Smart India Hackathon 2019 – Hardware Edition

INVENTION DISCLOSURE

1. Title of Invention: **Wireless communication using FSO in a hexagonal system**

2. Date: 27th May 2020

3. Field of Invention (e.g Chemical, Mechanical, Electrical, Biotechnology, Electronics, Medical System, Miscellaneous): Electronics and Telecommunication

4. Name and contact details of the Inventor: Shailendr Shrivastav (8793102969)

5. Whether your invention is product/Composition/ Process/Equipment/Device/System? System

6. Problem in the prior art, e.g prior patent, prior reported literature (Give relevant prior art and state the problem of the prior art based on patent and literature search). Prior art search may be conducted using keywords from inventive area. Conduct prior art search use public databases e.g. https://scholar.google.co.in https://patents.google.com http://www.wipo.int/tools/en/gsearch.html https://worldwide.espacenet.com/?locale=en_EP https://search.uspto.gov/search?query=+&op=Search&affiliate=web-sdmg-uspto.gov http://www.tkdl.res.in/tkdl/langdefault/common/TKDLSearch.asp?GL=Eng :

Keywords Used: Free Space Optical communication using laser, cell structure in mobile communication, Wi-Fi standard (IEEE 802.11) **Prior Art (Literature Closest Match): NA** **Prior Art (Patent Closest Match): NA**

7. Statement of invention e.g state your inventive area and what solution you are providing to solve the problem not addressed in prior art:

NA

8. Describe your invention with working model/ example;(e.g if the invention is product/composition, give details of product composition in the form of range at least, Give working example (testing result of composition and properties, If it is process, give process flow chart mentioning process parameters, at least in range, give working example. If it is system operated based on algorithm, give the hardware/unit details and how the algorithm is affecting the functionality of the unit)

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Our solution consists of 2 parts

Part I:
Free Space Optical communication from Gram Panchayat (USO) ONT locations to sparsely located individual households in rural areas which are 3 – 10 kms far from these ONT locations.
Part II:
Last mile connectivity using hexagonal structure of routers.

9. Identify the novel features (Just put in bullet form, e.g….Algorithm to detect signal in the signal system components)

- Hexagonal structure for maximum area coverage
- Laser as a carrier source instead of microwave frequency

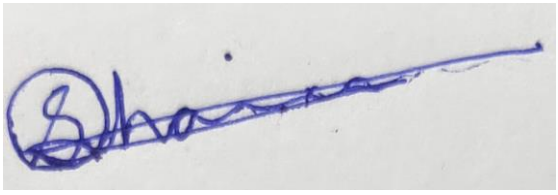
10. State possible application of your invention:

Long distance wireless communication, wireless connection to remote areas, Wi-Fi hotspots having no blackspots and maximum coverage .

I hereby declare that, to the best of my knowledge and belief, the particulars given above and the declaration made therein are true.

Signature of the Corresponding Inventor

(sorry for the sign image, as we are not having access to printers due to lockdown)


(Shailendr Shrivastav)

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