Go Bus, an Egyptian shareholding company(also in Saudi Arabia & Jordan), has been a pivotal player in the public transportation sector since its establishment in 1998 under the auspices of the Ministry of Transport. Pioneering as the first private sector entity in public transportation, Go Bus has consistently aimed to revolutionize passenger transport services through the integration of cutting-edge information and communication technology solutions, ultimately simplifying the lives of the public.

Comprising a proficient management board alongside departments overseeing maintenance, operations, procurement, accounting, marketing, and sales, Go Bus has recently encountered challenges. the company witnessed a notable decline in revenue and public interest. Issues emerged concerning **multiple passengers reserving the same seat**, prompting the board's recognition of the imperative to enhance operational efficiency and streamline passenger reservation procedures. Consequently, under the leadership of **Mr. Fady Nassif**, the Chairman of the Board, the company has initiated the implementation of a Request Services System, entrusting **Mr. Ahmed Tarek** with project management responsibilities.

Furthermore, **Mr. Adib Ghobrial** has been appointed as the Director of Marketing and Sales, and **Mr. Ahmed Tarek** as the Director of Accounts, tasked with overseeing the project's execution within a budget of 60,000 Egyptian pounds over a timeline not exceeding four months, commencing in May.

Our diverse booking methods, including online platforms and station bookings, cater to the preferences of our esteemed clientele. Operating across 26 routes, we facilitate seamless travel experiences to Egypt's major cities, prioritizing safety, luxury, and superior customer service with an unwavering dedication to passenger well-being, our buses are equipped with Wi-Fi connectivity, air conditioning, and plush seating. Introducing innovative travel classes such as Aero Bus, Business Class, Elite Plus, and Elite Plus Plus, we redefine luxury on the road, ensuring a memorable journey for every passenger.

Request of service:

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| **Request for Information Services طلب تنفيذ خدمات** | | |
| **Date of Request:**  **1/4**/2024 | **Service Requested Departments:**  **Coaching Department, Accounting Dept.** | |
| **Submitted By: Mr. Fady Nassif Job: manager of the Company**  **Office No: 01287299999** | | |
| **Type of services Requested:**  **X** Business Process analysis and Redesign **X** New Applications Development  Existing Application Enhancement  Existing Application Maintenance | | |
| **Brief Statement of Problems, Opportunities, or Services:**  **The company's income decreased significantly, along with a noticeable decline in demand for its services. There is a pressing need to enhance the company's performance efficiency, in addition to facilitating passenger reservation procedures and establishing an online presence for the company.** | | |
| **Brief Statement of Expected Results**  **Establishing an application for registering subscribers, extending subscriptions, and ending them. Establishing an application to monitor the current number of attendees inside the hall.** | | |
| **Assigned to \ SA TEAM** | | **Authorized Signature:**  **Mr. Fady Nassif**  **Manager of the Company** |
| **Approved Budget**: **60 000** | |
| **Start Date**:**1/4/24 Deadline**:**1/**8**/24** | |

Problem statement:

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| **التوصيف المبدئي لمشكالت النظام Statement Problem** | | | |
| **Project : GoBus Company** | | **Manager: SA TEAM Project** | |
| **Created By: SA TEAM** | | **Last Updated By: SA TEAM** | |
| **Date Created:** 1/4**/2024** | | **Date Last Updated:** 4/4**/2024** | |
| **Problem/Opportunities/Directives**  **Brief Statement** | **Priority** | **Annual Benefits ($/Year)** | **Proposed Solution (in brief)** |
| **1)The management recently noticed a decline in the number of subscribers and a significant decrease in interest, despite purchasing new equipment.**  **2)** **At the beginning of 2024, several issues arose with the subscribers due to the majority of them attending at the same time, resulting in overcrowding.**  عن | 1  2 | **Annual/**  **40000**  **Annual/**  **150000** | Establishing an electronic system for registering the attendance of subscribers, extending subscriptions, and ending subscriptions.  Designing an application for subscribers to review the number of attendees currently inside the hall. |

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| **نموذج رؤية المشروع Statement Scope Representative** | | | |
|  | **Project: GoBus Company** | **Project Manager:** | **SA TEAM** |
|  | **Created By: SA TEAM** | **Last Updated By:** | **SA TEAM** |
|  | **Date Created: 1/4/2024** | **Date Last Updated:** | **10/4/2024** |

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| **Brief Statement of Problems, Opportunities, or Directives** | **Data** | **Process** | **Expecting Time** | **Expecting Cost** |
| Establishing an electronic system for registering the attendance of subscribers, extending subscriptions, and terminating subscriptions. | Tickets detailes | Designing an electronic payment system for "Visa" transactions. | 2  months | 20k |
| Designing an application for subscribers to check the current number of attendees inside the hall. | Tickets detailes | Developing an application dedicated to ticket reservations. | 2  months | 20k |
| (1) Number of subscribers - Number of staff - Subscription packages - Number of available tickets | | | | |

**Master plan:**

A graph with text and numbers

Description automatically generated with medium confidence

**Letter of authority :**

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| --- | --- | --- | --- |
| **موافقة االدارة العليا علي استمرار التنفيذ طبقا لرؤية المشروع المحدثة authority of Letter** | | | |
| **Project: GoBus Company** | | **Project Manager:** | **SA TEAM** |
| **Created By:** | **SA TEAM** | **Last Updated By:** | **SA TEAM** |
| **Date Created:** | **1/4/2024** | **Last Date Updated:** | **5/4/2005** |

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| **Problems to be solved:**  The management recently observed a decline in the number of subscribers and a significant decrease in demand, despite the acquisition of new buses. At the beginning of 2024, several issues arose with passengers due to multiple passengers booking the same ticket. |
| **New services to be induced in the system:**  Creating an electronic system to register ticket or subscription purchases, extend subscriptions, and end subscriptions. Designing an application for passengers to check the current number of occupants inside the bus. |
| **Applications to implemented:**  Creating an electronic system to register ticket or subscription purchases, extend subscriptions, and end subscriptions. Designing an application for passengers to check the current number of occupants inside the bus. |
| **Budget: 60000 Pounds - Duration: 4 Months**  **Start from:1-4-24 to 1-8-24**  **Within the mentioned above frame, the project id decided to be approved to continue**  **Signature ( SA TEAM)** |

# Interview 1

Eng. Ahmed Tarek: Mr. Fady Nassif, Could you provide an overview of **GoBus's** founding history?

Mr. Fady Nassif: Certainly, Eng. Mahmoud. GoBus was established in Cairo in 1998 and has since been a pioneering force in Egypt's public transportation sector.

Eng. Ahmed Tarek: It's impressive to see GoBus's journey. How has the company evolved over the years?

Mr. Fady Nassif: Indeed, GoBus has come a long way. Initially, we had a single reservation outlet in Heliopolis. However, recognizing the need to expand accessibility, we opened five additional outlets across various strategic locations in 2005.

Eng. Ahmed Tarek: That's a significant expansion. How did it impact ticket sales?

Mr. Fady Nassif: Before the expansion, GoBus had sold approximately 4,500 tickets by the end of 2004. However, in the early months of 2005, ticket sales declined, with only 3,000 tickets sold.

Eng. Ahmed Tarek: That's an interesting shift. How does the reservation system currently operate within GoBus?

Mr. Fady Nassif: Presently, our reservation system relies on manual processes and physical records. Despite the multiple outlets, coordination between them is maintained through regular communication to prevent double bookings.

Eng. Ahmed Tarek: What challenges has GoBus encountered recently?

Mr. Fady Nassif: We've faced issues with passengers booking the same seat for multiple individuals, especially in January and February 2005.

Eng. Ahmed Tarek: Given GoBus's structure, how are departments organized within the company?

Mr. Fady Nassif: GoBus operates with distinct departments, including marketing and sales, maintenance and operations, and accounting.

Eng. Ahmed Tarek: Considering these challenges, what enhancements do you believe are necessary for GoBus's reservation system?

Mr. Fady Nassif: I believe implementing an online reservation platform would greatly benefit GoBus, enhancing convenience for passengers and expanding our reach.

Eng. Ahmed Tarek: Thank you for your insights, Mr. Fady Nassif. Could you prepare a formal request outlining the system's requirements, cost estimates, and expected timeline for program development?

# Interview 2

Eng. Ahmed Tarek: Good morning, Mr. Fady Nassif. Could you please walk me through the responsibilities of the Operations and Maintenance Department at **GoBus**?

Mr. Fady Nassif: Good morning, Eng. Ahmed. Certainly, the Operations and Maintenance Department at GoBus oversees the efficient operation and maintenance of our bus routes across Egypt.

Eng. Ahmed Tarek: How is the Operations and Maintenance Department structured within GoBus?

Mr. Fady Nassif: The department is divided into key sections: Permanent Travel Lines Operations and Central Operations Management.

Eng. Ahmed Tarek: Could you elaborate on the functions of the Central Operations Management section at GoBus?

Mr. Fady Nassif: Absolutely. The Central Operations Management section handles budget allocation, distribution among operational units, and monitors expenditure to ensure optimal resource utilization.

Eng. Ahmed Tarek: I understand. What specific operational challenges is GoBus currently encountering?

Mr. Fady Nassif: Lately, we've faced issues related to ticket reservations, particularly instances where multiple passengers book the same seat, causing inconvenience.

Eng. Ahmed Tarek: Thank you for highlighting that, Mr. Fady. Let's delve into the Marketing and Sales Department. What are its core responsibilities at GoBus?

Mr. Fady Nassif: The Marketing and Sales Department plays a crucial role in managing ticket reservations and sales processes for our passengers.

Eng. Ahmed Tarek: And how is the Marketing and Sales Department organized within GoBus?

Mr. Fady Nassif: It comprises several sections, including Outlet Management, responsible for overseeing ticket sales outlets and reservation processes.

Eng. Ahmed Tarek: Can you outline the tasks handled by the Outlet Management sections at GoBus?

Mr. Fady Nassif: Certainly. The Outlet Management sections are responsible for daily reservation statements, sales data consolidation, and budget monitoring, ensuring smooth operations.

Eng. Ahmed Tarek: That's insightful, Mr. Fady. Lastly, could you provide an overview of the Accounting Department's functions at GoBus?

Mr. Fady Nassif: The Accounting Department oversees financial activities, including budgeting and taxation, ensuring compliance and financial integrity across all operations.

Eng. Ahmed Tarek: Thank you for your comprehensive overview, Mr. Fady. Would it be possible for you to draft a formal request detailing the system enhancements required for GoBus, along with cost estimates and implementation timelines?

A diagram of a computer

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This company consists of the following departments:

Operations and Maintenance Department: Responsible for operating and maintaining seasonal domestic airline routes. It comprises the following sections: A. Permanent Travel Lines Operation Section:

Receiving the budgets allocated by the company for operating and maintaining permanent travel lines.

Preparing a statement of budget consumption and its expenditure on operating and maintaining permanent travel lines.

B. Seasonal Travel Lines Operation Section:

Receiving the budgets allocated by the company for operating and maintaining seasonal travel lines.

Preparing a statement of budget consumption and its expenditure on operating and maintaining seasonal travel lines.

C. Central Operations Section:

Receiving the budgets allocated for operations and maintenance from the Accounts Department along with the relevant records.

Distributing the budgets to the operation sections with the following proportions: 70% for the Permanent Travel Lines Operation Section and 30% for the Seasonal Travel Lines Operation Section.

Receiving the consumption status of budgets for operations and maintenance from the permanent and seasonal operation sections.

Compiling the consumption status of budgets and sending it to the Operations and Maintenance Management, then forwarding it to the Accounts Department.

Accounts Department: Responsible for executing financial accounting tasks within the company. It consists of the following sections:A. Collection Section:

- Receiving a sales statement indicating the number of tickets issued for passengers from the Management of Outlets Department and the cash value corresponding to the booking of travel tickets from booking outlets on a daily basis.

- Compiling a consolidated statement of the number of tickets booked from booking outlets monthly (monthly budget).

- Reviewing the number of tickets booked monthly along with the ticket logs delivered to booking outlets and reconciling to determine the logs consumed and the remaining tickets from the previous month's logs at the outlets.

- Preparing a monthly budget (referred to as the monthly booking budget) for the tickets booked and the corresponding cash received from outlets and delivering it to the budget department.B. Budget Section:

- Receiving the monthly budget from the Collection Section.

- Receiving a request for a quarterly budget from the Board of Directors.

- Preparing a quarterly budget for the company and delivering it to the company's board of directors.

- Receiving the consumption statement of budgets and their expenditures from the Marketing and Sales Department and the Operations and Maintenance Department.

- Allocating a budget for each of the Marketing and Sales Department and the Operations and Maintenance Department.

- Issuing an annual budget for the competent tax authority.

Marketing and Sales Department: Responsible for the procedures of booking flight tickets for passengers. It consists of the following sections:A. First Outlet Management Section:

- Preparing the daily booking statement reflecting actual bookings for passengers and delivering it to the Outlet Management Department.B. Second Outlet Management Section:

- Preparing the daily booking statement reflecting actual bookings for passengers and delivering it to the Outlet Management Department.C. Third Outlet Management Section:

- Preparing the daily booking statement reflecting actual bookings for passengers and delivering it to the Outlet Management Department.D. Fourth Outlet Management Section:

- Preparing the daily booking statement reflecting actual bookings for passengers and delivering it to the Outlet Management Department.E. Fifth Outlet Management Section:

- Preparing the daily booking statement reflecting actual bookings for passengers and delivering it to the Outlet Management Department.F. Booking Outlets Management Section:

- Receiving the daily booking statement for the booking of travel tickets from booking outlets.

- Delivering a consolidated sales statement indicating the number of tickets booked daily from all outlets to the Accounts Department (Collection Section).

- Receiving budget allocations from the Accounts Department.

- Preparing budget consumption statements and delivering them to the Accounts Department.

Company Management: Responsible for issuing various directives for the company management and performs the following:

Issuing a request to prepare a quarterly budget from the Accounts Department.

Receiving a quarterly budget from the Accounts Department.

Phase 2: System Analysis

B. Business Process Analysis

From the study of business procedures, the following points emerge:

When a passenger reserves a ticket, the travel ticket is issued and handed over to the passenger. This ticket contains the following information: Departure station, arrival station, departure time, arrival time, flight number, seat number, passenger name, and ticket price.

When passengers reserve tickets through multiple booking outlets, coordination between these outlets is necessary to avoid multiple passengers reserving the same seat on the same route.

Coordination between booking outlets is done via telephone to prevent multiple passengers from reserving the same seat.

When there were only 2 booking outlets, coordination was easy and there were no issues.

However, with the increase in the number of outlets to 5, coordination became more challenging, compounded by frequent interruptions in communication lines for extended periods. Consequently, there have been instances of multiple passengers reserving the same seat, which occurred repeatedly.

Phase 2: System Analysis

D. Establishing Objectives for Improvement

Resolving the issue of multiple passengers booking the same seat will provide an additional revenue stream for the company, estimated at 315,000 pounds annually.

Building a website for the company on the internet will generate additional revenue for the company, estimated at 124,000 pounds annually.

Providing the option to book travel tickets through the website will generate additional revenue for the company, estimated at 540,000 pounds annually (doubling the annual income).

Phase 2: System Analysis

E. Modifying Project Scope

In the event of providing the option to book tickets through the website, the expected increase in the cost of building the website is 43,000 pounds, totaling 198,000 pounds according to the following criteria:

Procuring software packages and building additional applications to implement this functionality at a cost of 15,000 pounds, with an additional 3-month implementation time.

Acquiring equipment at the company's headquarters to handle citizen complaints (estimated cost: 12,000 pounds).

Acquiring equipment at the company's headquarters to handle passenger requests (booking tickets through the website) (estimated cost: 31,000 pounds).

Acquiring equipment at the ticket reservation outlets to book tickets for passengers (booking tickets through the website) (estimated cost: 10,000 pounds).

Procuring network equipment to connect ticket reservation outlets with the company at a cost of 8,000 pounds.

Therefore, it is necessary to modify the project scope to have a total cost of 198,000 pounds instead of 65,000 pounds, with a required implementation time of 8 months instead of 5 months.

**DFDs**

A diagram of a flight process

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A diagram of a accounting process

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A diagram of a project

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Level-1 Diagram

A diagram of a ticket reservation

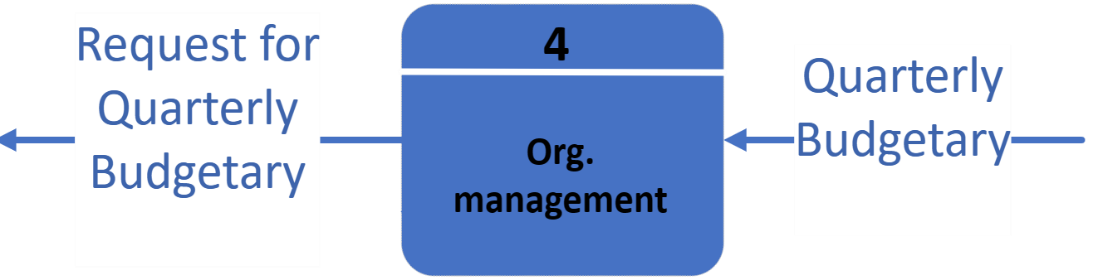
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Level-3 Diagram

A diagram of a central operation

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Level-4 Diagram



Phase Definition The مرحلة تعريف النظام المقترح

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