**Government of India**

**Ministry of MSME**

**Incubation**

**Details of the Incubate:**

**Category of the 6 Entrepreneurs:**

**Student:** Gargi Chakraborty, Romit Kumar Pal, Aritri Podder, Ritam Bhattacharya, Arkoprovo Dutta, Joy Sharma

**Startup/Employed/Others :**

**Incubate Name:**

**Technical Sector:**

**Aadhaar Number: 9384 2109 1099(Gargi Chakraborty), 2285 9178 1186(Romit Kumar Pal),**

**6806 0897 4039(Aritri Podder)**

**Name as per Aadhaar/ Passport**: - Gargi Chakraborty, Romit Kumar Pal, Aritri Podder

**Gargi Chakraborty-**

**State: West Bengal**

**District**: **North 24 Parganas**

**Email ID: -gargichakraborty105@gmail.com**

**Mobile Number: 8777384622**

**Gender: Female.**

**Category****: Legal Chatbot using Natural Language Processing.**

**Present Address: 1/1, South Kalianibas road, 2nd lane, Barrackpore,700122**

**Romit Kumar Pal-**

**State: West Bengal**

**District**: **North 24 parganas**

**Email ID: romitkrpal@gmail.com**

**Mobile Number: 7044050975**

**Gender: Male.**

**Category: Legal Chatbot using Natural Language Processing.**

**Present Address: 17/2 Shyamashree Pally, Barrackpore,700122**

**Aritri Podder-**

**State: West Bengal**

**District**: **North 24 parganas**

**Email ID: podderaritri@gmail.com**

**Mobile Number: 98318 71391**

**Gender: Female**

**Category: Legal Chatbot using Natural Language Processing**

**Present Address: 9no, Basudebpur road, shyamnagar,743127**

**Legal Sector:**

**Aadhaar Number: 6280 1682 7412(**Ritam Bhattacharya), **2092 3887 9046**(Arkoprovo Dutta),

**8965 5987 3011** (Joy Sharma)

**Name as per Aadhaar/ Passport**: - Ritam Bhattacharya, Arkoprovo Dutta, Joy Sharma

**Ritam Bhattacharyya :-**

**Mobile Number: 87770 47870.**

**Email ID. -** [**ritambhattacharyya10037@gmail.com**](mailto:ritambhattacharyya10037@gmail.com)

**Address: -** 559 R.B. AVENUE BYE LANE, LICHUBAGAN, Bhadreswar, Singur, Hooghly, West Bengal 712124

Gender – Male

Category – Database making of Legal Chatbot.

**ARKOPROVO DUTTA**

**Mobile number: - 9547992048**

**Email ID: -** [**arkoprovodutta1402@gmail.com**](mailto:arkoprovodutta1402@gmail.com)

**Address: - Benachity, Nabapally, Near Durga Mandir, Dist - Paschim Bardhaman, DGP - 713213**

Gender – Male

Category – Database making of Legal Chatbot.

**Joy Sharma**

**Mobile: 9875691422**

**Email ID: -** [**sharmajoy286@gmail.com**](mailto:sharmajoy286@gmail.com)

**Address: - Susheila Apartment, Flat no 105, Block 3 C, Doharia, Doltola, Kolkata 700132, West Bengal.**

Gender – Male

Category – Database making of Legal Chatbot.

**Details of the Host Institute(HI)**

Brainware University, 398, Ramkrishnapur Road, Barasat, Kolkata, West Bengal 700125

03371445573, registrar@brainwareuniversity.ac.in, 9831960033

**Name of the Business Incubator (BI)**

Jyotirishwar Kumar, Assistant Registrar, asstregistrar@brainwareuniversity.ac.in, 8013571611

**Details of Idea:**

1. **Title of Proposed Idea/ Innovation: Legal Chatbot Using Natural Language Processing: One Step towards the awareness, prevention and security about relevant Indian Laws**
2. **Whether the idea involves use of existing intellectual property or not, give brief details:** As per Legal Service Authorities Act,1987, legal advice provision is there but it is only case specific and not all citizens can avail it. It is free for women and children but others need to suffice income requirement which is very less and time consuming. But Legal Chatbot Using Natural Language Processing the citizens can avail legal assistance or remedies irrespective of race, caste, gender, creed etc.

Actually, in this project we will try to help the people of India who face legal issues. and it's a fact that most of the time, they were misguided by numerous legal assistances from the advocates and from different websites, this legal chatbot will try its best to resort to the solution while keeping in mind the significance of confidentiality and data security of the people.

We will launch a **Legal chatbot** using Natural Language Processing (NLP) with the help of Machine Learning approach. While making this project we’ll also deal with one of the BERT model.

III. **Briefly explain the newness/uniqueness of the innovation:** Several European countries are using automated decision-making systems for justice administration, especially for the allocation of cases to judges, e.g., in Georgia, Poland, Serbia, and Slovakia, and to other public officials, such as enforcement officers in Serbia.

However, while these cases are examples of indirect automated decision-making systems, they may still significantly affect the right to a fair trial. A developing country like India needs to be more concerned while giving any judgment, here we are trying to serve the reliefs without falling into any erroneous assumptions.

**IV: Concept and Objective: -**

**The following objectives are as follows:**

1. Instant legal advice without requirement of any documentation.

2. Covering scenarios where legal advice is required day in day out.

3. True realization of protection of human rights, as a societal measure.

4. A tool to realize gender neutrality.

5. A tool to give instant legal advice in a pocket friendly manner.

6. A tool to curb the misuse of legal provisions by the citizens.

**V. Specify the potential area of application in industry/market in brief:** If it is successfully executed, then we will bring a lot of clarity in the legal domain and pertain to the best advice to the citizens by using our technologies.

**Briefly provide the market data for the potential idea/ innovation:** If it is successfully executed, then we will bring a lot of clarity in the legal domain and pertain to the best advice to the citizens by using our technologies.

**Details of Mentors**

**Name of Mentors:**

1. **Arpan Murmu**, Assistant Professor, Department of Computer Science and Engineering, Brainware University.
2. **Anindita Chakraborty**, Assistant Professor, Department of Computer Science and Engineering, Brainware University.
3. **Shahnaz Mondal**, Assistant Professor, Department of Law, Brainware University.

**Experience and Qualification of Mentors:**

Mr. Arpan Murmu (M. Tech, B. Tech), Ms. Anindita Chakraborty (M. Tech, B. Tech), Ms. Shahnaz Mondal (LLM, BA.LLB)

**Contact details of Mentors:** Arpan Murmu, Mob No. 6290176125; Anindita Chakraborty Mob No. 7003059156; Shahnaz Mondal, Mob No. 8420581489.

[**arm.cs@brainwareuniversity.ac.in**](mailto:arm.cs@brainwareuniversity.ac.in)

[**szm.@brainwareuniversity.ac.in**](mailto:szm.@brainwareuniversity.ac.in)

**ac.cs@brainwareuniversity.ac.in**

**Current development status of innovation: Primary**

**Expected time if completion of Idea:**

**Idea Sector: Cloud Computing**

**Financial Details:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Particular/ Item** | **Total Idea Project Cost (Rs in Lakh):** | **Amount of GOI assistance (Rs in Lakh):** | **Incubate Share (Rs in Lakh):** |
| Technology related Expenditure towards machine usage charges etc., Electricity charges, Procurement of raw material, testing/Calibration charges, other charges essential for development of idea  **Max (10.00) lakh.** | 1.5L | 1L | 0.5L |
| Charges for mentor/handholding supporting team **Max (3.00) lakh.** | 2L | 1.5L | 0.5L |
| Travelling Expenses or any other item not covered as above may be allowed as per need for development of the idea **Max ( 2.00) lakh.** | 1.2L | 0.8L | 0.4L |
| Total | 4.7L | 3.3L | 1.4L |

**Budget Details with Justifications:**

**Total Expenditure (Technology and law related) towards the project for development of idea: -**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Direct Cost (INR)** | **Name** | **Description** | **Quantity** | **Total cost [INR]** | **Justification** |
| 1. | 19992/- | Google Collab 12 Month Membership | Google Collab is used to do the Coding as per requirement. | 1 | 19992/- |  |
| 2. | 1099/- | The Hundred-Page Machine Learning Book | It’s required to enhance knowledge in ML sector.  Link of the book given below:  https://amzn.eu/d/ckUX2zP | 1 | 1099/- |  |
| 3. | 2600/- | Hands on Machine learning with Scikit learn, Keras & TensorFlow | It’s required to enhance knowledge in ML sector  Link given below:  https://dl.flipkart.com/s/uMxZ5HNNNN | 2 | 5200 /- |  |
| 4. | 565/- | Python Programming using problem solving approach | It's required to master in python which is the prime language of our project.  Link: https://dl.flipkart.com/s/weJsiaNNNN | 2 | 1130/- |  |
| 5. | 4918/- | Practical Natural Language Processing | NLP being our prime domain in this project we must have ample amount of knowledge.  Link given below: https://dl.flipkart.com/s/u7lQRHNNNN | 1 | 4918/- |  |
| 6. | 1200/- | Head first Java | Link: https://dl.flipkart.com/s/NlLevyuuuN | 1 | 1200/- |  |
| 7. | 3399/- | Android App Development course. (Udemy) | To acquire knowledge about app making.  Link: <https://www.udemy.com/course/master-android-7-nougat-java-app-development-step-by-step/> | 1 | 3399/- |  |
| 8. | 1900/- | Getting started with Google BERT | Get knowledge about BERT  Link: https://amzn.eu/d/6XFoC5T | 1 | 1900/- |  |
| 9. | 3499/- | Machine Learning Course (Source: Udemy) | It will help us to know about real -world projects.  Link: https://www.udemy.com/course/deep-learning-machine-learning-practical/ | 3 | 10,497/- |  |
| 10. | 3499/- | Scala and Spark for Big Data and Machine Learning (Udemy) | Link: https://www.udemy.com/course/scala-and-spark-for-big-data-and-machine-learning/ | 3 | 10,497/- |  |
| 11. | 4000/- | Portable Dongle |  | | 6 | 24000/- |  |
| 12. | 40,000 | Text Books (Law) |  | |  | 40000/- |  |
| Total: | | | | | | | 1,23,832/- |

**Total Idea/project cost (Rs. In Lakh): 4.7L**

**Total GOI Assistance required (Rs. In Lakh): 3.3L**

**Total Incubate share (Rs. In Lakh): 1.4L**

Please give name of all students/Entrepreneurs associated with this project/idea, if any

|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Name** | **Aadhaar/ Passport Number** |
| 1. | Romit Kumar Pal | **2285-9178-1186** |
| 2. | Gargi Chakraborty | **9384-2109-1099** |
| 3. | Aritri Podder | **6806-0897-4039** |
| 4. | Ritam Bhattacharya | **6280-1682-7412** |
| 5. | Arkoprovo Dutta | **2092-3887-9046** |
| 6. | Joy Sharma | **8965-5987-3011** |

**Summary of the Idea:**

We will completely involve the most famous area in AIML called NLP (Natural Language Processing) in this undertaking. Additionally, we will use the BERT model utilizing MuRIL (Multilingual Representations for Indian Languages) which will serve to all sort of Indian individuals agreeable in various dialects to speak with our chatbot. Adding with this, we will get to the area for the reference of the legal advisors to the client.

**Is it a new Concept**: Yes

**Prior art on the concept:**

There are several countries in which Legal chatbot are existing and it’s pretty much helpful for the people. In India, no such kind of work has been done yet.

**Main Problem being addressed in the project:**

This era in spite of being the era of modernization, some native individuals are still not aware of the laws of our nation. That is the reason certain individuals make an approach closer to the legal counselors with their concerns with a mentality that nothing will occur on fever of them. This project will make them aware of his/her own right as an individual.

**Background for getting the idea:**

**Who is it for?**

This project can be used in commercial sector. Precisely, this bot can be one’s first step towards lodging a case**.**

**What will it do?**

It will guide the user with the proper Indian laws (IPC, CRPC, CPC) and their uses regarding the client’s need. Also, it will help to generate a communication with the legal advisors for their further help.

**Any unique features? Explain?**

1. **Voice assistance**
2. **Multilingual representation**
3. **Dataset security**
4. **Advocates near you- location access**

**How simple or complex will the idea's execution or implementation be? What are the risk factors involved in executing the idea?**

This bot will simply answer to the user without any risk factor as it’ll be end to end encrypted.

**How soon could the idea be put into operation? (TRL of prototype)**

**How much investment would you need for prototyping of the idea?**

**How do you intend to protect your idea (i.e. your intellectual property or IP)?**

**Related Background. This section is used to highlight information that can be used by the reviewers or patent attorney to help put the solution in proper context. You can think of this section as something similar to the introduction section of an academic publication. This section is specifically reserved for other people's work (please include competitive work) as well as your past work that you believe will aid the reviewers in understanding the technical landscape. Data related to or supporting your solution should not be in this section, it should be in Section I!: "How is this Solution Made and Used."**

**How is this project made and used: Please describe in as much detail as possible how the innovation is**

**implemented. This includes details on how you actually make, assemble, synthesize, or build the solution and**

**details on how the solution is used once it is made. Reviewers will ask: How does the technical innovation**

**actually work-or-what is the detailed process to achieve the technical innovation ? Please help convince**

**the reviewers with supporting statements using as much of the following that is available: your thoughts,**

**logic, supporting literature, and/or experiments.**

**Upload Block diagram/ flow chart/ Circuit Diagram/Pictures**

**Upload Minutes of the the Selection Committee**

**Please Upload Student Id / bonafide certificate duly certified by HI**

**Declaration:**

I declare that:

1.I have read the entire scheme guidelines and shall abide by all the requirements stipulated therein for seeking financial assistance.

2.I hereby declare that information given above is true to the best of my Knowledge and that 1 have not withheld/distorted any material fact.

3. Any information/ documents that may be required to be verified shall be provided immediately before the concerned authority.

4.I hereby declare that I have not availed any financial assistance for this purpose from any other scheme from any Central/ State govt. agency.

5. In case the idea is approved, Host Institute would undertake to make facilities available to carry out the development arrange for the submission of periodic progress reports and other information that may be required by the Ministry.

6.I certify that the accounts of the funds received and spent will be kept and made available on demand, as per scheme guidelines

7.I certify that the funds will be used only for idea development as per activities defined in Scheme Guidelines& no funds out of this grant will be utilized for any other activity/production purposes.