

PROBLEM STATEMENT	ID	DESCRIPTION	ORGANIZATION
Job recommender system. To design a software application for assessing the abilities of a student with respect to employability.	S1	<p>At present efforts are made to revise and upgrade the curriculum by the AICTE to train the students to cater to industrial needs. But there are several factors that prevents the students to reach their zenith and harness their skills as below:</p> <ol style="list-style-type: none"> 1.Socioeconomicbackground of the student. 2.Peer influence 3. Addiction to cell phones and social media. 4. parents pressure to join a course in which the student is not interested. 5. lack of strong foundation in the fundamentals. 6. General prevalence of Learning Disability. <p>The current metrics of CGPA, certificates are not enough to accurately assess the capability of a student. many students are sacked from the company after one or two years because they are not happy with the performance. Exact Problem: Every individual has an inherent ability /talent. if only he/she gets a job suiting the skill set the goal of AICTE will be achieved.Higher productivity will be there and youth power has a major role to play in a Nation's growth . Economy will improve. The proposed software should identify the skill set and assess the capacity of a student. It should recommend the suitable candidates against a requirement from the industry</p>	GOVT OF PUDUCHERRY

PROBLEM STATEMENT	ID	DESCRIPTION	ORGANIZATION
<p>Crop Guidance and Farmers Friend •</p> <p>Problem Title : Helping the farmers in terms of Crop suggestion, precautions based on the met department forecast of rain fall / weather, potential pest attacks , weather warnings etc</p>	S2	<p>Crop Guidance and Farmers Friend</p> <ul style="list-style-type: none"> • Problem Title : Helping the farmers in terms of Crop suggestion, precautions based on the met department forecast of rain fall / weather, potential pest attacks , weather warnings etc. • Problem statement in Description o System that provides details to farmers on weather patterns that could impact the crop , possible pest attacks , weather warnings o Steps for producing high yield that are specific for a farmer based on the local, regional terrain , weather scenario , rather than generic guidance o Helping the Farmer to be well prepared if there is a pest, insect attack o Better Farmer Financial Inclusion for planning out loans , interest and managing his costs • Purpose of this analysis and who will benefit o Farmers, Pesticide firms , Govt agencies helping farmers , Agriculture loan banks • How does it help the nation o Better crop produce and farmers have better income o High Yield and prescriptive guidance • Practical and reasons why this idea could be a challenge o Working with the larger teams like Govt Agencies, Brokers, Chemical Factories producing medicines, pesticides o Single Owner driving and investing in the product o Famers basic digital divide to access such information • How does this help CDK : What's in it for us o Limited usage from this scenario • Domain Bucket o Agriculture • Technology Bucket o Integration across systems – Integration platform across systems with security model for data extraction o SMS and Mobile Computing o 	CDK GLOBAL

		Analytics & Data Science (if possible) - Bigdata/Hadoop, AI / ML o Data Aggregation o Visualization	
PROBLEM STATEMENT	ID	DESCRIPTION	ORGANIZATION
Data analytics to provide complete solution for groundwater management for the country	S3	Groundwater is the major source of freshwater for drinking, irrigation and industrial purposes and has always been a hidden treasure because of its dynamic nature. The health of the groundwater system is reflected in the groundwater levels of the region. There is a need to develop a robust application to understand the groundwater scenario and its resources of the regions. Representative groundwater level data needs to be analysed using statistical and arithmetical solutions along with the groundwater resources of the country to identify the blocks/district/state which has been critical compared to previous decade	CENTRAL GROUND WATER BOARD
PROBLEM STATEMENT	ID	DESCRIPTION	ORGANIZATION
Disasters act as a shock to density. Considering the Cities of tomorrow, what should be done?	S4	Various kinds of disasters such as earthquake, wildfire, flood, heatwave, Tsunami, fire, hazardous material spills, disease outbreaks, etc. cause life as well economic losses. We are looking for a software solution which would be useful in disaster management. Objectives for the solution are: (1) Facility for real time tracking of disaster (2) Facility for updating disaster related information and sending precautionary messages by authorities. Additional features for solution are welcome.	MINISTRY OF HOUSING AND URBAN AFFAIRS

PROBLEM STATEMENT	ID	DESCRIPTION	ORGANIZATION
Anti Theft Systems for 2 wheelers	S5	The participating teams are required to come up with a system that doesn't allow tampering with ignition systems of 2W and also prevents fuel theft etc. The system needs to warn the owner about the tampering of the 2 wheeler ignition key/fuel knob etc. when the parking mode is ON. The teams shall develop a mobile application for warning the user/owner. The vehicle should not start when the ignition key switch is tampered with. If the vehicle is lifted during parking mode, the app should alert the user/owner through the app and also track the vehicle. The system should have the following features: Tampering detection tampering of ignition wire attempt to siphon fuel attempt to lift vehicle attempt to start vehicle without key App/mobile warning system GPS tracking of vehicle	ARAI
PROBLEM STATEMENT	ID	DESCRIPTION	ORGANIZATION
Detection of Malicious Content/Web Links related to Cyber Frauds	S6	<p>Typically, malicious links are used to lure a victim into clicking through to a payload that is hosted on third-party sites rather than the malicious content being directly available from the social media platform. One-click exploits such as those used for account takeover could easily be distributed via social media and, when clicked, could exploit the victim in terms of profile takeover or misguiding users for fake advertisements.</p> <ul style="list-style-type: none"> Desired Solution: The solution will detect malicious links and its origin signature (first uploaded person-profile URL, name, email, number etc.) on a real time basis and provide advisory report to the public and corresponding agencies about those links source credibility. 	BUREAU OF POLICE DEPARTMENT

PROBLEM STATEMENT	ID	DESCRIPTION	ORGANIZATION
Portal for Farmers to sell the produce at a better rate	S7	<p>Portal for Farmers to sell the produce at a better rate</p> <ul style="list-style-type: none"> • Problem statement in Description o System that provides farmers an interface to sell their produce , and connect with the buyers all over India o Simple interface that works on mobile, SMS to upload produce details and respond via phone and SMS (taking care of digital divide) o Interface for anyone to buy the produce/vegetable – initially visit the place and buy or have courier service integrated to deliver the vegetables o Farmers can get a better price for their produce, no additional cost spent in marketing and delivery of goods , however they can choose to charge more by delivering the items themselves • Purpose of this analysis and who will benefit o Farmers, Restaurant owners, Buyers , Courier Companies, Delivery Agencies, Vegetable Vendors • How does it help the nation o Better rates for the vegetables, Make the Farmers live with pride and make additional income • Practical and reasons why this idea could be a challenge o Brokers , Govt rules o Overall profitability in the deal for the buyer to purchase directly from farm , excluding transportation • How does this help CDK : What's in it for us o No Direct link • Technology that can be used as a platform for connecting car buyer to Seller Domain Bucket o Agriculture o E-Commerce o Payment • Technology Bucket o Integration across systems – Integration platform across systems with security model for data extraction o SMS and Mobile Computing o Analytics & Data Science (if possible) - Bigdata/Hadoop, AI / 	CDK GLOBAL

		ML o Data Aggregation o Visualization	
PROBLEM STATEMENT	ID	DESCRIPTION	ORGANIZATION
How to prevent cheating in exams?	S8	Develop an integrated system which can help in preventing cheating in examination. Use CCTV recordings to automatically detect cheating in the exam hall and mark them for review.	CBSE
PROBLEM STATEMENT	ID	DESCRIPTION	ORGANIZATION
One Nation – One Citizen – One Pension – Identify citizens receiving multiple benefits like pensions under different schemes of the centre and state, such as NPS, NSAP Schemes, PMSYM and State level schemes	S9	Currently there are multiple programs through which a welfare scheme such as 'Pension' is being disbursed to eligible citizens across the country. Many of these overlap and the citizens get the benefits through multiple sources for the same purpose such as 'Pension'. In addition to all this, there are a number of citizens who are deprived of such welfare schemes and hence there needs to be a innovative approach to address such issues. As per the Census 2011 data, out of 24.3 Crores households, 10.69 Crores households are considered as deprived, while through NSAP only 3.26 Crore beneficiaries are covered. Likewise, it is imperative to look at other welfare schemes and ensure all the deprived are brought into the bracket. Sample Data Required: Yes	Ministry of Rural Development
PROBLEM STATEMENT	ID	DESCRIPTION	ORGANIZATION
Mobile game for Alzheimer's Disease detection	S10	Alzheimer's disease is a type of dementia that causes problems with memory, thinking and behavior. Symptoms usually develop slowly and get worse over time, becoming severe enough to interfere with daily tasks.	Healthcare & Biomedical Devices

PROBLEM STATEMENT	ID	DESCRIPTION	MINISTRY
Soldier Strap	H1	“The soldier strap will be given to soldiers and it will have following functionality. 1) GPS location of the soldier. 2) To monitor and record as many as vital body parameters . 3) SoS facility. 4) Sufficient Battery Life. 5) Should support location timeline. Security becomes very important in such straps. Such a strap should transfer information by using a MANET-type communication system. It should access public network only when no node is available in immediate vicinity and only in case of emergency”.	SUSTAINABLE DEVELOPMENT
Landslide monitoring through drones	H2	“The severity and impact of disasters are increasing both in terms of magnitude and frequency causing enormous loss of life, property thus affecting severely GDP and development. The risk of landslide is increasing everyday due to large investments in infrastructure and ever increasing human habitation in moderate to high hazard mountainous region due to strategic as well as socio-economic reasons. Thus landslide hazard mitigation has emerged as one of the top-most priorities of the country”.	ROBOTICS AND DRONES
SOLAR POWERED SMART IRRIGATION SYSTEM (ELE / ELEC/ ELE+ELEC)	H3	“Cost effective solar power can be the answer for all our energy needs. Solar powered smart irrigation systems are the answer to the Indian farmers who generally face the problem of frequent power cut or non-availability of grid supply. This system consists of solar powered water pump along with an automatic water flow control using a moisture sensor. It is the proposed solution for the present energy crisis for the Indian farmers. This system conserves electricity by reducing the usage of grid power and conserves water by reducing water losses”.	AGRICULTURE
Ministry of Housing and Urban affairs	H4	"Some cities have public transport, some are in process of adding them. What can be done to make public transport attractive and encouraging more and more people using it? What can be done about the last mile connectivity from the available public transport? Design a smart application to help people track and accurately predict the timings of public transport. Add ability to track parking slots near public transport. Design cost effective hardware devices required for the same purpose."	HOUSING AND URBAN AFFAIRS
Solo IOT devices to capture video and audio evidences	H5	." Project intends to develop various IOTs devices to camouflage CCTV system. It may look like display board forpublicity. It will have various IR lights to illuminate and capture in nights. It should have following features: -Display System (for advertisement or name board) - Wi-fi/ internet connectivity - Multiple systems may beconnected through blue tooth - Remote Joystick to fine tuning and focusing on target persons or things)".	SECURITY AND SURVEILLANCE

Remote Monitoring of the Quality and Portability of Drinking Water Sources	H6	<p>“Uttarakhand state blessed with major water resources including large riverine system with its tributaries. In spite of the plethora of water resources, the people of the state are facing the problem of safe fresh water due to slope factor, management issues, urban conglomeration, deforestation and other environmental factors. It is essential to know the quality of water before its consumption for human and agricultural uses. Continuous monitoring of the water resources can also help in predicting the flood chances, if the water level rapidly goes up. Design a hardware solution to measure quality parameters of water along with an app to enable monitoring of water quality at various locations. Ensure that it is easy to use and connect to mobile device”.</p>	SECURITY AND SURVEILLANCE
Way Out for Man-animal conflict especially for protection of agriculture crops from wild animals (ELE/ ELEC)	H7	<p>“The effects Low prey density in the forest due to natural or man created situation, deforestation and human intervention causing animals migration towards the human habitants especially in the area which comes in forest territory. As per the survey report of FRI Dehradun, Uttarakhand, The state Uttarakhand recorded forest area of 38,000 Sq km which is 71.05% of its total geographical area of 53,483 Sq km which is largely facing the real issue of Human — animal conflict. The animals are crossing the borders and destroying the agricultural crop of small and marginal farmers in hilly areas of Uttarakhand. A published report of "wildlife management, Uttarakhand forest government of Uttarakhand" reported that the rate of human — animal highly being seen during cultivated time. The highly encountered wild animals at this time are — monkeys and wild boar, they destroy the agriculture cash crops such as — Rice, Pulses, wheat and vegetables etc. The issue is raising agricultural disinterest amongst small and marginal farmers and directly impacting their livelihoods. To sustain interest of small and marginal farmers in hilly areas of Uttarakhand, require technological intervention for protection of their agriculture crops from wild animals”.</p>	MAN AND WILDLIFE
UAV's for Disaster Identification and alerting System	H8	<p>“UAV's for Disaster Hardware When disasters happen, whether a natural disaster like a flood or earthquake, Identification etc. It can be extremely dangerous to send first responders in, even though there Alerting System Software are people who badly need help. Drones are useful, and are helping in the recovery after the disaster, most require individual pilots, who fly the unmanned aircraft by remote control. That limits how quickly rescuers can view an entire affected area, and can delay actual aid from reaching victims. Autonomous smart drones with integrated image processing APIs that have a longer flight time and can relay real time analysis of images to remote locations will help in early detection and adequate mobilization of resources”.</p>	DISASTER MANAGEMENT

Network connectivity in remote areas	H9	<p>"1. Rashtriya Mahila Kosh (RMK), established as an autonomous body in 1993 is a national level organization under the aegis of the Ministry of Women and Child Development, for socio-economic empowerment of women. The operating model currently followed by RMK is that of a facilitating agency wherein RMK provides loans to NGO-MFIs termed as Intermediary Organizations (IMOs) which on-lend to Self Help Groups (SHGs) of women. These micro-credit loans are provided to women micro-entrepreneurs in both rural & urban areas, organised in Self-help groups (SHGs) / Joint lender groups (JLGs). . 2. Eligible Intermediary Organizations (IMOs) are Non-Government Organizations (NGOs), Section 8 Companies registered under Companies Act 2013, Urban / Rural Women Co-operative Banks, Co-operative Societies etc. 3. Network connectivity in remote areas – The women beneficiaries (i.e. women micro-entrepreneurs) are not able to access various online services offered by banks, opening of account is delayed, access to email, information of various Government policies /incentives. Solution should also work with 2G mobile network".</p>	RURAL DEVELOPMENT
Intelligent Scanning System (Non invasive checking of passengers and their luggage at access points)	H10	<p>"Existing practice: • Random checking of passengers is done at access points using DFMD and HHMD • Random checking of passengers' luggage is done by baggage scanners Problems: • No comprehensive checking. Passengers have to stop for checks causing congestion. • Pat down checks intrude on privacy. Solution required: • A cost effective non invasive profiling equipment with artificial intelligence tools is required so that people do not have to stop for getting checked".</p>	RAILWAYS