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Candidate 2

Technical evaluation for CTO position

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1 Objective

The goal of the evaluation process was to determine, from a technical perspective, if the candidate is likely to be a suitable CTO at Client Business. This evaluation includes non-technical attributes of the candidates (like disposition, availability and mindset) only when they're relevant to technical functions.

1.1 Evaluation criteria

In order to make a determination, we defined five essential characteristics of the position:

1.1.1 Technical proficiency

An understanding of software engineering, software application architecture, best practice and the general technology landscape.

1.1.2 Team leadership

The facility to grow and nurture effective groups of people in order to create useful products.

1.1.3 Active participation

The ability and desire to take a leading role in the creation of a product, initially taking a hands-on approach to design and engineering.

1.1.4 Entrepreneurship

The ability to design, launch and run a new technical product. Critically, this includes the identification of business requirements, an understanding of operational costs, and effective use of resources.

1.1.5 Growth stewardship

The capacity to competently and efficiently scale and adapt a technical product as business requirements and user needs change.

1.2 Criteria assessment

Each criterion is assigned a numeric rating from 1 to 5, according to the following schema:

Rating	*Meaning*
1	The candidate is entirely unqualified
2	The candidate is unqualified, but will be able to pick up the skills
3	The candidate is satisfactorily qualified
4	The candidate is highly qualified
5	The candidate has demonstrated mastery

2 Evaluation methodology

2.1 Process

After finding the candidate and performing a basic qualification based on their CV and published media, the process had three phases:

2.2.1 Initial technical interview

A conversation of approximately 1 hour, during which the candidate is questioned on their technical suitability in relation to the criteria above, and given the opportunity to highlight their skills, accomplishments and relevant experience.

The candidate for this role should be able to concisely and elegantly explain the entire technical workings of previous projects, and detail any challenges that were encountered. Because of this, we went into significant specific detail about at least one high-level and one low-level experience for each of the criteria.

2.2.2 Technical challenge

The candidate was issued a difficult technical challenge to complete in their own time. The challenge is deliberately awkward in four specific domains, all of which are designed to simulate the pressures of being a CTO:

1. **Confusing information**. The bulk of the challenge document is an unsorted brain dump of business requirements, organisation history, legal

specifics and red herrings. A CTO is typically deluged with information, and their job is, in part, to make sense of it.

2. **False premise.** The challenge is predicated on the idea that an entirely new software system must be created, when in fact that isn't necessary. Part of the work of a CTO is to efficiently leverage existing products and infrastructure when beneficial.

3. **Vague metrics**. The candidate is told that the new system must be more cost-efficient than the old one, but they're given no useful specifics. CTOs encounter the problem of uncertainty all the time, and the only solution is to design a system that's as efficient as possible.

4. **No-win timeframe.** The challenge includes 4 tasks, which, combined, would take up more time than is reasonable to ask for, even in this situation. In the real world CTOs are bombarded with work requests and have to guard their time constantly.

2.2.3 Technical challenge review

After the candidate completed their technical challenge, we had a second conversation to review the solution they had come up with. We drilled them on their solution, added some unexpected scenarios to the challenge in order to gauge their responses, and asked them about the running costs of the proposed system.

2.2 Criteria coverage

	Initial interview	Technical challenge	Challenge review
Technical proficiency	✓	✓	✓
Team leadership	✓		
Active participation	✓	✓	
Entrepreneurship	✓	✓	✓
Growth stewardship	✓		✓

3. Evaluation results

3.1 Technical proficiency: **2.5**/5

3.1.1 Initial interview

Candidate 2 is verbally proficient with relevant technology. He seemed to have a good sense of how a large software systems should work and an idea of how business requirements interact with design and engineering. He also expressed some awareness of cost-efficiency. In particular, he was concerned with componentisation and reuse, which are key concepts in efficiency. He demonstrated this by verbal example.

We had some concerns that his current role as CTO is mostly client facing, and that the core engineering output in his current company was outside of his influence.

3.1.2 Technical challenge

As requested, Candidate 2 provided a complete, costed architectural diagram for his solution, and a small codebase representing one component in the diagram.

The architecture of his solution is sound, and he clearly understands the Google Cloud Platform well. He has a good sense of when to build components and when to rent them. The system looks like it would scale well, for the most part. He identified costs for all aspects of the platform. It's a good representation of a well-known and well-tested pattern in high-throughput systems.

While there are many good qualities to the architectural diagram, it doesn't embody some of the key aspects of the challenge – particularly cost-effectiveness. The solution is over-engineered, and would be overly expensive in our opinion. It's representative of a blue-chip or enterprise solution, which is inappropriate for the challenge at hand.

The code he provided hints at a good understanding of modern development practices. It wasn't immediately obvious to us what the code does. Unfortunately one of the key aspects (the continuous integration setup) doesn't seem to work, and it isn't well documented overall. We were also told it was an example of test-driven development (another modern development practice), but upon inspection it doesn't seem to be.

3.1.3 Challenge review

Candidate 2 admits that he had help with the code. Although he's able to explain how it works in principle, we suspect he didn't write much of it. His understanding of rudimentary development principles is limited, though this is likely due to his long tenure as a hands-off CTO.

He was able to give us a realistic estimated team size for a proof-of-concept build, and also a reasonable formula for calculating the running costs of the system.

3.2 Team leadership: **4/5**

Candidate 2 has led a boom-and-bust cycle, peaking at several dozen employees and reducing to a handful over time. The reason for the reduction in staff was apparently due to the product becoming feature-complete and requiring fewer developers.

He demonstrated, through several case studies, a proficiency with soft management skills and sensitivity to potential team rifts. He seems to have been able to deal with these problems reasonably and responsibly.

We didn't get a good sense of his day-to-day involvement with his team, which may be because it's currently being downscaled.

3.3 Active participation: **3/5**

Candidate 2 freely admits that his programming skills are rusty. We get the sense that in his current role most of the engineering work is outsourced. He seems to have been involved with the technical design in his current role for several years. He also took on the technical challenge with open arms.

His challenge solution demonstrates an attempt to lay down good scaffolding for future development. Given more time and iterations, he may have come to a desirable solution – assuming he had some outside technical influence. We think he probably works best in a team of skilled technologists.

3.4 Entrepreneurship: **3.5/5**

In his previous employment and current role, Candidate 2 has launched successful products. He seems to have had a significant role in at least the technical design of these systems.

Although the solution he provided for the technical challenge was not very cost-efficient, he did give us a case study of a very significant cost saving in a previous project. Unfortunately he missed some of the crucial business requirements from the challenge blurb.

Based on our interviews and the technical challenge, we characterise Candidate 2's professional character as dichotomous: in some ways he leans toward the enterprise or blue chip school, but when it came to resourcing and pricing his challenge solution, he was more in the lean, Agile camp. He knows what must be done to build a modern software system, but he doesn't have the ability to do it alone.

3.5 Growth stewardship: **5/5**

Candidate 2 has a proven track record of scaling a software product in both directions.

During the technical challenge review, we changed the challenge requirements, and he was able to adapt his model easily. He also identified future points of growth, change and concerns in the system.

4. Summary

Candidate 2 is a strong candidate. He is friendly, eloquent and well-presented. We believe he could carry his big-picture skills from previous roles with him to Client Business.

He completed the challenge to a minimally satisfactory level. Whilst his architecting and presenting abilities were good, his solution and engineering skills left something to be desired. That said, Candidate 2 acknowledged his limitations upfront and admitted to requiring help to complete the challenge, which demonstrates humility and self-awareness.

We believe Candidate 2 would need a team to begin delivering on Client Business's platform. Given that team, however, he would act as the catalyst to a successful delivery. We can therefore recommend Candidate 2 under the provision of him needing to immediately hire key members of the engineering team to get the project rolling.

	Score
Technical proficiency	2.5 / 5
Team leadership	4 / 5
Active participation	3 / 5
Entrepreneurship	3.5 / 5
Growth stewardship	5 / 5
Total	**18** / 25