An online booking system

(Booking Ally)

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BSc Software Design

Declaration

I hereby certify that the material, which is submitted in this thesis towards the award of BSc. Software Design is entirely my own work and has not been submitted for any academic assessment other than part fulfilment of the above named award.

Future students may use the material contained in this thesis provided that the source is acknowledged in full.

Signed…………………………………………….

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Chapter 1 – Introduction

“By 2022, 90% of All New Apps Will Feature Microservices Architectures” [1] . A microservice architecture (MSA) is an approach to application development whereby the application is broken down into a set of small independent services, each of these services provides a specific piece of functionality to the overall application.

With the massive growth and adaptation of cloud services and infrastructure there is a new wave of online applications being developed which need to highly scalable, easy to maintain and efficient in terms of development and cost. Some examples of these applications can be seen today in the form of Netflix which migrated from a traditional monolithic architecture to microservices [2] and Amazon [3]. While Amazon and Netflix are different in terms of the services they provide, they both faced the same issue; how to maintain the scalability and maintainability of a massive online service while also providing the same or better levels of quality to their customers. In both situations the adaptation of a microservice architecture and migrating to a cloud infrastructure was key to their success, apart from Amazon who instead took the opportunity to create their own cloud infrastructure to migrate to seen today in the form of Amazon Web Services (AWS).

Chapter 2 – Background research/Literature review

Chapter 3 – System Design

Chapter 4 - Testing and Evaluation / Discussion of Results

Chapter 5 – Conclusions / Recommendations

References

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| [1] | International Data Corporation (IDC), “IDC FutureScape: Worldwide IT Industry 2019 Predictions,” IDC Corporate USA, Framingham, 2018. |

Glossary

List of Abbreviations

AWS – Amazon Web Services

MSA – Microservices Architecture

List of Appendices