ACME Architectural Plan

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1 Introduction

In this report I will expand on the work done previously for the company known as ACME. A system has been designed for the company to move into a more digital and online world. This system was designed around the following business goal:

- Increase profits/customers
- Improve documentation resilience and navigability
- Cater to the student demographic
- Automate/speed up time intensive tasks

This new system was designed to move ACME away from a slow, clunky paper-based system which was slow to update and had little to no *'backup-ability'* as well as from using a phone/email based communication both internally and for customers. In addition to this they wanted to take advantage of the younger student population, research in the previous work concluded that adding cryptocurrency payments could be a goo way to engage this younger audience as well as be an interesting point for marketing. The new software system would move all the old functionality into a software based approach, these features include:

- Adding customer information
- Taking payment
- Handling the return of a vehicle
- Starting a new hire
- Adding a new car to the system

This report will continue this work by looking at the project in terms of architectural design, any security and safety concerns that could arise from the project and how the software will handle faults and promote resilience. I have included the sequence diagrams from the previous work in **Appendix A** to help understand the flow of the new systems.

2 Conclusion

3 Architecture of the new system

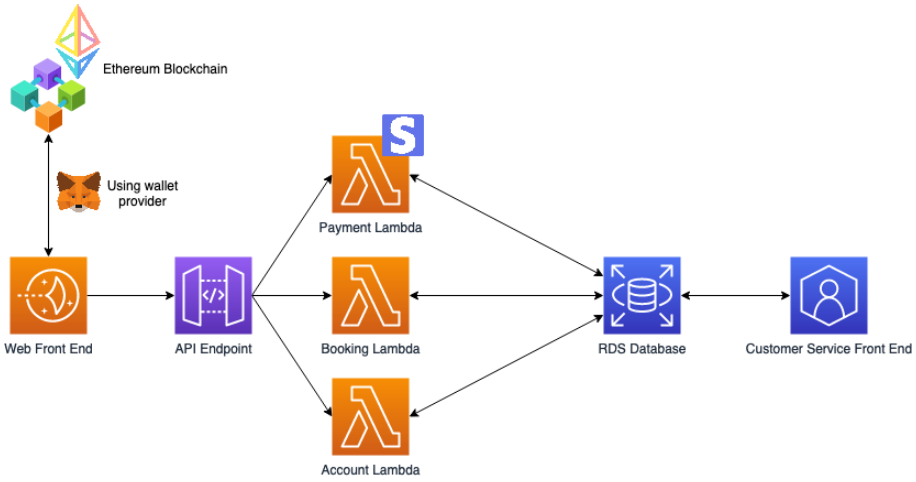

Figure 1: Diagram showing the proposed architecture for the whole system.

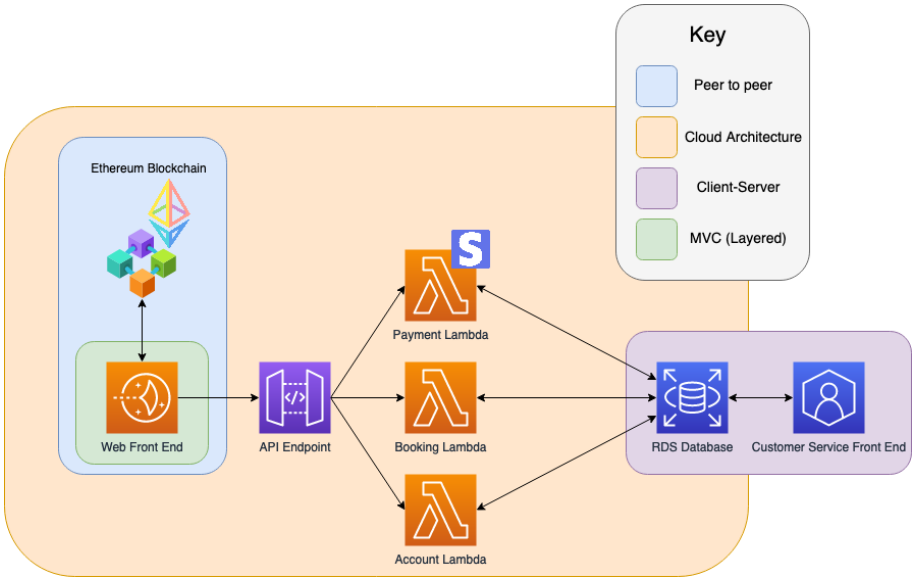

Figure 2: Diagram showing the proposed architecture with the different type of architecture labelled.

4 References

Customer retention - https://hbr.org/2022/12/in-a-downturn-focus-on-existing-customers-not-pot

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Cloud Migration - (Oracle) https://www.infosys.com/Oracle/white-papers/Documents/cloud-migration-assessment-framework.pdf

MVC - https://developer.mozilla.org/en-US/docs/Glossary/MVC

Language Comparison - https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.113.1831&rep=rep1&type=pdf

5 Appendix

5.1 Appendix A - Previous design work

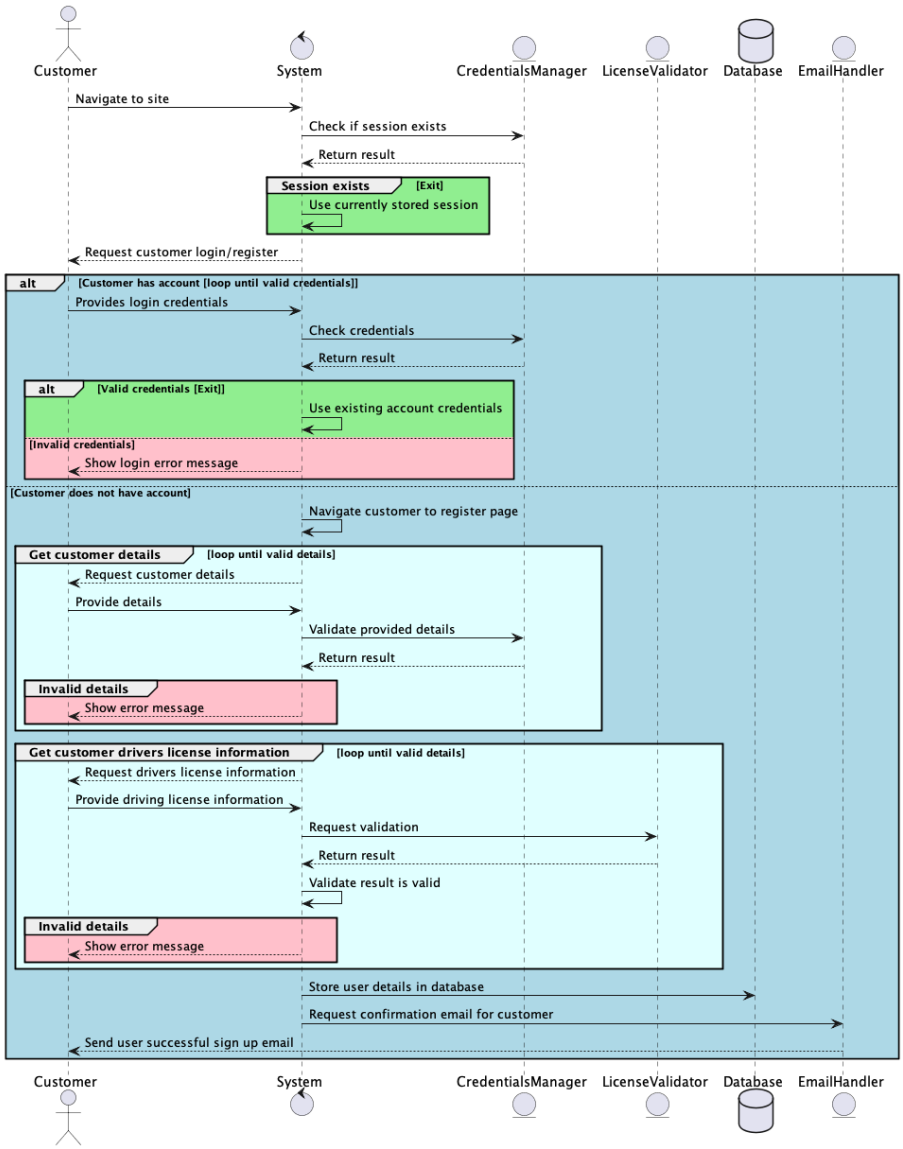

Figure 3: Sequence diagram for adding a new user, this includes sign in/up.

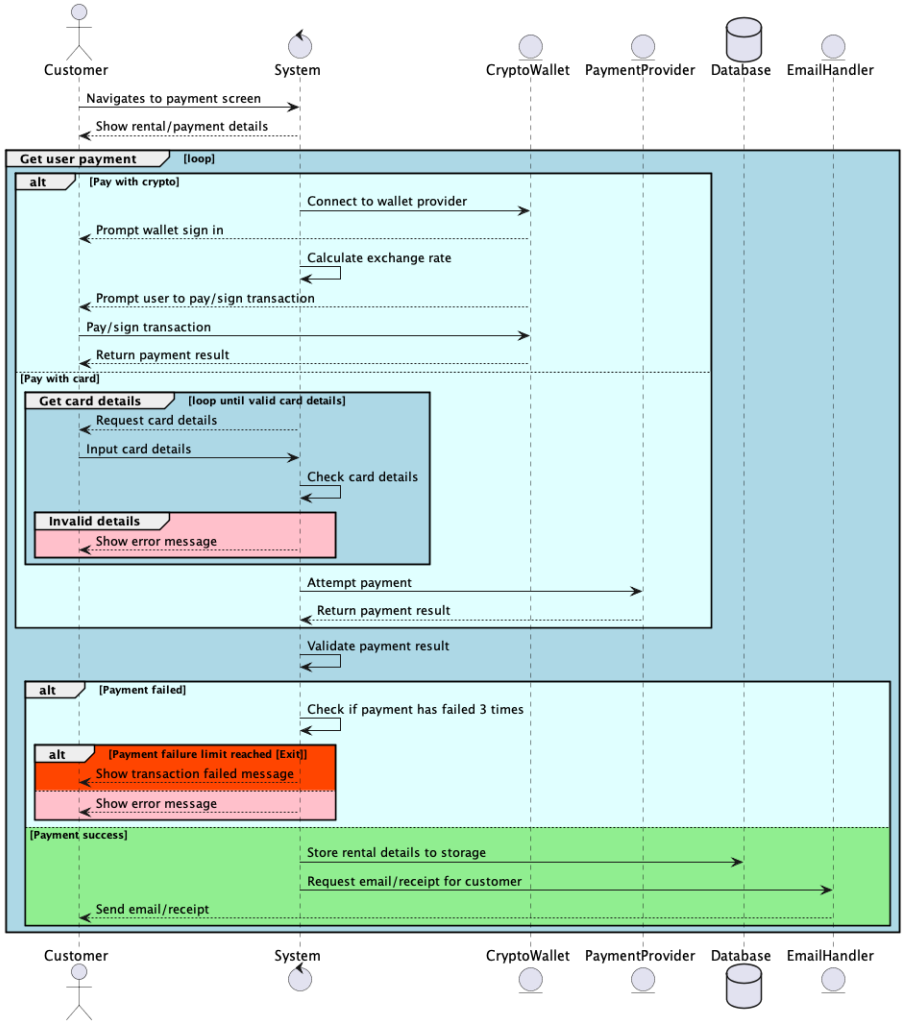

Figure 4: Sequence diagram for taking a payment.

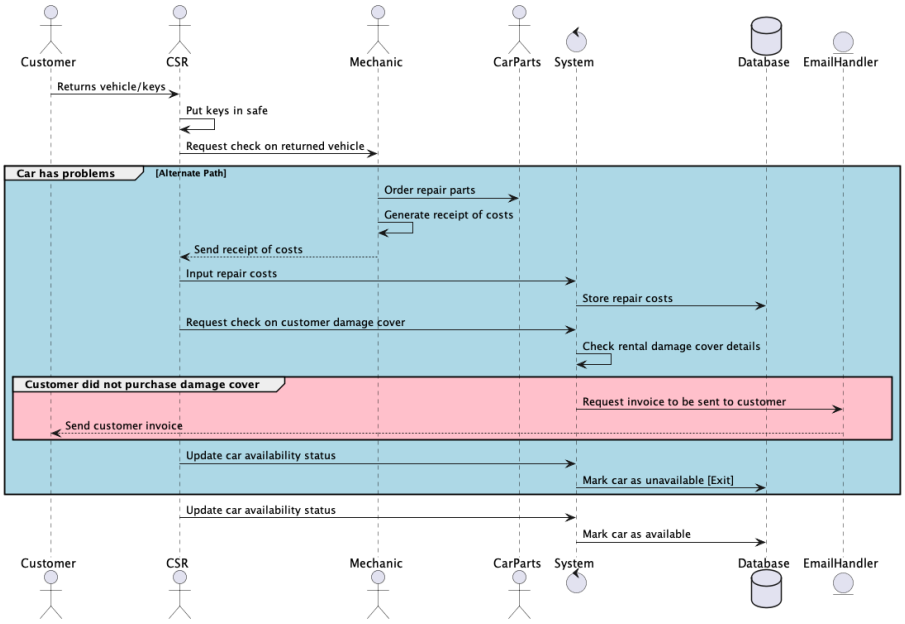

Figure 5: Sequence diagram for handling the return of a vehicle.

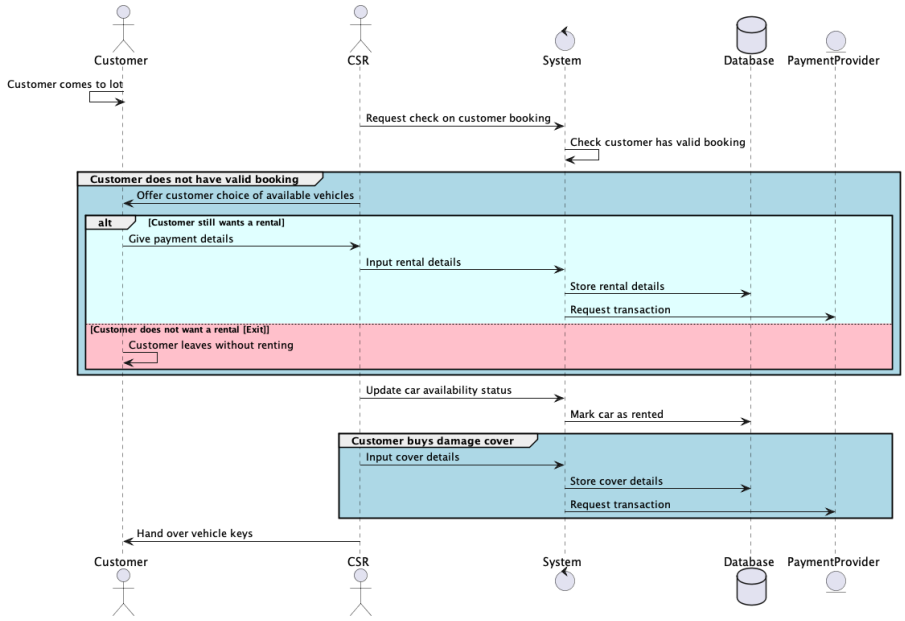

Figure 6: Sequence diagram for starting a new hire.

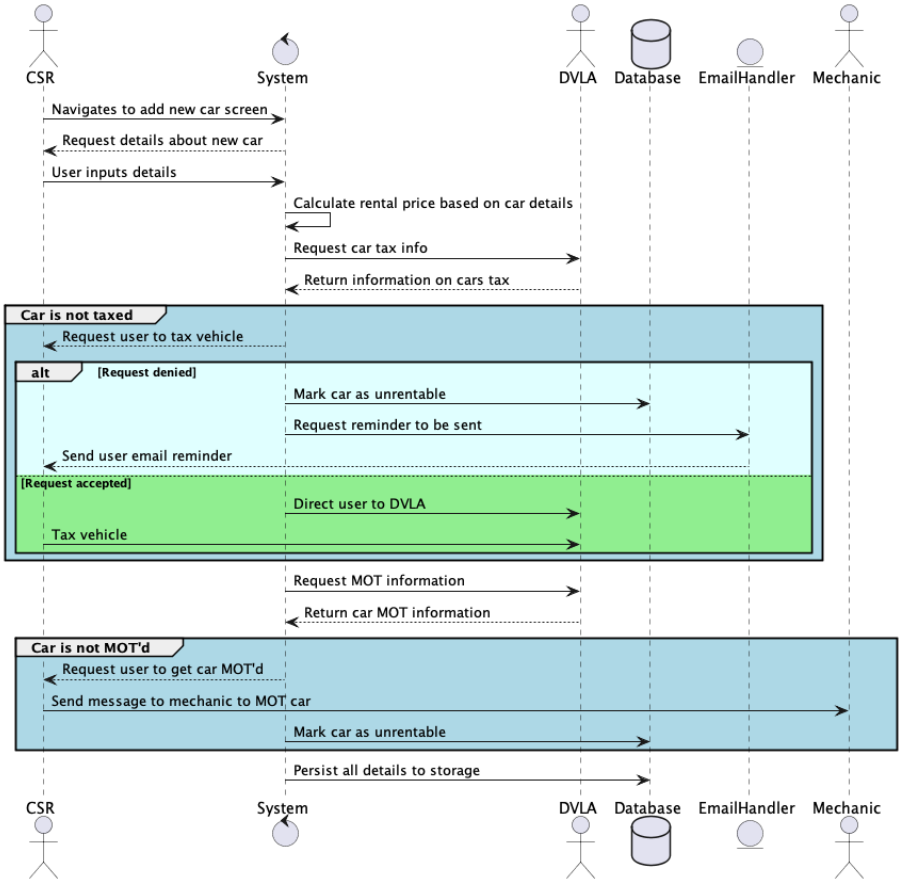

Figure 7: Sequence diagram for adding a new car to the system.