**Case Study**

Notes: a) This is a live case study. While some requirements are mentioned in this case, students might have to do business analysis for system analysis and design.

b) It would help if you researched your client before you worked on this case.

c) Try to analyse similar systems that are on the web. See what functionality do they offer and how?

e) For all assessments, it is suggested that before you answer every question, you should categorically discuss your assumptions.

f) Please read the case multiple times to understand it completely. It is not very straightforward. Some parts of the case explain things well, but others are not presented in much detail. This has been done purposely. You may not find answers for everything; therefore, ‘requirement development’ would help you. See the web for what requirement development is and how it is done. CMMI standard offers a detailed understanding of ‘requirement development’.

g) Look out for redundant information in this case.

**The Case Scenario:**

Doing Good Rewards  Doing Good Rewards (DGR) is a social enterprise, dedicated to helping charities while rewarding everyone for Doing Good.  Our mission is every day, we get out of bed to power positive change that rewards everyone – individuals, businesses, charities and the world.  Our why is to power positive change.  Our vision is of a world without barriers to do good and grow enduring and fulfilling positive change together.  We are aiming to contribute $200 million to charities by 2026.  We can do it together.  The Doing Good Rewards platform is the world’s first loyalty program to automatically combine discounts and charity donations in the same transaction. 

Explainer video of current model using cardlinking technology: https://vimeo.com/449144182 Language ● Merchant = business = retailer = service provider ● DGR = Doing Good Rewards ● B2B = business to business ● EFT = Electronic fund Transfer The Case: IT / Software Development for B2B model SUMMARY: Utilise open banking to read Bank feeds for invoice/EFT payments - design & build a web portal for merchants/ business owners to upload payment information.

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for Assessment 1, 2 and 3, MIS 605 Page 2 of 3 Many merchants/ businesses issue invoices to customers for their product/service (e.g. printing service, travel agent service, gardening service etc.). DGR’s current cardlinking system works upon card payments at an eftpos terminal or online payment gateway, using Visa/Mastercard/Eftpos to find out about the transaction. DGR needs a way to identify customer payments made to these invoicing businesses, where a card payment is not made. It needs a way to identify customer payments made to these invoicing businesses through Bank Transfers and Bpay. Customer agrees a contract with the supplier/merchant and as part of the contract, they agree a special offer. Typically the customers pay quarterly by EFT to the supplier/merchant. The merchant enters the invoice into a web portal for us to monitor for that bank account when they receive that payment. Customer pays full price. Our system sends an alert to the customer “Congrats! Your business for xxx quarterly payment has been received. You’ve automatically received a discount of 10% and part of this is going to your chosen charity.” ● Track when an invoice is paid by EFT (bank transfer) - use a service to monitor the bank feed for that payment. Then the discount is collected and split as savings/donations to charity. Trigger email alerts to the businesses paying and receiving the payment for that invoice. ○ Research open banking services that are available to monitor bank feeds. ● We need to white-label an online banking web portal for the business to enter the invoice that we need to look out for. We need to know the customer’s name, email address, percentage split of the discount, which charity (client has default), ○ Design requirements for this portal for the business owner (merchant) to use This case involves R&D, extracting requirements, process and data modelling and user interfacing design. This solution to include transactions via EFT payment will open up the amount of spending that is included in the DGR ecosystem, vastly increasing the potential for large-scale charity giving to create positive social impact for our communities. The customer paying invoices gets the tax-deductible donation benefit. The supplier merchant gets kudos for the social impact charity giving

perform process and data modelling and develop and document a number of design diagrams including context diagram, level 0 and level 1 data flow diagram and entity relationship diagram.

**Questions:**

Question . Create and provide a Context Diagram for the given case study.

Question 2 (20 mark). Create and provide a Level 0 Data Flow Diagram (DFD). The Level 0 DFD should contain all the major high-level processes of the System and should show how these processes are interrelated/interacting.

Question 3 (24 mark). Select three important processes from Level 0 DFD and provide their decomposition (Level 1 DFD).

Question 4 (20 mark). For the given case study, provide an Entity Relationship Diagram (ERD). Provide the logical model only!

Question 5 (5 mark). For the given case study, identify the data stores including the files that are not part of ERD.

Question 6 (16 mark). Translate the ERD you developed in Task 4 into a physical relational database design.

Use some database tool such as Microsoft Access to create your database and submit diagram that you made using this tool. Normalise your database design to the Third Normal Form (3NF).