Technology:InternetofThings Name:: Aishwarya.J

Register Number:210521205005

Title:SmartParkingproject

**Phase2: Innovation of Smartparking**

Technology is the digital age. Since the invention of the microchip in 1958technology has been on the rise to facilitate our way of life and living. Thefoundationof this innovation is*data*.

Dataisourdigitalfootprint,ourbreadcrumbtrail.Tomakeadvancements in

ourdigitalinnovations–toimproveourcitiesandlifestyles,datais:

* Collected
* Mined
* Analyzed
* Applied.

# Smartparkingsensors

Theideaissimple:installsensorsthroughoutthecitythatcommunicatewithanapptohelpdriversfind freeparking spots.

The realization, not so much: the ground needs to be dug up to install thesesensors.**Innercityconstructionisnotoriousforcreatingtrafficbacklogs.**The

project will also *reduce* the number of available parking spaces during construction.It’s a project where the visionaries need to think in the long run. **Focus on theoutcomeratherthantheprocess.**Thelocalcouncilwill needtocreateacampaigntonotify thepublicabout the projectedplanandobjective.

MajorcitiessuchasSanFrancisco,Singapore,andBerlinalreadyemploythistechnology-thepioneersofsmartparkinginnovations.

# Parkingapplications

Freeparkingapps area*dreamcome true* forallcarowners.Themajorapps availableoffer:

* Spaceavailability
* Spacereservation
* Reservationinadvance
* Flexiblereservationtimes
* Paymentoptions -in advance
* Top-uppaymentoptions
* On-street,public,andprivateparking spaces
* Times-upreminders

# Stackedparking

Double-decker parking solutions do just that–double your parking space. Theirtechnologyusesa simpleelevationfunction.Whenyoufindyourspot,youdriveontoaramp.Whenyou exityourcaryou canflip a lever forthe rampto raise.

## Thisfreesupaparking spaceunderneath.

Thedownsidetothisisahigherlevelof*organization*.For employers,it’sbesttoallocate parking spaces so those who leave later park first. This allows a smoothtransitionforcarowners who leaveearlier.

Theseoptionswork bestfor:

* + Cardealerships
  + Mechanicworkshops
  + Ferry crossings
  + Privateresidences
* Robotvalet parking(moreonthisbelow)

Theconceptionisindeedsmart,buttherealizationcanbetricky.Theonusistofirst *identify* your need, *evaluate* the current parking timings, and *proceed* to choosethebestsolution.

# Subterraparkinglifts

This smart parking solution is designed with homeowners in mind. After you parkyour car in your garage and exit it, **your car is lowered to a subterranean space**.Manyprivatehomescomewithbasementsandundergroundgarages.Storeyourcarshere, choose which one you prefer to drive, mount the lift and drive away without acongesteddriveway.

Also popular with inner city parking garages. Employing *automated parking valets*,theycan nowutilizeundergroundspacewithoutneedingtospendtoomuchonhumannavigation.

Yourcarwillbeautomaticallytransportedtoanavailableparkingspotunderground,possiblytiered, optimizingspacetothe max,butmoreonthatbelow.

# Reduced feesforEVs

**This innovation for smart parking promotes the use of electric vehicles.** Anobjectiveforsmartcitiesistoreducecarbonemissions.Therefore,itmakessensetoofferlowerparkingrates forEVs. Smartmove.

InconjunctionwithsmartparkingappsanddesignatedEVchargingstations,youcanbraveinnercityparking with yourEV.

Ifyoudon’tneedtochargeyourcareachtime youparkit,youcanapply foraresidential parking permit at a *reduced cost*. There’s no one price however, itfluctuatesdependingon localcouncils,butdefinitelyworth lookinginto.

# Robotvaletparking

According to IEEE, Robotic Valet Automated Parking Systems(APS) is a viablesolutiontotheparkingproblem.Designedinitiallyfordedicatedparkinglots,**the**

## automatedparkingservice savescarowners timeandgaslookingforavailablespace.

Whenyou enterthelotyou driveyourcaronto asortofloadingdock.Withthe helpofan app,you canleaveyourcar and lettheroboticsdo therest.

The dock automatically transports your car to the nearest free space. This reducesaccidents,savesspace,canuseparkinglifts,and booststheoverallefficiencyoftheparkinggarage.

In the unlikely event of any mishaps, the services of a dedicated car accidentlawyerarereadilyavailabletoprovideexpertguidanceandsupport.

# Solarpanelsparkingshades

Source

Marrying smart parking and renewable energy, this innovation is just the tip of theiceberg.Foroutdoorparkinglots,installingsolarpanelsasshadesoffer thefollowing:

* Parkingsafefromdrastic weatherconditions
* Reducedopportunityforbirddropping todirtyyour car
* Productionofenergywhileoptimizingspace

**Lotowners canfeedthe energy backinto thegrid andbenefitfromlocaltaxcuts.** Or, if the parking area is operating an APS they break even with energyconsumption.

These schools in California benefitted from reduced electricity fees for up to 20 years.Smartparkinginnovationatitsfinest!Anditinstillsasenseofgreenforward-thinkinginthe students too toboot.