load balance, returning visitors etc.