

Code of India Social Innovation Hackathon, Rashtrapati Bhavan, 19th March 2016

Code for India (<http://codeforindia.org/>) - Founded in Silicon Valley with the startup ethos, Code For India is one of the fastest growing tech communities in the world. CFI partner with nonprofits and NGOs on projects that will enable them to execute faster on the ground. Their projects are highly vetted and are aimed to solve real world problems that are non-profit partners are facing. In close collaboration with their partners, CFI have helped build technology solutions for Elections, City Governance, Women Safety, Education etc.

Social Innovations Hackathon 2016 (<http://codeforindia.org/cfi-hgs/social-innovation-hackathon>) - First ever Hackathon to be held at the **Rashtrapati Bhavan** on **March 19th, 2016**, as part of the President's Innovation Week organized by Code for India. The Hackathon aimed at creating a digital system that will take forward the mission of large scale changes through social innovations. Code for India has previously hosted overwhelmingly successful hackathons at Stanford (2013), Silicon Valley/Bangalore (2014), Silicon Valley/New Delhi and Ahmedabad (2015), with recognition from visionaries such as Amit Singhal, N R Narayana Murthy and PM Narendra Modi. Their mantra is "Think Local, Hack Global".

Challenges

Four themes form the key challenges for this Hackathon.

1. Automating taking attendance for class teachers.
2. Authentication of students taking curriculum exams.
3. Surveillance at entry into public monuments.
4. Surveillance of public loos.

We presented a solution that helps in authentication of students taking curriculum exams. Our idea involved that colleges will generate hall tickets for each students with a QR code on it. Hall tickets generation involved initially extracting fingerprint ISO/IEC 19794-2:2005 template of student, collecting UID, Roll No of student. Then performing public private key encryption using the three things gathered above with college performing encryption using private key. In order to generate QR code correctly cypher code was encoded using base64 encoding. Final hall ticket was prepared containing QR code. At the examination centre this QR code was scanned, decoded and decrypted (using public key given by college privately) and at the same time again fingerprint ISO/IEC 19794-2:2005 template of student was extracted from fingerprint scanning at examination centre. If user has UID then fingerprint was validated again Adhar API else both fingerprint templates one from QR code and other scanned at centre was compared and student was validated where authentic or not.

Our idea won first prize in the respective category and the award was presented by the Honorable President Shri Pranab Mukherjee at the Rashtrapati Bhavan in New Delhi on March 19, 2016 in the presence of eminent speakers like Karl Mehta, Founder of Code for India and founder-CEO of EdCast, and Mohandas Pai, Chairman, Manipal Global Education. The panel of judges included eminent personalities from industry and commerce including Mohandas Pai, R

Chandrasekhar (President of NASSCOM) and Sharad Sharma (Co-founder and Governing Council Member iSPIRT Foundation).

Useful Links

1. <https://www.youtube.com/watch?v=XVFc8HK2O-8>
2. <http://www.enaindia.in/news/newsdetails/knowledge-resource/research-and-development-rd/young-minds-should-find-creative-solutions-to-socio-economic-problems-of-our-country-says-president>
3. http://articles.economictimes.indiatimes.com/2016-03-15/news/71543088_1_hackathon-rashtropati-bhavan-karl-mehta
4. <http://www.thehansindia.com/posts/index/National/2016-03-25/CodeForIndias-Rashtropati-Bhavan-hackathon-generates-social-apps-for-schools-and-municipal-corporations/216280>
5. http://www.business-standard.com/article/government-press-release/young-minds-should-be-sensitized-to-find-creative-solutions-to-socio-116032000518_1.html
6. <http://www.voicendata.com/mahindra-comviva-wins-hackathon-for-social-innovations-2016/>