

Open Category Challenging Statements

<p>Promoting a culture of reading, knowledge-seeking and discovery</p> <p>Challenge Sponsor: National Library Board (NLB)</p>	<p>Encouraging the improved practice of the 3Rs in the community</p> <p>Challenge Sponsor: National Environment Agency (NEA)</p>
<p>With over 25 million unique titles, teens and working adults are finding it challenging to discover new content and resources at our libraries. It's no wonder only books, magazines and audio-visual materials are being actively used.</p>	<p>NEA provides a blue commingled (glass, paper, plastic, metal) recycling bin for every HDB block. The awareness of the 3Rs - Reduce, Reuse and Recycle is high, but adoption is low. If the rate at which we generate waste continues unabated, Singapore will need to build a waste-to-energy incineration plant every 7 to 10 years and open a new landfill site every 10 to 15 years. This is not sustainable.</p>
<p>Think how we can recommend timely, relevant and valued content using the most appropriate technology or platform.</p>	<p>Think how we can reach out to the community and turn high awareness of 3Rs into action, through personal or collective action.</p>
<p>Challenges</p> <ol style="list-style-type: none"> 1. Help NLB improve discovery of information resources to: <ul style="list-style-type: none"> • Recommend relevant and suitable reading materials and resources at the right time using the most appropriate technology or platform; and • Ease discovery and navigation of vast amounts of available resources, especially digital content. 2. Promote a culture of reading and knowledge seeking through innovative and fun ways, such as gamification, interest groups and community building. 3. 	<p>Challenges</p> <ol style="list-style-type: none"> 1. Reduce – Encourage our community to buy responsibly, reduce unnecessary purchases and minimise the use of disposables; 2. Reuse – Educate people on ways to reuse materials and products; and / or 4. Recycle – Get people to adopt the habit of regularly sorting recyclables from general waste, and depositing the recyclables into the recycling bin.
<p>Datasets</p> <p>Catalogue Search, Singapore Memory Search and Title Recommendation</p>	<p>Datasets</p> <p>Recycling monthly collection by types of recyclables, PWC sector and type of premises (Sep 14 to Mar 15)</p> <p>Location of Recycling Bins</p> <p>Location of cash-for-trash for 4 PWC sectors</p> <p>Waste Collection Data for 9 PWC sectors (Sep 14 to Mar 15)</p> <p>Class A & B Daily Summary Waste Figures at TSIP, SWTE, TIP, KSTP & TMTS (Sep 14 to Mar 15)</p> <p>Daily Total Class A & B Waste (Sep 14 to Mar 15)</p>
<p>Post-hackathon Opportunities</p> <p>NLB may approach the winning teams to further develop the prototype into a working solution.</p>	<p>Post-hackathon Opportunities</p> <p>TBC</p>

<p>Facilitating volunteerism and community action with geospatial technology and data</p> <p>Challenge Sponsor: Singapore Land Authority (SLA)</p>	<p>Fostering community spirit in our urban living environment</p> <p>Challenge Sponsor: Infocomm Development Authority (IDA)</p>
<p>The explosion in geospatial data due to the widespread use of mobiles, GPS and increasingly Internet of Things means Geospatial Information Science and Technology (GIST) will play a key role in building our Smart Nation.</p>	<p>IDA has created the Home Access Programme to bring affordable internet connectivity to low-income households. We seek to help all groups feel more connected and share in the benefits of a Smart Nation.</p>
<p>Think how we can organise, analyse and contextualise large reams of data to enable new insights that citizens, government, voluntary and welfare organisations, and businesses can use.</p>	<p>Think how we can foster greater community connectivity and a strong community spirit.</p>
<p>Challenges</p> <ol style="list-style-type: none"> 1. SLA is seeking a geospatial-enabled platform or application to promote volunteerism and caring communities through sharing of geo-data. 2. Improve our environment and enable smarter decisions through crowdsourcing and geo-tagging by citizens. <p>Use OneMap in innovative ways to create value for citizens, government, voluntary/welfare organisations and businesses.</p>	<p>Challenges</p> <p>IDA wants to see community spirit enhanced in urban living by using digital tools to:</p> <ul style="list-style-type: none"> • assist citizens to locate community activities around them; and / or • encourage citizens to better connect with local communities.
<p>Datasets</p> <p>OneMap, Geospatial datasets</p>	<p>Datasets</p> <p>data.gov.sg under appropriate themes such as Society and Community, Science and Technology, Housing and Urban Planning, Population & Household etc.</p>
<p>Post-hackathon Opportunities</p> <p>Up to \$50,000 per project. Additional 20% funding will be made available if OneMap is used, subject to a cap of \$50,000 for the whole project. More info at GeolInnovation Fund</p>	<p>Post-hackathon Opportunities</p> <p>Up to 75% of the project cost, subject to a cap of \$100,000 per project. More info at www.ida.gov.sg/SI</p>

<p>Driving increased participation in the management of our residential estates and the services offered</p> <p>Challenge Sponsor: People’s Association (PA)</p>	<p>Enabling the community to better take care of those in our HDB estates and community.</p> <p>Challenge Sponsor: Housing Development Board (HDB)</p>
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<p>There are about 600 Residents' Committee (RC) Centres across all HDB estates in Singapore. Each RC Centre is managed by a group of residents living in their respective estates, who volunteer their time to promote neighbourliness and work together with other residents to provide feedback on and resolve estate-related issues. The RC Centres provide residents with a variety of services and activities, but many residents are unaware of the variety of them. Also they are often unaware how to volunteer, provide feedback or contribute resources.</p>	<p>Singapore is ageing – by 2030, 1 in 5 Singaporeans will be 65 years or older. As we live longer and our lifestyles change, we need to ensure we manage the care and wellbeing of all our citizens.</p>
<p>Think how we can make residents more aware of what's on offer and how they might contribute.</p>	<p>Think how we can introduce useful tools or systems for individual households (like more elderly-friendly features) and also to provide more means for the community to care for one another.</p>
<p>Challenges How do we leverage technology to assist the PA to:</p> <ul style="list-style-type: none"> • publicise the RC services and activities; • increase utilisation of these services and activities across all ages and profiles; and / or • Encourage more residents to participate through volunteerism, provision of feedback and resources for community sharing. 	<p>Challenges Enhance the HDB living environment of elderly citizens to help them:</p> <ul style="list-style-type: none"> • lead active and healthy lifestyles; • integrate better socially with the community; • reduce their dependence on their families and community; and / or • Live in a safe and secured environment.
<p>Datasets OneMap layout of CCs and RCs across Singapore Information from https://one.pa.gov.sg/CRMSPortal/CRMSPortal.portal Information from http://pa.gov.sg/our-network/grassroots-organisations/residents-committees.html</p>	<p>Datasets Data from data.gov.sg under relevant themes such as Housing & Urban Planning, Society & Community</p>
<p>Post-hackathon Opportunities TBC</p>	<p>Post-hackathon Opportunities HDB may approach the winning teams to further develop the prototype into a working solution.</p>

<p>Encouraging greater awareness, ownership and self management of health conditions</p> <p>Challenge Sponsor: Ministry of Health (MOH)</p>	<p>Helping consumers verify drugs and health-related products meet regulated standards of safety, quality and efficacy</p> <p>Challenge Sponsor: Health Sciences Authority (HSA)</p>
<p>While rapidly ageing, Singapore is aided by a population that is increasingly savvy with usage of Internet and mobile applications. This can make us more aware of our health and encourage greater ownership of our conditions at various life stages:</p>	<p>HSA's Health Products Regulation Group (HPRG) ensures that drugs, innovative therapeutics, medical devices and health-related products in Singapore are regulated to meet required standards of safety, quality and efficacy. Currently, the only way the general public can find out whether a product meets these standards is via the Info-Search on HSA's website.</p>

<p>Healthy/At Risk: Adopt healthy lifestyles</p> <p>Serious Acute Illness: Return to functional independence within community post episode</p> <p>Stable Chronic: Self manage to prevent exacerbation/progression</p> <p>Complicated Chronic: Monitor & manage condition by self or carer by accessing community resources</p> <p>End of Life: Provide access to home or community based services for self or carer</p>	
<p>Think how we can equip Singaporeans with convenient, easy-to-use tools and channels to learn more about health matters and management of our health.</p>	<p>Think how we can better inform and protect our consumers' consumption of such products.</p>
<p>Challenges Develop avenues for MOH to enable Singaporeans to:</p> <ul style="list-style-type: none"> • inform themselves of current community health services • access and understand availability of local health information and services; • and/or engage, share and crowdsource information with the community about health matters, treatment and disease management. 	<p>Challenges Help HSA devise a simpler and easier way for the general public to check whether a product or device has been registered with HSA.</p>
<p>Datasets Data from data.gov.sg under relevant themes, such as Health, Population and Household</p>	<p>Datasets HSA's health products database</p>
<p>Post-hackathon Opportunities TBC</p>	<p>Post-hackathon Opportunities \$10,000 if the prototype is accepted by HSA.</p>

<p>Supporting new citizen-centric and business applications with digital 3D geospatial models of Singapore</p> <p>Challenge Sponsor: Infocomm Development Authority (IDA)</p>	<p>Empowering citizens to help keep our communities (online and off-line) safe and secure</p> <p>Challenge Sponsor: Ministry of Home Affairs (MHA)</p>
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<p>Three-dimensional (3D) data models of Singapore – virtual-reality-like 3D maps of Singapore – can help us visualise our neighbourhoods, parks and even shopping centres. This is part of the Government Geospatial (Virtual Singapore) initiative. It opens up possibilities to create mobile and desktop applications for our citizens, government and businesses. The automatic generation of 3D models of buildings and other objects, however, has been a challenge.</p>	<p>With mobiles and at-home broadband and coupled with the rapid growth of Internet of Things (IoT), we now have an incredibly connected and data-rich society. We want to continue to enjoy the benefits of such world-leading connectivity, but realise we must ensure our cyber security and community safety remain first-class.</p>
<p>Think how we can overcome this challenge and create 3D objects using raw 3D data.</p>	<p>Think how we can leverage on new technologies and data to enable our citizens to live in a safe and secure environment.</p>
<p>Challenges IDA would like you to take the Jurong Lake District as a sample area, and use point cloud data and / or imagery provided to generate 3D models of Singapore that would be helpful in enabling new applications for our citizens, government and businesses; for example:</p> <ul style="list-style-type: none"> • A model that enable different types of 3D objects (for example, trees, roads and buildings) to be identified via computer logic; • A way to eliminate data anomalies (for example, moving objects such as vehicles and humans) from raw 3D data to facilitate more accurate; or reconstruction of urban objects • Any other interesting application that makes use of the 3D models or data. 	<p>Challenges</p> <ol style="list-style-type: none"> 1. What can MHA do to empower the community to get involved in ensuring that Singapore remains safe and secure? 2. Leverage data analytics for social good, specifically in the safety and security of Singapore. 3. Help the Home Team by taking advantage of the increasing array of sensors and connected devices. 4. Address cyber security risks, especially those related IoT.
<p>Datasets Point clouds and imagery data generated using Mobile Lidar System (MLS) with Jurong Lake District as sample area, urban spatial data</p>	<p>Datasets Data.gov.sg repository: http://data.gov.sg/common/search.aspx?theme=06</p>
<p>Post-hackathon Opportunities Internship and final year industrial project opportunities.</p> <p>I-Singapore can support up to 50% of funding for private companies who wish to develop their application further.</p> <p>More details can be found in I-Singapore Programme</p>	<p>Post-hackathon Opportunities TBC</p>

<p>Delighting Sentosa guests through “Mobile Moments”, come rain or shine</p> <p>Challenge Sponsor: Sentosa Development Corporation (SDC)</p>	<p>Discovering new business potential through analysis of financial and corporate data</p> <p>Challenge Sponsor: Accounting and Corporate Regulatory Authority (ACRA)</p>
<p>Sentosa is Asia’s leading leisure destination. Welcoming a growing number of local and international guests every year, the majority of Sentosa’s guests are day visitors. They tend to be mobile and travel to multiple zones of the island to enjoy the array of attractions and activities. As such, they are subjected to weather elements, which can substantially impact their overall experience in Sentosa.</p>	<p>Over a million business-related transactions involving corporate and financial data are filed on the Accounting and Corporate Regulatory Authority (ACRA) online portal each year. There is great potential in exploiting this wealth of data to help develop and grow businesses in Singapore.</p>
<p>Think how we can understand the impact of weather on guest movement and behaviour, and how the insights can be used to enhance overall guest experience and engagement with Sentosa.</p>	<p>Think how we can better analyse and use all this data to enable the business community to improve their planning or decision-making and ultimately to add to their bottom-line.</p>
<p>Challenges</p> <ol style="list-style-type: none"> 1. Help SDC deliver unique Sentosa Experiences – “Mobile Moments” at the right time and in the right context to delight and engage guests. (A “Mobile Moment” is any time when a guest accesses his/her smart devices for any purpose.) 2. Enhance the existing MySentosa mobile app or the online store, or design a new one that will achieve the desired outcomes. 	<p>Challenges</p> <ol style="list-style-type: none"> 1. Develop unique insights from the ACRA data that reveal opportunities for business and aspiring entrepreneurs. 2. Evaluate business performance at the company and / or sector level. 3. Analyse the business landscape data to develop algorithms to predict trends. 4. Map the data to reveal the extent and nature of the interconnected business networks.
<p>Datasets</p> <p><i>Datasets will be distributed to participants directly. Participants are required to sign an NDA, which SDC is preparing.</i></p> <p>Wireless@SG usage data at 40+ AP locations from Feb to Jun 2015. This dataset should be able to provide some insight to guest movement pattern and dwell time.</p> <p>Wi-Fi traffic data (may be available from mid Jun onwards). This dataset should be able to provide some insight on what the user access when connected to Wireless@SG.</p>	<p>Datasets</p> <p><i>Datasets will be distributed to participants directly.</i></p> <p><u>ACRA business data comprises:</u></p> <ul style="list-style-type: none"> • Financial data: structured datasets from the full set of financial statements, including audit data, income statement, balance sheet, cash flow, general corporate and filing information, and data from selected disclosure notes • Relevant corporate data: company profile, company officers and shareholders, company capital, compliance records and registered charges <p><u>Scope of companies :</u></p> <ul style="list-style-type: none"> • SGX-listed companies (full financials + corporate data) • 1,000 private companies from 5 selected industries (full financials + corporate data)

	<ul style="list-style-type: none"> • Another 1,000 solvent exempt private companies from the 5 selected industries (corporate data only) <p><u>5 Selected Industries:</u></p> <ul style="list-style-type: none"> • Business and management consultancy activities • Construction of buildings • Wholesale of household goods • Architectural and engineering activities and related technical consultancy • Computer programming, consultancy and related activities <p><u>Data Format:</u> CSV or XML</p>
<p>Post-hackathon Opportunities Up to \$10,000 to further develop and market the application</p>	<p>Post-hackathon Opportunities Up to \$50,000 to further develop and market the application</p>

Enhancing cyber security adoption and education by enterprises

Challenge Sponsor: Cyber Security Agency (CSA)

The Internet was not built for security, yet it is the backbone of many business enterprises.

Adoption of essential cyber security measures remains relatively low. Only about 14% of enterprises across the board invested in infocomm security education in 2013 with the % being even less for smaller enterprises due to the inability to quantify benefits, costs incurred, and resources required and other operating constraints.

Think how we can help enterprises improve security, make employees more aware of the importance of cyber security and the need to adopt cyber security measures.

Challenges

1. Help enterprises improve the adoption of cost-effective cyber security measures that
 - provide timely alerts and advisories to update security resources (e.g. update anti-virus software etc.), or
 - Provide checks to prevent intentional or unintentional compromise of cyber security within the organization.
2. Stimulate employee interest and awareness in the importance of cyber security through innovative applications

Datasets

- <http://www.ida.gov.sg/Tech-Scene-News/Facts-and-Figures/Infocomm-Usage-Business>
- <http://www.ida.gov.sg/Tech-Scene-News/Facts-and-Figures/Survey-Reports>

Post-Hackathon Opportunities

Up to \$50,000 per project, for the development of an innovative and sustainable solution that improves the cyber security posture of enterprises.

HackMed Challenge Statements – Theme: “ Ageing In Place”		
Title	Agency	Description
Active Ageing	MOH	Use of smart technologies to enable seniors to age healthily & actively in a cohesive & inclusive community. <ul style="list-style-type: none"> • promote health amongst seniors • enable effective delivery of primary healthcare to seniors and to help them manage chronic diseases well • catalyse social interactions, mutual support and self-help groups among seniors, between seniors and their neighbours and/or involvement of seniors in community and social work
Care At Home	MOH	New ideas to enable more pervasive, integrated and effective health and aged care for our seniors, while reducing the manpower needed to deliver care <ul style="list-style-type: none"> • achieve “hospital in a home” i.e. Delivering care to seniors without the need for travelling to various healthcare institutions • improve the quality and labour productivity of providing aged care (e.g. providing effective home based care, support for activities of daily living, home nursing, home therapy), or creating “eldercare centres and nursing homes of the future” which are smart and can anticipate the needs of the elderly • enable busy caregivers to be able to juggle caregiving and work gracefully, and be able to “e-procure” support services readily to relieve their caregiving duties
Safe Living Environment	MOH	Use of smart solutions to create a safe environment within homes and outside homes for seniors to age autonomously and safely in place <ul style="list-style-type: none"> • Home monitoring systems and tracking systems to enable frail or dementia seniors to be able to move around safely within the house and the town • Mobility applications to enable seniors with physical or cognitive impairment to be able to navigate and move around autonomously • Commerce systems to enable seniors to be able to procure services and goods even if they are cognitively or physically impaired and staying alone
Encouraging seniors to remain healthy and active is necessary to reduce the constraints on the nation’s health systems	HPB	How can sophisticated sensing technologies such as sensors and devices help measure and capture seniors’ personal health information and help inform their caregivers including health professionals promote healthy lifestyle to the seniors?
	HPB	How can the use of technology be used to help seniors navigate the Singapore healthcare system and healthcare subsidies? This technology should also be customisable to provide information in languages seniors are more comfortable conversing in e.g. Mandarin, Tamil, Malay
Teams are able to propose/pitch their own problems to solve, not mandated to use the challenges from supporting Ministries and Agencies.		

Student Category Challenges		
Title	Description	Examples
Smart Living	Recreation/Entertainment	Using VR, AR or wearables create a game or simulation using Singapore context, e.g. ITE Central
Smart Health	Senior citizens	Using wearables, VR or AR to track the well-being of senior citizens
Smart Business	Personalised shopping/Efficient Payment	Using a company web portal to check sales items and payment methods
Smart Education	Global knowledge base	Using AR to enhance learning experience, virtual board
Smart Community	crowd source truth verifier, Social presence	Using open data to develop an app to determine “true or not”
Smart Environment	e-waste, carbon tracker, air quality	Using crowd source data to calculate e-waste and carbon emission

Junior Category Challenges
We are building Singapore into a Smart Nation. Use your imagination to build Scratch games, interactive stories or animations to show us your ideas for at least one of the topics listed below
1. How can you make your travel smarter in 2020?
2. How can you make your home smarter in 2020?
3. How can you make your neighbourhood smarter in 2020?
4. How can you make your life smarter in 2020?