# ACTIVITY PITCH QUESTIONNAIRE (APQ)

**ESA-TIAA-PO-2017-1054 - V.1.29**

The present questionnaire intends to collect in a standardised way information on various aspects of your idea / proposition regarding the IoT device, in order to understand:

i. what is the level of expertise / know-how of the proposer;

ii. what is the current level of maturity;

iii. what is the business target and business potential.

Please, keep your answers to a **maximum limit of <u>10 pages</u>**, maintaining font size and structure.

## Section AP.1: Background information

| | |
|---|---|
| **AP.1.1 Idea name:** | Pharmacy Vending Machine |
| **AP.1.2 Team proposing:** *(names and e-mail)* | Tatu Bogdan<br>(bogdantatu10@gmail.com) |
| **AP.1.3 Does your team (company / consortium) have the right skills and experience to deliver what you are proposing?** *(Yes/No/Partial + comments. Please indicates which skills/expertise you possess/miss)* | No:<br><br>The programming knowledge necessary to create the system is there, but it's in need of more than that, the workforce to build and sustain the system.<br>The outsourcing needed for the manufacturing process of the actual vending machine and the necessary circuitry that has to go inside the device. Another big problem would be the actual logistics of the whole project, the need for constant resupply. A minor/major inconvenience can also be the legal side of the project, but I'm not really versed o this part enough to see how costly it would be.<br>It would need to be a full scale business to actually implement, with enough funding to get everything started. |

## Section AP.2: What do you want to offer and what is the added-value?

**AP.2.1 What is the final service that you want to offer?**

A system of vending machines that can supply non-prescription pills to anyone passing by like a regular vending machine or prescription pills to users that are already using the network and have requested shipments to a given machine based on the prescription (the medication, the dosage, the amount that can be sold). They can communicate with the central cloud when it comes to stock and restock and show a comprehensive map of all the locations that have a given product.

**AP.2.2 Who will be the customers/users of the final product / service?**

*(please note: users and customers can be different:*
*users will use the final product/ service but they do not necessarily pay for it;*
*customers will pay for the service, but they do not necessarily use it )*

The customers and users are the people that are in need of medication, the same as the ones that would buy from a pharmacy, but want everything taken care of by the application and the network. Another customer could be pharmacies in need of broadening their reach, but not having the revenue to open shop in different locations, they could use the vending machines for their needs and also join the network.

**AP.2.3 What are the customers'/users' pains (e.g. problems) and gains (e.g. benefits)? Can you quantify them?**

*(please note: whenever users and customers are different, pains and gains can be different as well)*

The pros would have to be the ease of use, by either physically going to that location on acquiring the needed products in a few moments or apply for delivery when needed at an extra cost. The ease of changing the vending machine address to be delivered to in case of anything. The 24/7 uptime and low maintenance and upfront costs, not needing specialized personnel, would be a great selling point for other pharmacies wanting to join the network. Scalability can be another gain, since everything that's needed is just another device. Less error prone since it removes the human aspect, medication won't be given out accidentally.

One of the biggest problems that could arise would be the adoption of the machines, if not done properly. Another big issue would have to be the changes of medication, since they're not full-sized pharmacies, not everything can be stored inside, compromises have to be made, and fluctuations in user needs cand bring higher logistic costs.

## Section AP.4: How do you intend to implement?

### AP.4.1 What is the starting point <u>before</u> you start the activity you propose?

*(e.g., idea, prototype, existing product, existing service, results from other activities, discussions with potential users)*

The are a few existing services that resemble the idea, but all of them work like normal vending machines, without the "smart" part that tie in the user to all of this. The manufacturing technology is there, the big step is integrating the actual hardware and software into the machines and the creation of the backend and applications that users can utilize.

### AP.4.2 What are the key activities you propose to execute?

*(e.g. commercial aspects: market analysis, winning over potential customers, business case investigation/definition, validation of business plan assumptions, preparation of service level agreement*

*e.g. technical aspects: proof of technical feasibility, proof of concept, design, development, integration, testing validation with pilot customers)*

*The main focus for our IoT&SN course is related to the technical aspects. Please include here: the system architecture (you have to provide a picture), detailed descriptions of the involved parts:*

*-what board/boards you use and why;*

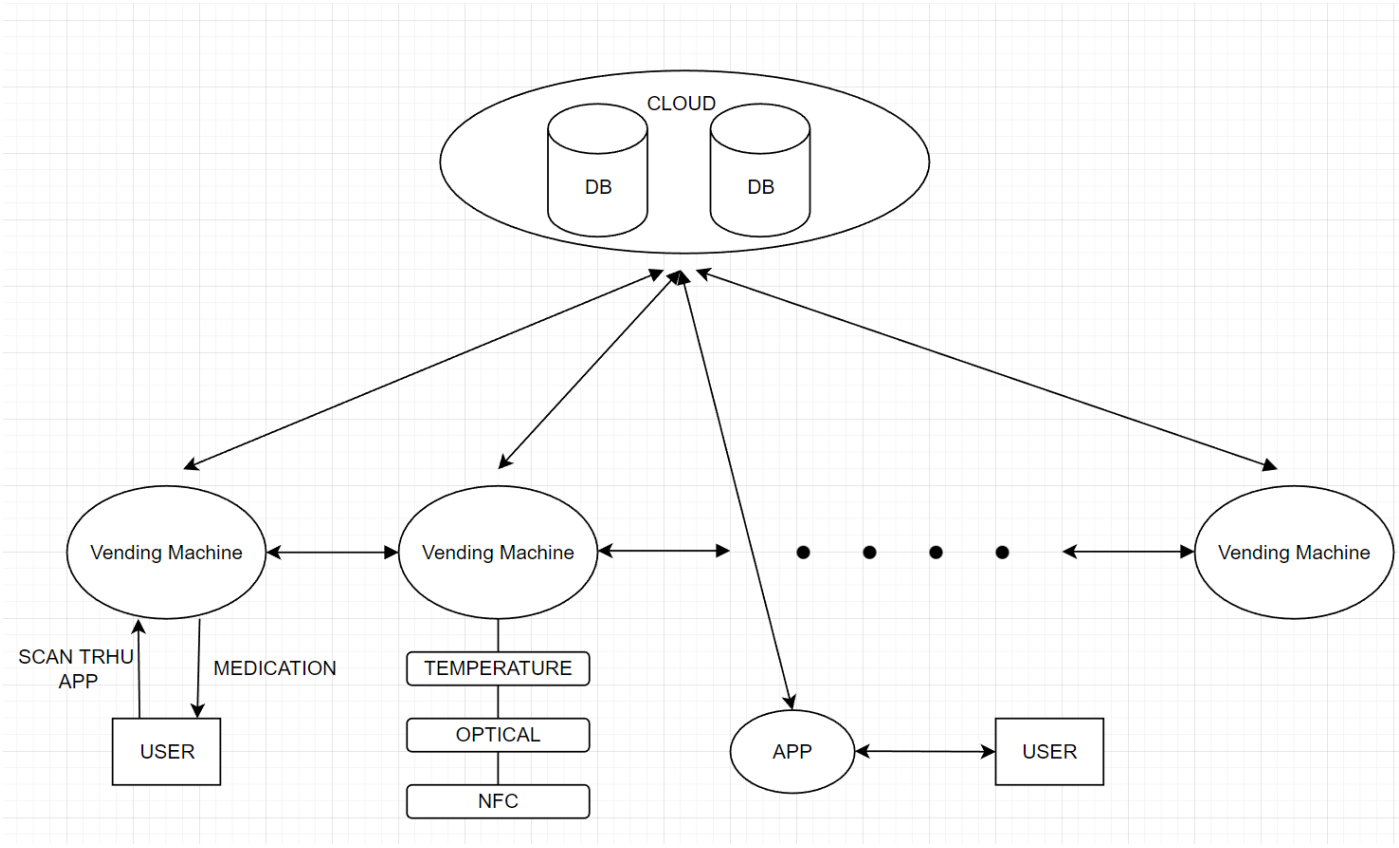
*-what sensors;*

*-do you use Blink as mobile app?*

*-Do you consider using an IoT Cloud service?*

*You can take as an example these IoT specifications: https://cv.upt.ro/mod/url/view.php?id=52375 -- system architecture, implementation details, schemes etc.*

*The system architecture can be drawn in draw.io or any other tool*




The boards do not have to be top of the line, since not a lot of processing needs to happen on-site, just enough to deal with the sensor data.

The scanners needed are ones to track the temperature of the units, visual sensors for scanning off apps and NFC sensors for payment.

The mobile app will only be used to send requests, process payment, show a map of the physical devices and their products and for use of the vending machines to know the user making the request.

It would implement an IoT Cloud service for the processing of data and requests of users, updates on the actual medication, to notify the user in case something comes up, missed medication or changes in supply, also gather the user data required for transactions and the supplying of machines.

The machines will also be able to communicate with one another for customers without apps in case of a missing product in one to give directions to a nearby device.

**AP.4.3 What are the most important risks (technical / business / commercial) to your activity? What are your mitigation plans?**

Upfront costs and uncertainty in early adoption, since the network would only become more useful as it grows. There needs to be an active advertising campaign showing the ease of use of the whole system.