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CAPSTONE PROJECT SUMMARY

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The problem

The Client is a potential new, technology venture that is in the business case development phase. The first draft of the technology stack needs to be designed in order to estimate development complexity, time and budget. The assessment will be used to make future decisions such as the requirements of the MVP (Minimum Viable Product), tech budget and required development skills for team formation.

The initial objectives for the project was to define key functions, a beta user journey and a draft technology stack. Another objective for the project has been to validate the designed concept with experts, map out the key bottlenecks and create a high-level estimation for the development budget.

Tasks delivered

1. *Mapped business landscape*

First, I defined key players, their role in the ecosystem and their business goals. I also looked for technology use cases for improving customer experience in the industry of the Client. For this phase I mainly conducted desktop research. I found this part of the project a good base for understanding what the current capabilities are to create good customer experiences.

2. *Identified user needs and defined user journey*

Second, I collected hands on insight about potential users' relation to the process that the Client is aiming to improve. The goal of this phase was to map the customer journey and define potential interaction points with the solution. Also, as part of this phase I designed a high-level user journey.

During this phase I delivered 10 qualitative interviews with users and used frameworks from design thinking. After identifying a persona, I used the empathy map that was useful to gain more insight what would delight the

persona, I used the value proposition canvas to match potential gains and pain points with the persona's needs. After that I designed a high-level user journey.

3. *Listed & prioritized functions*

Third, based on the interviews and what users value in digital tools, I also created a list of potential functions. Using the KANO model as a base I defined for each, how important it is for the user. I defined the options as basic functionality, desired functionality and differentiative. I also evaluated them based on development complexity (high, low). For this evaluation I conducted semi-structured, qualitative interviews with four developers who have different backgrounds related to the Client's project. Finally, based on the MoSCoW prioritization method, I evaluated the functions and selected the must have functions to a final list.

4. *Defined system architecture considerations*

Forth, I designed a data flow diagram to understand how information will flow in the system (only considering the must have functions). And during the interviews with developers I discovered the key system considerations, bottlenecks for the solution that I summarized in a system diagram.

I also looked for different solutions for the architecture components and used a case study.

5. *Estimated required resources for a minimum viable product*

Finally, I mapped all the key development task groups in a Gantt diagram and based on the interviews, I estimated the lengths of development time. For the budget estimation I also used both insights from the interviews and online available fee calculators from the top platform providers.

Benefits to the client

Thanks to the project the client got feedback for the product concept and validation for the technical feasibility. Not only potential users have given insight to the problem, revealed their preferences, pain points but also developers have given insight to the complexity of development and possible shortcuts from a technical aspect. As a next step the client knows how to proceed with the development of the project and got also a reference for an estimated budget to move further.

Key outcomes

The key outcomes of the project are the following:

- the potential role of the client in the ecosystem is defined
- the key areas of focus within the customer journey has been identified
- the project turns out to be feasible from a development perspective
- the risks and potential bottlenecks are also identified
- an estimation is made for the development budget and development time for the scope of the must have functions.

Learning experience and key take-aways

It was a great experience to put into practice what I've learnt during my course. I could link most of the classes' content to what I have been working on in this project and they all helped to navigate in the literature available related to technology.

For example, I used many tools from best practices in IT (IT management, cloud, design thinking), from scrum and agile project management which helped in the interviews with developers and evaluating functions. In my research I could build on what I've learnt in Technology-based entrepreneurship, IoT and industry 4.0, Innovation Imperatives, Digital Transformation courses as well.

My top two take-aways are the following:

1) It is hard to prepare for and structure user interviews, because each user has a completely different point of view, habit, regarding the same task that is hard to imagine in advance. It also makes it an intuitive process to synthetize and evaluate the interviews.
2) There is no one-above-all system design, and stakeholders (e.g. users, consumers, suppliers) have all different interests to consider. I learnt about different system architecture components and the tactical considerations regarding when to select which.