Sri Lanka Institute of Information Technology

B. Sc. Special Honours Degree in Information Technology

Seen Case Study for **SE3030 – Software Architecture** Final Examination - Year 3, Semester 1 (2019)

Colombo Life

Colombo Diversified Holdings (CDH) is international diversified business company founded in Colombo, Sri Lanka and has been operating since 1864. The main sectors the company operates are Food & Beverages (F&B), Hotels, Travel, Manufacturing and Real Estate. The company have some presence of operations and/or investments in other areas as well.

The new Group Chief Information Officer (GCIO) of the company have formed a team to analyze various software systems used in the different sectors and plan to revamp all the systems and introduce a new concept called Colombo Life. The goal of Colombo Life is to provide all the needs of customers through a self-managed single IT platform. The GCIO also understands the different software sub systems for each sector would have their own independence and integrations while key focus will be given to Colombo Life initiative.

As of today, the systems are disintegrated (e.g. customers of Hotels will make bookings via each Hotel's website and if the customer needs to book a travel they must book via a different web system). It's also found that some systems are not directly exposed to the end user, rather they are operated by internal staff on request of the customer (e.g. for hotel in-room dining the guest must call the operator and operator will place the order through the internal system). The Colombo Life initiative will consolidate all the systems in to one place giving customers a self-managed superior experience.

Each software system in operation today are separately connected to banking payment gateways so the Customers can make payments online. As of today, the customers are making separate and isolated payments per transaction for each system i.e. Book the hotel separately to booking the travel. The proposed IT systems is expected to consolidate the payments in to one transaction, so the customer will be billed once for all the services at once (instead of separate bills)

A committee has been formed headed by GCIO to identify the needed System changes and new development. Below are key highlights from the committee report:

- Integrated Self-Care system for Customers via Web and Mobile
- Facilitate booking/ordering any good/service offered within the group
- Facilitate viewing of detailed bill
- Facilitate Consolidate Payments

Other than providing a superior end user experience to the customers the GCIO also envisions the solution would bring advancements on how the group operates. Since the new solution consolidates all the payments via a single gateway the group is planning to merge the Finance units spread across the group in to one single unit. The Group Financial Controller require to analyze data: Weekly, Monthly and End of Year where each process the transactions for its respective week, month or year.

The data analysis operation and to produce reports would take a significant computational power during its execution time.

For maintenance of the integrated solution and its sub-systems the existing System Administration teams will be trained to look after each sub-system and their regular operations.

While the group is committed to make all the suggested changes, due to the financial investment and time to develop & roll-out the GCIO is suggesting a phased-out approach for system development so each sub-system can be developed and delivered separately. Its expected that each sector will be starting to use its new software one they are available independently from other sectors. Meanwhile for the end Customer the features offered by each sub-system will be rolled out as and when the services/sub-systems are ready in an incremental approach.

Important
- You are expected to study the above case / scenario in detail prior to the Final Examination and provide answers to the questions at the Final Examination.
- This is a hypothetical case study and you are expected gain knowledge by referring or studying similar systems in the real world and/or similar case studies or publications.
- Its forbidden to bring notes / preparation work / reference material to the final examination.

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