Car parking system

Manual
- **Requires staff to operate the booths**
- sick days
- annual leave
- emergencies
- toilet break
- lunch break, smoko
- staff -car breakdowns on the way to work
  - late because of traffic congestion
  - late due to some "event"
- staff -opening the carpark or locking it after hours ?

- public holidays –still needs to be operational

- staff safety/security considerations
  - car exhaust fumes, requires fresh air supplied to the booth
  - patrol the carpark looking for undesirable people lurking, if so what happens
  - abusive customers
  - female staff after hours

- staff rostering for staff rotation (more than one person is required)
- staff **salary, taxation, unions, employment conditions, safety, HR,**
- after hours usage
  - free to all as no one is there to manage tickets. Traffic arm is UP

Human error
Incorrect fee charged
Incorrect change given
No knowledge of how many spaces are left free

Are there Reserved-parking-spaces for special clients (company paid in advance)
  - reserved ?

- **Tickets**

Handling Money
Cash on premises might make the booth a target for robbery
Need a safe place to keep the money (till, metal canister, ?)
Need to have eftpos available

Potential to cheat the system

Stake holders
- Private company owned, "FARMERS" or open to all
  - Private, constraints (you must buy something from farmers to get free/reduced parking)
  - The Owners of the car park (private company)

- City council as "owners" therefore it is public parking
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Tow Truck callouts

Humans to react to emergency situations
Car breakdown
Someone falls, breaks a leg…
Someone is always on-site (security)

Uniforms or a dress code

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Automatic system

- no staff (no Human issues)
- operates 24x7
- electronic system records all vehicle activities
- electronic data collection available
  - (for data processing to find usage rates, traffic volumes, times etc)
- enables the discovery of "average usage" to enable estimation reliable income.
- The system may be rented/leased or sold to the carpark-building company
- The system may be copied and rented to many buildings across NZ
- Keep a live record of how many cars are parked
  - (to know when the place is full, how many spaces are left)
- Requires electricity to work, battery backup system
- Should send an email is the system fails (auto fail-safe mode)
- Reserved-parking-spaces for special clients (company paid in advance)
  - What are the requirements for emergencies

Software requirements
Software interface for carpark users, (needs to be easily understood and user friendly)
Icons, touch sensitive screen? Or keypad numbered options ?
Minimum of functions and options
Error checking for incorrect entries
Create /print entry ticket
Barcode unique id for every user (time based code)
Read the entry ticket (timestamped) and calculate elapsed time.
Calculate the charge for the time elapsed
Manage the money handeling
Coins, notes, change calculation, (do you allow physical money?
Bank Card comms

Other software requirements ???...