1. Swasthify

Swasthify centers around improving public health and wellness. Participants are encouraged to create innovations that enhance access to healthcare, promote healthy living, and address healthcare disparities. Create a health management system or platform for the health and wellbeing of people.

Problem Statement 1: Health Preventative Services

Problem Statement: There is limited preventive health care and services to promote optimal health and wellness, and avert worsening of sequelae for children and adults with disabilities. Across the healthcare continuum, integrated approaches are needed to simultaneously address the many risk factors and conditions, as well as the medical, functional and societal limitations including determinants that influence the health and wellbeing of persons with disabilities.

To effectively and equitably address the disparities in the continuum of care, cross-cutting and integrated strategies can include epidemiology and surveillance for early detection and prevention or to inform needed programs,environmental and community approaches to promote health, support healthy behaviors, including wellness centers to promote healthy lifestyles and intervention that reduces barriers to care and improve the effective use of clinical and preventive services for persons with disabilities. This also means increasing full participation in the community, by reasonable modifications of policies, practices, and procedures.

Some additional related examples:

- Health promotion and wellness facilities that facilitate healthy living, optimal functioning and effective coping strategies.
- How to make sure that services needed to create a healthy life are studied. For example, gyms that support disability exercise do not exist. Especially in rural areas, people with disabilities have difficulty getting places.
- Need for behavioral health and mental health services
- Need for evidence-based health transition programs for youth with disabilities
- Research on disparities and health outcomes among persons with disabilities with poorer outcomes

Problem Statement 2: Public Health and Surveillance

Problem Statement: There is a need for better surveillance methods or tools in public health to measure and track prevalence of disabilities and untangle congenital, acquired, and disability derived from chronic conditions.

The American Community Survey adopted disability identifiers are helpful, however; since disability is a complex construct, additional identifiers are needed to inform research and promote scientifically sound interventions. Public health and policy professionals need to consider initiatives that will help reduce disability-related health disparities.

Other related issues

- Infuse disability populations into federal initiatives on health and public health consistently and meaningfully. For example, the Surgeon General's Call to Action on Walking and Walkable Communities does not include the population of people with disabilities in the goals and recommended action steps, but does refer to disability as a negative health outcome to avoid.
- Examine morbidity and mortality differences between different groups (income, ethnicity) in people with and without disabilities.
- Many researchers have noted the "aging tsunami," but aging with a (congenital or acquired) disability is an overlooked issue.
- Address the issue of multiple chronic conditions in persons with disabilities

Problem Statement 3: Health Disparities and Interventions for Persons with Disabilities

Problem Statement: Individuals with disabilities experience significant health disparities compared to the non-disabled population. Despite the documented need, the focus on health disparity issues within the disability population is limited and often ignored. Racial/ethnic minority groups experience higher rates of health disparities compared to their non-disabled peers of the same race and ethnicity.

Certain sub-types of disabilities contribute more to the disparity depending on the type of variable. Research on health disparities and health interventions needs to focus on subpopulation differences. Categorical, functional, and social approaches to addressing disabilities will have major implications for addressing disparities.

1. Develop capacity at the state level with state agencies responsible for achieving health equity for individuals with disabilities.
2. Adopt a social determinants approach to addressing health disparities. Integrate family and community issues into the intervention framework model.

Problem Statement 4: Health Care Access and Quality

Problem Statement: There is ample evidence of the barriers to healthcare and quality care, experienced by persons with disability. In general, interventions addressing disparities in healthcare and quality for persons with disabilities, fall short of environmental and contextual factors, makes unrealistic assumptions about equity in structural accessibility, access to resources, and cultural sensitivity. This results in reduced participation among persons with disabilities, especially those with multiple chronic conditions.

Some additional related examples:

- Not having access to adaptive equipment (wheelchair, accessible technology devices) is a barrier.
- Delaying medical care because of cost is a problem for people with disabilities- what are the policy/program interventions that could address this problem?

- Barriers to health care access often manifest as a local problem (inaccessible clinics, health care provider attitudes, transportation, etc.) but there is little research on local approaches to resolving access problems.
- Develop a cultural competency model for addressing healthcare
- How do we measure the cost as a nation not to successfully care for people with disabilities?

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2. अनंतLearning

अनंतLearning is all about lifelong education and skill development. This theme challenges participants to design educational tools and platforms that empower people to acquire knowledge, fostering personal growth and professional development.

Develop a digital solution for providing quality education in developing countries with a focus on learning ICT skills. The solution should be research-based and take into account factors impacting hardware and connectivity requirements.

Special Mention:

1. Develop a digital solution for providing quality education in developing countries with a focus on learning ICT skills. The solution should be research-based and take into account factors impacting hardware and connectivity requirements.
2. Development of gamified platform on Children's Rights to increase legal literacy and awareness among children in India.

Description: To create a fun, interactive, and engaging gamified platform that educates children in India about their rights and empowers them to stand up for themselves and others.

Target audience: The platform is intended for children between the ages of 8 and 16, and will be designed to be inclusive and accessible to all children regardless of their socio-economic background, gender, or other demographic factors.

Key features:

1. Interactive gameplay that is based on real-life scenarios and challenges related to child rights, using storytelling, visualizations, and immersive experiences to educate children on their legal rights and procedures.
2. Modular and adaptive learning modules that provide progressive and personalized learning paths, catering to individual user needs and preferences.
3. 3. Accessible and user-friendly design, incorporating multimedia elements and language translation features to promote inclusivity and accessibility.

4. Social and community features enable children to connect and collaborate with other users, legal experts, and organizations, creating a sense of community and empowerment.
5. Integration with child rights organizations and support services, enabling children to access legal advice and assistance as needed.

Deliverables:

1. A functional prototype of the gamified platform, demonstrating key features and functionality.
2. User testing and feedback data, indicating the effectiveness and usability of the platform.
3. A comprehensive report and presentation on the development process, including design decisions, technical challenges, and ethical considerations.

Expected impact:

1. Increased legal literacy and awareness among children in India, enabling them to make informed decisions about their rights and responsibilities.
2. Empowerment of children to stand up for their rights and the rights of others, leading to greater social justice and equity.
3. Enhanced engagement and participation of children in legal processes and systems, leading to more effective and equitable outcomes.

Problem Statement 1: Tracking Student Dropouts (Accountability Lab):

Right to education is a key concern for the government and at school level; the drop out rate is high due to poverty and social, economic reasons. If the government has drop out student analysis on following different categories, it will be very useful in framing different policies.

1. School wise
2. Area wise
3. Gender wise
4. Caste wise
5. Age/standard wise

Expected Output: Focused interventions on the high dropout rates

Problem Statement 2: Ideate and implement a system to enhance the quality of education in rural areas.

Ideate and implement a system to enhance the quality of education in rural areas. The aim of the system should not only focus on increasing the literacy rate but also should assist to elevate the communication skills and knowledge of the targeted society.

The system should offer :

1. Study materials and mentor access.

2. Monitoring skill progress.
3. Bridge the digital divide.
4. Provide information about grants, loans and incentives.
5. Offer connectivity to financially disadvantage patrons.
6. Help individuals with employment opportunities.
7. Research and development.
8. Access to material resources

Problem Statement 3: To develop a technical solution for enabling Institution level verification of students.

To develop a technical solution for enabling Institution level verification of students of one State studying in other State/s, who are at present generally denied benefits under the Scholarship scheme as the Institutions in which they are studying are not registered on the portal/s of their home State.

To develop a technical solution for enabling Institution level verification of students of one State studying in other State/s, who are at present generally denied benefits under the Scholarship scheme as the Institutions in which they are studying are not registered on the portal/s of their home State.

Problem Statement 4: Develop a Blockchain based solution for maintanence, distribution and verification of University transcripts.

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3. DigitalDecode

DigitalDecode seeks to bridge societal gaps through technology. Participants are tasked with developing solutions that address technological inequalities and promote inclusivity, to reduce disparities in access to resources and opportunities.

Problem Statement 1: Developing a Blockchain-Based eVault for Legal Records.

The objective of this hackathon is to develop a blockchain-based eVault system for legal records that can ensure security, transparency, and accessibility for all stakeholders. The system should be able to store, manage, and share legal records securely and efficiently, with the potential to integrate with existing legal databases and case management systems.

Requirements:

1. The eVault system should be based on a blockchain platform such as Ethereum, Hyperledger, or Corda, should use smart contracts to manage access, permissions, and transactions.

2. The system should have user-friendly interfaces for lawyers, judges, clients, and other stakeholders to interact with the eVault, with features such as uploading and retrieving documents, tracking changes, and sharing information.
3. The system should ensure the privacy and confidentiality of legal records, with appropriate access controls, encryption, and authentication mechanisms.
4. The system should allow for seamless integration with existing legal databases and case management systems, to ensure interoperability and ease of use.
5. The system should be scalable and adaptable to accommodate future changes and upgrades.

Expected Outcomes:

1. A functional prototype of the blockchain-based eVault system for legal records, with a user-friendly interface and features such as document upload, retrieval, and sharing.
2. A detailed design document outlining the architecture, features, and technical specifications of the eVault system.
3. A business plan outlining the potential impact, market opportunities, and revenue models for the eVault system.
4. A presentation of the prototype, design document, and business plan.

Impact: The development of a blockchain-based eVault system for legal records can have a significant impact on improving access to justice in India. It can lead to faster, more efficient court proceedings, reduced costs, improved data integrity, and increased trust in the justice system. Moreover, it can provide a secure and transparent platform for storing and sharing legal records, making it easier for clients to access their own records and for lawyers to access relevant case information.

Problem Statement 2: Design of CYBER-SECURITY ENABLED SMART CONTROLLER for grid-connected Microgrid

This aims to develop a cybersecurity-enabled smart controller specifically designed for grid-connected microgrids. The smart controller will play a crucial role in ensuring the secure and efficient operation of the microgrid, protecting it from cyber threats and unauthorized access.

Key Objectives:

1. **Secure Communication:** Design a communication framework that employs robust encryption protocols to safeguard the data transmitted between the smart controller and various components within the microgrid. This framework should prevent unauthorized access, tampering, and eavesdropping.
2. **Intrusion Detection and Prevention:** Implement advanced intrusion detection and prevention mechanisms within the smart controller to identify and mitigate potential cyber attacks in real-time. Develop algorithms and techniques to detect anomalies, malicious activities, and vulnerabilities within the microgrid system.
3. **Access Control:** Create an access control mechanism for the smart controller that regulates user access based on roles and privileges. This mechanism should prevent

unauthorized configuration changes and ensure only authorized personnel can modify or interact with the microgrid system.

4. **Cybersecurity Auditing:** Develop a logging and auditing system within the smart controller to track and monitor all activities and events related to the microgrid's cybersecurity. This system should provide detailed logs, alerts, and reports to facilitate post-incident analysis and forensic investigations.
5. **Security Patch Management:** Implement a mechanism within the smart controller to manage and deploy security patches and updates across the microgrid system. This will ensure that vulnerabilities are promptly addressed, reducing the risk of potential cyber attacks.
6. **Scalability and Compatibility:** Design the smart controller to be scalable, allowing it to accommodate the increasing complexity and size of grid-connected microgrids. Ensure compatibility with different microgrid components, protocols, and standards to facilitate seamless integration into existing infrastructure.
7. **Usability and User Interface:** Develop a user-friendly interface for the smart controller that enables efficient monitoring, configuration, and management of the microgrid's cybersecurity settings. The interface should be intuitive and accessible to both cybersecurity experts and non-technical users. This PS encouraged to explore innovative cybersecurity methodologies, including encryption algorithms, anomaly detection techniques, and secure communication protocols. The resulting smart controller will contribute significantly to the protection and reliable operation of grid-connected microgrids, ensuring the stability and security of the power distribution system in the face of evolving cyber threats.

Problem Statement 3: To develop centralised information security Log-collection facility' or 'security operation centre (soc)' in the power sector, considering CEA cybersecurity (Power sector) Guidelines, 2021 to keep Ir and or networking System isolated and air-gapped.

Cyber intrusion attempts and cyber-attacks in any critical sector are carried out with a malicious intent. In Power sector, it's either to compromise the power Supply system or to render the grid operation in-secure. Any such compromise may result in maloperation of equipment, equipment damages or even in a cascading grid brownout/blackout.

The much-hyped air gap myth between Ir and or systems now stands shattered. The artificial air gap created by deploying firewalls between any Ir and or system can be jumped by an insider or an outsider through social engineering. Cyber-attacks are staged through tactics and techniques of Initial Access, Execution, persistence, privilege Escalation, Defense Evasion, Command and Control, Exfiltration. After gaining an entry inside the system through privilege escalation, the control of Ir network and operations of or systems can be taken over even remotely by any cyber adversary.

The gain of sensitive operational data through such intrusions may help the Nation/State sponsored or non-sponsored adversaries and cyber-attackers to design more sinister and advanced cyber-attacks. How to develop a centralized information security log-collection facility or Security Operation Center (SoC) in the Power Sector, considering cEA cybersecurity (power Sector) Guidelines- 2021, to keep IT and OT networking System isolated and air-gapped?

Problem Statement 4: Develop Ransomware Readiness Assessment tool.

Ransomware is a type of malicious software designed to block access to ICT devices by encryption of data until ransom is paid to the attacker. It is of paramount importance to increase awareness regarding such attacks and assess readiness of the ICT infrastructure of any organisation to thwart these attacks or atleast recover at the earliest. The developer should design and deploy a methodology to evaluate posture and preparedness of an organization towards stopping / mitigating threat from ransomware attack.

The developed tool shall be evaluated based on the following:
(a) Depth of the tool to assess readiness of organization to hinder / stop /mitigate ransomware attack.
(b) Assessment of organization towards detection of early signs of ransomware.
(c) Ease of use and awareness imparted by the tool.
(d) Visualization and reporting of the maturity assessment of the organization.

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4. समाधान4Society

समाधान4Society calls for innovations that address pressing social challenges. Participants are tasked with developing projects that tackle issues such as poverty, inequality, while ensuring long-term positive impact on society.

Problem Statement 1: Tackle Sexual Harassment.

Sexual harassment is a common problem faced by women in developing nations, especially with an abundance of unsafe and unhealthy environments. Develop a solution that addresses preventative and post-event action for sexual harassment

Problem Statement 2: Empowering Women that Stay Home.

Female empowerment, targeting especially those who are skilled but can not go out and work, due to kids or unable to manage time... something like Sehat Kahani

Problem Statement 3: Increase Internet Usage

More men are coming online earlier, and more rapidly, than women, equivalent to a gap of about 200 million fewer women online globally. Help curtail the gender divide in Internet usage

Problem Statement 4: Cyber-Attacks and Machine Learning.

Ensure effective and efficient system of innovation at national and regional levels, by improving machine learning and making it more accessible for prevention of cyber attacks

Problem Statement 5: Women Empowerment.

Women inequality perpetuates from a lack of acceptance from their male counterparts. Focus on preparing men to accept empowered women within their daily lives

Problem Statement 6: Reduce Modern Slavery.

Pakistan is confronted with modern slavery and child labour. Women are vulnerable and become easy targets. Focus on ways to minimize this by 2030

Problem Statement 7: Differently-abled Women.
Provides solutions for education for differently-abled women to bring them in the social and economic ambition

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5. Technoवातावरण

Technoवातावरण concentrates on environmental conservation. Contestants are encouraged to create projects that are related to topics like combating pollution, dealing with climate change, protecting natural ecosystems, and contribute to cleaner air and water, promoting a healthier planet for future generations.

Problem Statement 1:
Develop disruptive technologies and strategies for transforming India's agricultural sector to a zero-carbon emission one that is resilient to the effects of climate change. The solutions should focus on precision agriculture, agroforestry, and organic farming, and should be able to reduce greenhouse gas emissions from the agricultural sector by at least 30%.

Problem Statement 2:
Define a system that significantly reduces the environmental impact of food packaging that is necessary in the hygienic delivery of made-to-order meals and raw food items.

Problem Statement 3:
Create solutions to the environmental challenges facing our communities; raising temperatures, air pollution, floods etc.

Problem Statement 4:
Create a system for monitoring the battery waste, plastic waste, electronic waste.

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6. आदर्शAI

आदर्शAI explores the ethical use of artificial intelligence. Participants are challenged to build AI systems that prioritize fairness, transparency, and ethical decision-making.

Problem Statement 1:

Automatic regulation of valves for release of water based upon soil moisture availability in the root zone of the crop, using artificial intelligence, in a piped and micro irrigation network of irrigation systems. In modern agricultural practices, efficient water management plays a critical role in achieving optimal crop yields, conserving water resources, and maintaining ecological balance. However, existing irrigation systems often lack the precision required to deliver water tailored to the actual needs of crops, leading to water wastage, suboptimal plant growth, and environmental degradation.

This problem is particularly pronounced in piped and micro irrigation networks, where traditional methods of manual control fail to adapt dynamically to varying soil moisture conditions within the root zone of crops. The core issue lies in the absence of an automated mechanism that can regulate the release of water based on real-time soil moisture availability. The inconsistency in water distribution and the inability to synchronize irrigation with crop water requirements result in detrimental outcomes for both the agricultural yield and water conservation efforts.

To address this problem, there is a compelling need for an innovative solution that leverages artificial intelligence (AI) to enable the automatic regulation of valves for water release in piped and micro irrigation networks. By incorporating AI-powered soil moisture monitoring and decision-making processes, this solution aims to bridge the gap between water supply and crop demand, while also optimizing resource utilization and minimizing environmental impact.

Key Challenges:

1. **Dynamic Water Demand:** Crops have varying water requirements influenced by factors such as growth stage, weather conditions, and plant type. Developing an AI system capable of accurately predicting these dynamic water demands is a complex challenge.
2. **Real-time Data Integration:** Integrating real-time soil moisture data from multiple sensors across a field into a centralized AI system requires robust data collection, transmission, and processing mechanisms.
3. **Algorithm Precision:** Designing AI algorithms that can effectively analyze soil moisture data, historical trends, and other relevant parameters to make accurate decisions about water release timing and quantities.

4. **Valve Control Mechanism:** Developing an automated valve control mechanism that can respond swiftly and accurately to the AI's recommendations while considering the physical characteristics of the piped and micro irrigation network. Adaptability: Ensuring that the AI system can adapt to changing environmental conditions, crop types, and variations in soil properties over time.
5. **User-Friendly Interface:** Designing a user-friendly interface that allows farmers and irrigation managers to monitor and intervene in the system as needed, while also trusting in the AI's autonomous decisions.
6. **Economic Viability:** Balancing the potential costs of implementing an AI-driven system with the expected benefits in terms of increased crop yield, water savings, and operational efficiency.

Problem Statement 2: AI Assisted Tele-medicine KIOSK for Rural India.

Health care in rural India is still an unresolved area that demands improved and innovative solutions. The easy availability and access to expert doctors, according to the medical condition of the individual/patient can be provided by the AI-assisted telemedicine robotic Kiosk that can be set up anywhere in the village. Individuals may mark their identity through the biometric scanner. A robot may speak to the individual, enquiring about the illness. Later, the individual will be directed online to an expert doctor, via e-sanjeevani App. After the consultation, medicines and other associated services can be provided to them through the local Asha worker without any delay.

Problem Statement 3: Fake Social Media Profile detection and reporting

The social life of everyone has become associated with online social networks. These sites have made a drastic change in the way we pursue our social life. Making friends and keeping in contact with them and their updates has become easier. But with their rapid growth, many problems like fake profiles, online impersonation have also grown. Fake profiles often spam legitimate users, posting inappropriate or illegal content. Several signs can help you spot a social media fake who might be trying to scam your business. Identifying fake social media profiles and taking corrective measures. Expected Output: An Application software that detects the fake social media profile Users: Crime branch and other investigative agencies

Problem Statement 4: Comprehensive Inspection and Analysis of Water Supply Distribution Lines.

Water resources across the globe are slowly depleting and it is forecasted that the ZERO water day will not be far away if water resources are not protected well. one the the crucial area that stilp lies in the human hands is to save the watet leakages and pay a strong water distrulibution network that improves effeicient use of water.The challenge is to conduct thorough inspections of water supply distribution lines, ranging from 100 to 200mm in diameter, in order to detect leakages, pilferage, damage, and other issues. The solution requires access to a cloud_based dashboard for data analytics, visualization, and report generation. The solution enhances service delivery, improves repair work efficiency, reduces water leakage, and streamlines pipeline condition assessment. The solution should enable immediate action on contamination complaints, early detection of leaks, reduction in

labor_intensive breakdown management, and facilitate GIS mapping of the pipelines. Overcoming deployment constraints involving live inspections, image analytics, and laser projections will ensure accurate and efficient assessment of the water supply distribution lines.

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7. SHAShield-256

SHAShield-256 emphasizes cybersecurity and data protection. Participants are encouraged to create solutions to safeguard digital information and privacy, ensuring that data is secure.

Problem Statement 1: Dark web crawler.

Design and develop an AI-enabled technological solution for actionable Crime Intelligence from the Deep and Dark Web including but not limited to child pornography, weapons, drugs etc. The solution should have the capability to raise demands for additional information from clear-net and proprietary databases viz. TSPs/ISPs for attempting correlation and attribution.

Problem Statement 2: Spam Alert/AI

Design and develop a crowd-sourcing based solution that can analyse and verify the source of any incoming call, SMS and Email based on the inputs from the end-users. The solution should be able to classify, whether the source is genuine or spam. Also, the solution should be able to generate a risk score for incoming calls, SMS and Emails, based on the crowd-sourced input.

Problem Statement 3: RAM dump collection tool

Design and develop a technological solution that can collect RAM Dump from any Windows, Linux or Mac based operating system. The solution may be in the form of an Auto-Executable/Lite Version that can be run/executed from any USB storage device without installation at the target computer system.

Problem Statement 4: Solution for auditing proprietary cellular/portable electronic device hardware. Indigenous technological Crypto Currency Investigation Tools with multi-blockchain platform support.

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8. नवनिर्माण

नवनिर्माण emphasizes innovation and development. Participants are encouraged to create new solutions from the existing opensource tools.

Problem Statement 1:

Call for cost-effective ways of making water source for piped drinking water supply sustainable in Rural areas

Jal Jeevan Mission was launched with the vision of providing drinking water in adequate quantity of prescribed quality on regular and long-term basis to every rural household. A comprehensive cost-effective technology is needed for the assessment of groundwater recharge done by source sustainability technology which is positively affecting the ground water-based source under consideration and predicting the longevity of the drinking water source to serve at the design discharge in the long-term considering the effect of drawl by the irrigation tube well.

The technology should focus on the following:

1. Monitoring of data for monitoring of drinking water source for a village. Generation of alerts in case of rapid deterioration.
2. Innovative cost-effective technology for Rain Water Harvesting and Recharge.
3. Innovative means to improve source sustainability.
4. Re-use of Grey Water: Utilize non-toxic wastewater from households(with/without basic treatment)
5. Accurate measurement of the capacity of the Aquifer and the actual water demand.
6. Citing correct locations for recharge and discharge of groundwater.

Problem Statement 2: Development of systems for effective Environmental, Social and Governance (ESG) Intervention in Higher Education

It is well established that development towards a more sustainable society must begin with education. When education is done right, it not only teaches people about the science of climate change and inequality and the reasons we must take action, it also engages, empowers and promotes a more environmentally friendly, community-based way of life. ESG in higher education is one of least discussed aspects of governance among administrators. With the recent energy and climate crisis, administrators around the globe have realized the importance of sustainable process.

The three pillars of ESG are people, processes, and product. In our case, people are the most important stakeholder in achieving our goal. Students from campuses of Higher Education are not only woke about the climate-energy crises but also are passionate for deigning a world of their future. Administrators on other hand are aware of the rising cost of energy and are open to adopting energy conservation and other aspects of ESG The objective of the problem statement solution shall be to create a common platform for planning, development, execution, and monitoring of ESG initiative.

The initiatives may include adopting alternative sources of energy, development of energy efficient campuses, adopting green construction standards like GRIHA Prakriti and similar such initiatives. Another objective of the problem statement solution is to generate and produce dynamic dashboards which show targeted lacking areas as well as progress check for currently undertaken projects.

The overall objective of the solution should be based on a collaborative effort between all the stakeholders for creating the ESG framework in Higher Education. If executed effectively the solution will not only make a significance difference to the present scenario but also create a generation of environmentally and socially aware citizens with in depth knowledge on ESG issues. The solution should be in line with India's ambition of achieving its targets under COP 21 of Paris Agreement. It should also incorporate the best practice steps taken by governments like the International Solar Alliance.

The overall objective of the solution shall be to develop a common monitoring dashboard for all ESG Initiatives taken by the state and predictive solution based on best practices across the globe.

Problem Statement 3: Language translator tool to convert English to Hindi (official Language) which can be used by all the government organizations websites officially.

The objective is to develop a language translator tool specifically designed for government organizations in India. The tool should provide the capability to translate English content into Hindi, the official language of the country. This will enable government websites to cater to a wider audience, including Hindi-speaking citizens who may have difficulty understanding English.

The language translator tool should possess the following key features:

1. **Translation Accuracy:** The tool should offer accurate translations, maintaining the context and meaning of the original English content. It should handle various language intricacies, idiomatic expressions, and technical terms commonly used in government-related documents.
2. **User-Friendly Interface:** The tool should have a simple and intuitive interface, ensuring ease of use for both website administrators and end-users. It should seamlessly integrate into government websites, allowing users to translate content with minimal effort.
3. **Website Integration:** The language translator tool should be compatible with different website architectures and frameworks commonly used by government organizations. It should provide developers with an API or plugin that can be easily integrated into existing websites without significant code modifications.
4. **Language Preservation:** The tool should be designed to preserve the cultural and linguistic nuances of the Hindi language. It should take into account regional variations and dialects to ensure accurate translations that resonate with Hindi-speaking citizens across the country.
5. **Security and Privacy:** As government organizations handle sensitive information, the language translator tool should adhere to high security and privacy standards. It should protect user data, prevent unauthorized access, and comply with relevant data protection regulations.
6. **Scalability:** The tool should be scalable to handle a large volume of translation requests, ensuring smooth performance even during peak usage periods. It should be capable of handling concurrent translations across multiple government websites.

Participants in the hackathon are encouraged to explore innovative approaches, leveraging natural language processing (NLP) techniques, machine learning algorithms, and other relevant technologies to achieve accurate translations. The resulting language translator tool will contribute significantly to improving the accessibility and usability of government websites, facilitating effective communication between government organizations and Hindi-speaking citizens.

Problem Statement 4: 360-degree feedback software for the Government of India related News Stories in Regional Media using Artificial Intelligence / Machine Learning

The Press Information Bureau (PIB) is the nodal agency of the Government of India to disseminate information on government policies, programs, initiatives, and achievements to the print and electronic media. It functions as an interface between the Government and the media and provides feedback to the Government on people reactions as reflected in the media. Information is disseminated from Hqrs through Press Releases in English, Hindi, and Urdu and subsequently translated from PIB Regional offices into other Indian languages like Punjabi, Gujarati, Marathi, Telugu, Kannada, Malayalam, Tamil, Odia, Bengali, Assamese, and Manipuri, to reach out to about 8,400 newspapers and media organizations across the country.

To provide effective and timely feedback to the Government, an automated feedback system for all the above regional languages using Artificial Intelligence / Machine Learning is required. The feedback system should crawl the select regional media sites (around 200 websites) for the news published in regional languages.

The software should categorize the stories into the concerned departments as per the tags provided. The stories should be categorized as favorable (positive), neutral, or not favorable (negative) to the Government of India. Negative stories pertaining to a department should be notified to the concerned PIB officer on a real-time basis by SMS or Android notification or by other means. E-papers of select newspapers should be scanned by the system automatically using an Optical Character Recognition (OCR).

The concerned news clippings if it pertains to the Government of India should be cut and electronically pasted in a pre-designed template mentioning the name of the newspaper, the page number where the story was published, the name of the edition, etc. These clippings should be classified into Departments and tonality (positive, negative, and neutral). Also in the dashboard, the title of the newspapers should be displayed and the stories should be in a position to be sorted/filtered using the variables like Tonality, Edition, etc.

The system should also crawl through the YouTube channels of select news channels and identify the portion of the news bulletin pertaining to the Government of India using closed captioning. If closed captioning is not available, should use audio to text feature to capture the transcript. Once the portion of the video is identified, the said video has to be categorized into Departments and tonality. If the story is negative, the concerned PIB officer should get the notification immediately.