Format of application for INNOVATION AND PRODUCT DEVELOPMENT	
ApplicationNumber: (For Office Use)	Received on:
1.Applicant (s) details	
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District:	Thiruvallur Taluk & District
Contact No.:	6369391539
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Nationality	INDIAN
2.Title of the Innovation	**Smart parking center**
Field of Innovation	**Automation parking center integrated with mobile and web application**
When and Where the invention was developed:	
Whether the innovation is made out of TNSCST funded project:	NO
3.Have you approached any other institution for this innovation and its development? (If yes, provide details and outcome):NO	
4.Patentability of the proposed innovation:	
i) The Innovation is an addition to the existing product/ process:	NO
ii) The innovation is a modification of the existingproduct/ process:	NO
If yes, provide details of the existing product/ process:	

iii) The innovation is entirely new/ novel:	YES
iv) Whether the proposed innovation contains an inventive step:	YES

If yes, provide the technical advancement and/or economic significance of the innovated product/ process:

The smart parking application is collectively implemented in following modules:

- Navigation map
- Parking center with charge stations
- Car parking with lift
- Automation car parking with sensors
- Flexible payment method
- 3D view, AR parking design and signaling.
- Pollution based parking charges
- Lock based parking with QR code for long hours with applicable charges.
- Special parking and charges for premium vehicles.
- Missing vehicle reduction
- Insurance based parking charges
- Parking card facility with monthly/yearly recharge(for cashless parking)
- Robot parking facility for specially abled people
- Vertical parking
- Integrated with web and mobile application to pre book/cancel the parking slot with applicable charges.
- High revenue to the government economically.

A single database stores information regarding parking areas, users and their reservations.

v) Whether the proposed innovation is capable of industrial application:	YES

If yes, provide details of industrial applicability (capable of being made or used in an industry):

Mechanical arm with QR code
Sensors and signaling
Robots
Parking recharge cards
AR parking design equipments
Surface mount sensors
Digital guidance

5.Complete Specification

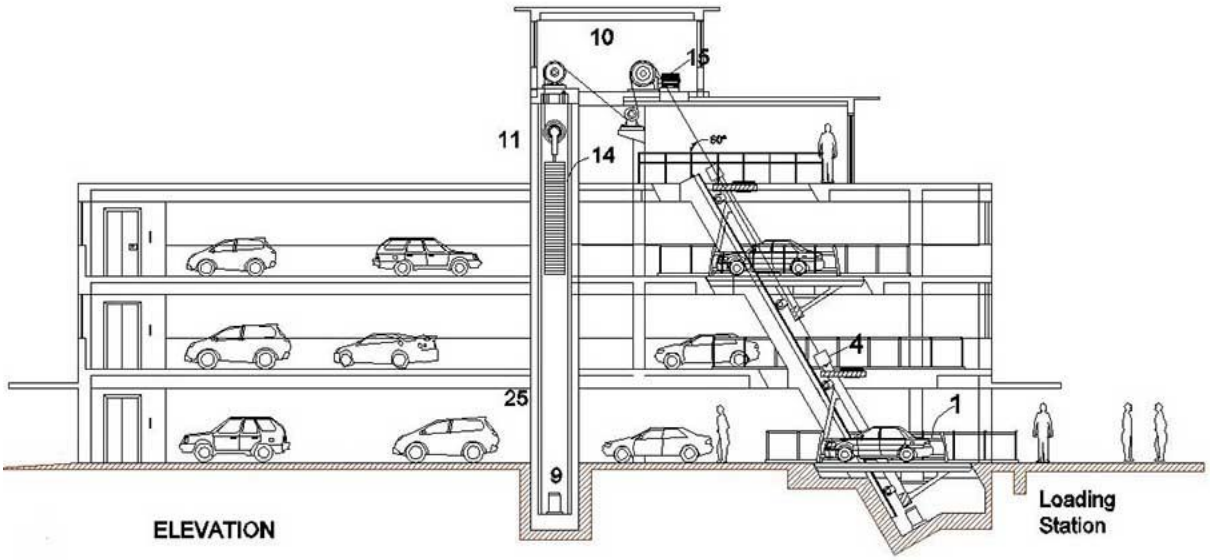
i) **INTRODUCTION**

Motivation:

The increase in city traffic is one of the major effects of population growth especially in urban areas. Due to this searching for a vacant parking area during peak hours is not only time-consuming but also results in wastage of fuel. The drivers keep searching for suitable parking lot which leads to increase in traffic. Increasing volume of vehicular exhaust creates a negative impact on the environment. Hence to serve the purpose, development of the smart parking centers has become the need of the day.

	Brief Description of your Innovation:
	
	The Smart Parking centers aims at helping users to find the most suitable area for parking, make reservations and extend them, if required. It enables parking administrators to define and manage parking spaces as well as enables parking operators to authenticate users against their reservations when user enter the parking area. Users access location based information and request system services via mobile applications and parking operators verify reservations via mobile applications whereas parking admins may manage the parking area details via a web application.Smart parking helps one of the biggest problems on driving in urban areas; finding empty parking spaces and controlling illegal parking.
	
	OBJECTIVES:
	• Online bookings to recreational activities
	• Online parking availability
	• Navigation map
	• Automated parking center
	
	ARCHITECTURE OF PARKING CENTER:
	
	The CHENNAI city is recommended for smart city, which includes all the facilities like tourism, commercial complexes, institutions etc. The traffic scenario is changing from day to day. All these facilities leads to the traffic congestion and efficient need for parking. To avoid this problem we suggest the design of “Multi-storey parking” at crowded areas such as Marina beach,Tnagar, Srirangam, Kanchipuram etc.
	To control parking problems we suggest multi story parking system in these places. This multi storey parking enables the parking of vehicles, floor after floor and thus reducing the wastage of space. For example: we can provide parking for more than 100vehicles. In order to determine the requirements of such parking system, we can design the parking center of G+3/ G+2 floors.
	
	MOTIVATION POINT:
	• Revenue to the app administrator
	• Law and order maintenance
	  • Pay on hourly basis, if vehicle is parked for more than 12 hours then that vehicle will be moved to stored room which will be availed only if they pay rent with fine
	  • Penalty will be charged if the vehicle is not parked in the allotted parking center.
	  • In case of any missing complaint on a particular vehicle, it will be blocked in the parking center and will be registered as a missing vehicle case.
	• Systematic governance
	• Hassle free for public parking

ii)	Include Diagrams (With proper labeling and brief description &example : diagram showing technical implementation , system architecture of any other diagrams, attach separately if need)



3D VIEW:

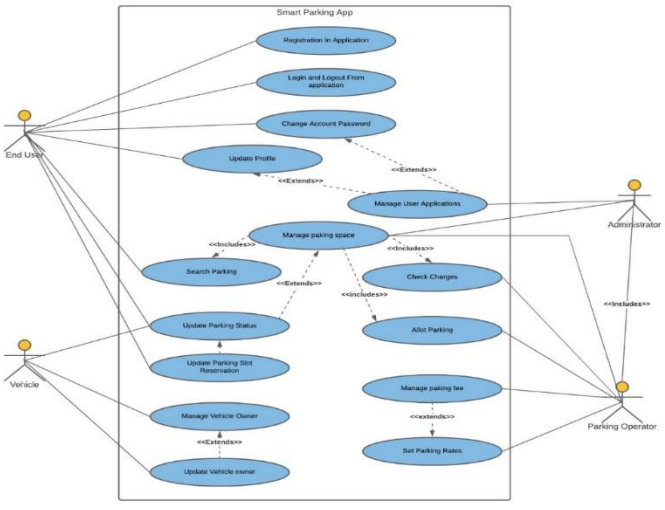
SOURCE: [Fully Automated Parking Solutions: Space-saving systems with superior user experience | ArchDaily]

iii)	Any Experimental Results Available? If yes, attach	NO

iv)	What are the advantages of the present innovation over existing technologies? • Optimized parking • Enhanced user experience • Integrated payments and POS • Decreased management costs
v)	Unique feature of the invention: • Automated parking system • Separate floor allotment based on type of the vehicle • Different charges for different types of vehicles • Less man-power to maintain the parking zone • Environment friendly • Management of parking supply • Controlling illegal parking • Integrated web and mobile application. • Cost effective • Easy to use • Highly available • Entire Parking and billing can be automated from customer's perspective. • Real-time data collection. • Mobile-phone-enabled automated payment system General advantages: • Reduce vehicle missing • Pay on hourly basis • Charges will be differ based on vehicle type,cost, insurance availed.

6.	Indicate the current Status of the innovation:	in-progress
7.	Is any traditional knowledge involved (example usage of ayurvedic / siddha / unani knowledge)	No
8.	Details of commercial value of the innovated product/ process	

EQUIPMENT	**QTY**	**COST**
Parking Recharge	1	Rs. 1000
Sensors	1	Rs. 5000
CCTV Cameras	Depends on Parking Center Area	Rs. 1000 (1 pc)
Sensor Detectors	1	Rs. 5000
Robots	1	Rs. 30000
Surface Mount Sensors	1	Rs. 10000
Mechanical Arm with QR Code	1	Rs. 5000
AR Parking Design Equipments	1	Depends on size Expected (Rs. 10000)
TOTAL		Rs. 67,000 .

9.	Have you identified/ approached any potential investor/ assignee for commercialization of the innovated product/process?	No
10.	Other details, if any attach separately USE CASE DIAGRAM OF AUTOMATED PARKING SYSTEM INTEGRATED WITH MOBILE AND WEB APPLICATION: 	

I / We certify and declare that all the information provided above are true and correct to the best of my / our knowledge and belief
Signature with name
Signature of Head of the institution With seal
Date:
Place: