**Part 1 - Your Startup**

1. What is Startup's main product/service?

Moments of uncertainty like the current one, with the pandemic caused by the new coronavirus, lead businesses to review their expenses. Many cuts end up damaging the operation of the business or the lives of its employees. A startup proposes saving without any additional complications: just study your electricity bill and look for energy inefficiencies.

Startup 15 specializes in this analysis and already has contracts with 25 small and medium-sized companies. The idea of ​​helping enterprises with their electricity bill, promoting a reduction of up to 30% in this payment, attracted the Canary seed investment fund. Startup 15 received an investment of R $ 3.2 million to prove the acceptance of its product and its strategy of going to the market. By the end of this year, the plan is to have 2 thousand contracts closed with SMEs. Brazil has two energy markets: regulated contracting and free contracting. Only companies with high energy consumption can access the free energy market. According to Rui, this market should be made available to a broader audience only around 2025.

2. When did your startup establish itself?

We were founded in November 2019. Startup 15 arose from our desire to transform a sector with several inefficiencies, which stimulates financial waste and environmental impact. Mainly inspired by the way the electricity sector operates in other countries. We understand that it was possible to create an Energy SaaS to support Brazilian SMEs' contracting of energy.

Thus, Startup 15 positions itself as a Digital Energy Manager that guides companies on which paths can generate more savings in the electricity bill. Within this cost reduction journey, we believe that the first step is a tariff study. Still, we can also think of energy efficiency solutions, monitoring electricity consumption through smart meters and contracting energy in the free market. We want to reduce the electricity bill of small and medium-sized companies.

It received an investment of 3.2 million reais in 2020.

3. Where is your startup located?

Startup 15 operates only in Salvador (Bahia) for the time being.

4. What is your role?

I am CTO.

5. What kind of ecosystem are you currently working on?

Startup 15 is a Fintech.

6. How many employees do you currently have?

Startup 15 has 15 employees.

7. What is the composition of your team?

The team consists of 1 CEO, 1 CTO, 1 Human Resources, four products, one designer, three developers, four operations.

8. Do you proactively participate in product life cycles, such as production, testing, and launch? If so, to what extent?

Yes, I still actively participate in developing the solution, but as we received funding recently, we are already preparing to pass this baton forward. We are already three months into forming another person, but I am still as CTO and developing.

**Part 2 - Software Engineering Practices**

1. What software development practices, tools are you using? Briefly describe how?

I have experience in software development. I previously worked at Sanar and JusBrasil. And some practices that we use at Startup 15 were initially based on that experience. We like the personal JusBrazil. Here at Startup 15, we use Jira to use a card to record development activities and record everything there. We have a robot on Slack that does the daily meeting, asking what the developer will do at the beginning of the day and the end of the day what he has accomplished. And we receive this information automatically. Initially, we used React, Node.js (Express, unitary, integration) for the first version. But we migrated to Python. Today we do everything in Python, and it is incredible the flexibility that Python gives us to carry out all the activities that we need to do. The definition of architecture is based on the concept of "Clean Architecture. " I can send you the book and article reference later.

2. Q what are the most critical quality attributes (UX, performance, security, reusability) for your current products?

For Clark, the user experience is an essential quality attribute, but currently, under the LGPD (General Data Protection Law), the security factor has become mandatory.

3. What testing practices do you adopt to validate and verify your product/service quality?

Here at Startup 15, we use Pytest even to build the tests. We do a code review. And we have some quality criteria, which are automatically checked via tools, such as it allows only 20% repetition of code.

4. How much did you invest in testing activities?

Here at Clark, we have the practice that everything that one developer builds, the other revises to go up to the master branch. Over time we have increased the time we have invested in testing.

5. How do you document your product in different stages of development and testing?

We use GitHub, so the documentation we have is the Readme for the applications, the features. So, each package has a description of what that feature does and what services it makes available.

**Part 3 - Technical and Dynamic Debt (40 min)**

1. How aware are you of TD in your startup?

Yes. We are aware that we have technical debts.

2. What is your perception of TD?

The technical debt exists. We have to manage. In an initial moment, we accumulated a lot. There were too many products. The team was small, and we were still validating the deal.

3. How do you deal with DT? Do you ignore TD? Do you accept and manage TD? Do you avoid TD?

We record technical debts on a card, and each sprint always chooses an obligation to pay. If a debt is too big, we divide it and pay it off. We are unable to pay for everything at once. So, there is debt that we accept. There is debt that we manage and pay off. And one way we have to avoid it is to define good development practices. We have these defined practices. And we respect them—also, the practice of code review.

4. How did you deal with TD in the early stages compared to now that you are in the growth phase?

Initially, we accumulated. Now we manage or accept it. But we register. Every debt that is known we record on a Jira card to pay in the future.

5. Did you change the startup's focus during the transition from the initial to the growth phases? Did any of the situations occur?

1. **Z oom-in**. Has a single characteristic of a product become the complete product itself? - If so, explain the role of DT?
2. **Zoom-out.**Has the entire product become a single feature of a much more significant effect, mainly because the original product is insufficient to meet the customer's needs? - If so, explain the role of DT?
3. **Customer segment**. When trying to solve the right problem, did your startup discover a different customer segment than initially planned? - If so, explain the role of DT?
4. **Customer need. Has your startup realized that the problem you are trying to solve is not very important**for customers and has discovered other related problems that are more important? - If so, explain the role of DT?
5. **Platform pivot.**Has your app become your support platform or vice versa? - If so, explain the role of DT?
6. **Business Architecture**. Did your startup change the business architecture, for example, aiming at low volume, high margin, instead of focusing on the mass market? - If so, explain the role of DT?
7. **Capture value.**Has your startup changed the way/method of capturing value (monetizing)? - If so, explain the role of DT?
8. **Growth engine.**Has your startup made significant changes to its growth strategy to seek rapid and more profitable growth? - If so, explain the role of DT?
9. **Channel pivot.**Has your startup identified a more effective way to reach its customers than the previous one? - If so, explain the role of DT?
10. **Technology Pivot**. Your startup delivered the same solution using completely different technology - If so, explain DT's role?

Yes, since the initial phase, we have had some changes. We had several software products. And today, it focuses on one that seems to make the most sense for the market today. And we just received a contribution to invest more in it. We used technology to develop, now we use Python, as I told you. And our definition is based on the concepts of Clean Architecture.

6. How would you explain DT's role in your Startup pivot scenarios in one or two sentences?

We need to reduce the technical debt to evolve the system.