

Information Technology Institute

Data Warehouse Project

**Project** **Description**

A major airline company decided to hire you in order to assist the executive management to analyze their current business processes and expand the company by discovering new opportunities.

**Executives** decided that the first deliverable should focus on the flight activity in order to ensure good ongoing business process.

The **marketing department** wants to analyze what flights the company’s frequent flyers take, what fare basis they pay, how often they upgrade, how they earn and redeem their frequent flyer miles, whether they respond to special fare promotions, how long their overnight stays are, and what proportion of these frequent flyers have gold, platinum, aluminum, or titanium status.

Your analysis shall also include the reservation process where **finance** team will be interested in analyzing the company profit. Note that reservation processes can take place through **multiple channels**.

Airline company also provides **customer care interaction** before, within and after your trip in order to handle customer inquiries, complaints and keep their feedback for business enhancements.

Analysis should include interaction type and problem severity (if issue exists)

State the processes bus matrix for your company then apply dimensional modeling process to design the logical and physical design to support such kind of analysis for decision support.

**Project** **Requirements**

1. Identify Bus matrix for your business processes against common dimensions(state which facts will use which dimensions)

2. State the dimensional modeling process for **each** **business process**

3. Using any diagramming tool you like, construct a logical data model for this case study. **Output should be an image or PDF**. State why did you choose this particular data model design? What does the data represent? (**Details about each model component is necessary**).

4. Translate the logical data model to a physical data model which includes the following: tables and columns (name, data type) Output should be a **Word or Excel file.**

5. Create the table in oracle DBMS and populate sample data to **be used** in your queries.

6. Construct a sample of SQL queries **(5 – 8 queries)** using your physical model design which can be used to answer possible questions by the decision maker as described in the case-study above. List the business question with each query. **Output** should be a Word file

7. A report of **maximum 2 pages** is required to elaborate **different types of indexes used in Data warehousing and their usage.**

**Deliverables**

 A single group ZIP file that meets the projects and report requirements (above).  Send your ZIP file to the e-mail: Ebtehal\_elhossiny@hotmail.com

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**Notes**

 For the project, students are free to expand the case-study with different subject areas or possible decision support analysis scenarios which they find relevant or interesting. Bonus marks are awarded for extra features and details added to your project. Incorrect or irrelevant additions will not award any marks!

* Copying projects or parts of a project from another group is not allowed! Only collaborating on the theoretical aspects is allowed and is limited to sharing business intelligence theoretical references

**Best** **of** **luck**

Teams Distribution:

1. Team 1
   * Abdelrhaman
   * Manar
   * Reham
   * Bassem
2. Team 2
   * Mohab
   * Amr
   * Hafsa
   * Shahd
   * Donia
3. Team 3
   * Omar khaled
   * Nyra
   * Mariam Tarek
   * Mayar
4. Team 4
   * Omar elbahy
   * Mariam ghani
   * Doaa
   * Fatma