# TERM PROJECT DBAS2104 PART III (REVISED)
# IMPLEMENTATION AND MIGRATION PLAN
# PROJECT CHARTER
# PROJECT SCOPE STATEMENT
# WORK BREAKDOWN STRUCTURE
# (WBS)

**FIT-WORLD GYM**

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## PURPOSE

The Implementation and Migration Plan for the Fit-World Gym project was developed to detail how this project will be implemented, installed, and transitioned into operation. The purpose of this plan is to ensure all stakeholders are aware of the all the details, responsibilities, and requirements involved in completing this project, which involves analyzing the data for monthly revenues of the individual gyms. The audit team needs to be able to make inquires with management about sales revenue that occur during the year.

## DESCRIPTION OF IMPLEMENTATION

As a company (FIT-WORLD GYM), we are having problems analyzing and generating the data for the monthly revenues of the individual stores. The effect this problem is having on our business is the increased loss of revenue and inability of management to see the overall performance of the stores. It is projected that this is costing as much as $500K in costs and $900K in revenue per year.

As a solution to this problem we decided to implement an ETL system where we can track the daily records and transactions and also received the help of a detailed process flow diagram and source to target mapping. It is going to be helpful for us to get an accurate report. It can also generate individual reports on each individual and how much individuals have spent all together, and what facilities that person has used to date.

As the BI Specialists for Fit World Gym, we are tasked with using Business Intelligence tools to analyze the sales transactions. We will start with the csv files from each of the 10 gyms, and the Excel files from the corporate events held. Figure 1 give an overview of the overall ETL process to be implemented:

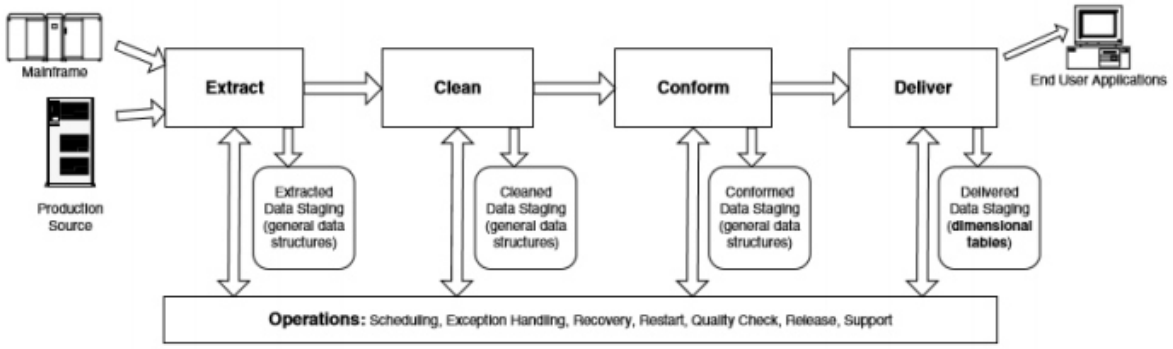



*Figure 1 - What is included in the ETL Process*

The data from the csv files and Excel files will be loaded into the staging area using SQLldr, and will use the Oracle database. Once the tables are populated in the staging area, then we will transform the data to load them into the star schema, consisting of the dimensional tables and the fact sales table. This star schema is housed in the production area. Once the data is in the production area, then it can be accesssible to endusers, wanting to have montly reports on sales revenue.

## POINTS OF CONTACT

The Fit-World Gym Project comprises of the BI team and other stakeholders, and each are responsible for the Communications Management Plan. The points of contact are below:

| Name | Role | Contact Information |
|---|---|---|
| C. Stokes | Project Sponsor | (902) 555-1000 |
| G. Horne | Project Manager/IT Engineer | (902) 555-1111 |
| H. Madusha | Business Analyst | (902) 555-1112 |
| C. Carandang | Operations Lead | (902) 555-1114 |
| A. Baby | IT Engineer | (902) 555-1332 |
| K. Lindsay | Asst. IT Engineer | (902) 555-1333 |
| G. Campbell | Security Administrator | (902) 555-1339 |

## MAJOR TASKS

The Fit-World Gym Project Team has developed a list of important tasks required to implement and migrate this endeavor. These tasks will ensure we maintain the scope of this project.

The following lists the tasks for the Fit-World Gym Implementation and Migration Plan, and the stakeholders responsible for each task:

1. Complete Fit-World Gym Design: IT Group
   This task involves the creation of the design work for the Fit-World Gym Database.

2. Complete Coding Package: IT Group
   This task involves completing the coding package to extract, transform, and load the data.

3. Complete Testing: IT Group
   This task involves testing the database to ensure functionality.

4. Complete Operator Training: IT Group and Maintenance Operations Group
   This task involves operator training on the new Fit-World Gym Database.

5. Launch: IT Group and Maintenance Operations Group
   This task involves the official launch of the Fit-World Gym Database.

## IMPLEMENTATION SCHEDULE

The implementation schedule is as follows:

| Task/Milestone | Scheduled Completion Date |
|---|---|
| Complete Fit-World Gym Design | March 15, 2017 |
| Complete Coding Package | April 11, 2017 |
| Complete Testing | April 12, 2017 |
| Complete Operator Training | April 17, 2017 |
| Launch | April 19, 2017 |

## SECURITY

The security administrator will be involved in all phases of the design, coding, and implementation of the Fit-World Gym database, to ensure the integrity and security of the new database system.

## IMPLEMENTATION SUPPORT

The design and implementation of this project will be carried out by the Fit-World Gym Project Team. The Project Manager will conduct and facilitate meetings and ensure all deliverables are being met ad deadlines are met. The IT Group will design and test the IT solution to this project. The IT Group will then train the Maintenance Operations Group to implement and maintain the project.

## LISTING OF HARDWARE, SOFTWARE, AND FACILITIES

The Fit-World Gym Project will utilize a database using Oracle Express Edition. The database files will be kept locally on a laptop hard drive, and 100MB will be allocated for the staging area of the database, and another 100MB will be allocated for the production area of the database. The CPU utilized for this project has the following specifications: Intel Celeron N2840 2.16 GHz, 4.0 GB RAM, Windows 10 64 bit operating system.

Once the design and testing of the project is completed, then the Fit-World Gym Project Team will assist the Operations Team to transfer the database design to the company's database.

## PERFORMANCE MONITORING

The Fit-World Gym Project Team will assist the Operations Team for a period of 2 months to ensure the transfer of the database design to the company's database was successful. Further consultations after that 2-month period will be done on an ad hoc basis, with a separate budget for each future consultation.

## IMPLEMENTATION REQUIREMENTS

The requirements gathering activities will be completed for this Fit-World Gym Project. We will utilize existing hardware and software, as described in a previous section. Team members are comprised of the people as mentioned above, for the implementation requirements.

## BACK OUT PLAN

In case the hardware and software fails, then another laptop from another team member will be used to design and implement this project. In addition, all processes will be documented and uploaded to Google Drive, so that everyone on the team will have access to the files, in case a team member is not available.

## POST IMPLEMENTATION VERIFICATION

Post implementation verification will be performed by testing the new system in the company's server. The Fit-World Gym Project team will be available for 2 months after launching the project, to ensure the operations team has appropriate permissions and the databases are optimized for the individual gym's needs.

# PROJECT CHARTER
# FIT-WORLD GYM PROJECT

This Charter formally authorizes the Fit-World Gym Project Team to design and implement a database to produce monthly revenue reports of its multiple gym locations in the USA and Canada.

As a company (FIT-WORLD GYM), we are having problems analyzing and generating the data for the monthly revenues of the individual stores. The area where this problem is occurring is in all stores. The problem has existed for at least 2 years. The magnitude of the problem is 90% and the expected performance in generating accurate reports <50%. The effect this problem is having on our business is the increased loss of revenue and inability of management to see the overall performance of the stores. It is projected that this is costing as much as $500K in costs and $900K in revenue per year.

As a solution to this problem we decided to have an ETL system where we can track the daily records and transactions and also received the help of a detailed process flow diagram and source to target mapping. It is going to be helpful for us to get an accurate report. It can also generate individual reports on each individual and how much individuals have spent all together, and what facilities that person has used to date.

The Project Manager, Gregory Horne, is hereby authorized to initiate this project, and be the liaison between the Project Sponsor and the Project Team. The Project will be designed and implemented per the milestone schedule below:

| **Task/Milestone** | **Scheduled Completion Date** |
|---|---|
| Complete Fit-World Gym Design | March 15, 2017 |
| Complete Coding Package | April 11, 2017 |
| Complete Testing | April 12, 2017 |
| Complete Operator Training | April 17, 2017 |
| Launch | April 19, 2017 |

The budget for the Fit-World Gym Project is $50,000, to be paid in 5 installments, with each installment paid with each completed milestone above.

## PROJECT SCOPE STATEMENT: INTRODUCTION

The Project Scope Statement defines the scope of the Fit-World Gym Project and project deliverables. It also provides a common understanding about the project's scope to the stakeholders.

## PROJECT PURPOSE AND JUSTIFICATION

This Project has been approved for the Fit-World Gym Project Team to design and implement a database system to track monthly revenues for all their gyms, located in various regions in the USA and Canada.

FIT-WORLD GYM is having problems analyzing and generating the data for the monthly revenues of the individual stores. The area where this problem is occurring is in all stores. The problem has existed for at least 2 years. The magnitude of the problem is 90% and the expected performance in generating accurate reports <50%. The effect this problem is having on our business is the increased loss of revenue and inability of management to see the overall performance of the stores. It is projected that this is costing as much as $500K in costs and $900K in revenue per year.

## SCOPE DESCRIPTION

The scope of the Fit-World Gym Project is to design and implement a database to track the monthly revenues for all 10 gym locations in the USA and Canada. As a solution to this problem we decided to have an ETL system where we can track the daily records and transactions and also received the help of a detailed process flow diagram and source to target mapping. It is going to be helpful for us to get an accurate report. It can also generate individual reports on each individual and how much individuals have spent all together, and what facilities that person has used to date.

## HIGH LEVEL REQUIREMENTS

The database that is generating the monthly reports will have the following high-level requirements:

- Database that is accessible to all employees of Fit-World Gym
- Database will be accessible from the office and remotely
- Will train operations team to maintain the database and troubleshoot problems

## BOUNDARIES

The Fit-World Gym Project will include all the work associated with planning, designing, testing, implementing, and maintaining the database for users to have access to monthly company revenues across all 10 gyms across the USA and Canada. All documentation, technical design, flowcharts, server configurations, and coding instructions will be provided to the company, as well as a 2-month post-launch ongoing maintenance implementation, to ensure the database is running smoothly and optimized to fulfill the company's business requirements.

Not included in the scope of this project is ongoing maintenance of this database beyond the 2-month post-launch optimization period. Any further work on this project beyond this time will require a new budget and proposal.

## STRATEGY
The Fit-World Gym Project Team will leverage the expertise of the team members, who hold domain expertise in IT, engineering, business analysis, and project management.

## DELIVERABLES
The following are the deliverables for the Fit-World Gym Project:

- Deliverable 1 – A tested and operational database free of errors and meeting the specifications described in the Project Scope Description
- Deliverable 2 – A tested and operational database which allows users to enter company revenue data and metrics in a consistent manner
- Deliverable 3 – A complete and thorough user's manual which provides step by step instructions on how to use the database for users of all permission levels
- Deliverable 4 – A complete and thorough troubleshooting guide which provides corrective steps to users of all permission levels for all anticipated problems

## ACCEPTANCE CRITERIA
The acceptance criteria which must be met for the project to be accepted by the executives of Fit-World Gym includes meeting all deliverables and milestones within the allocated project duration and budget.

## CONSTRAINTS
The main constraints of this project are that existing servers and IT hardware must be used, and a final deadline for delivery of the final product is April 19, 2017.

## ASSUMPTIONS
Data that is not accurate and not compatible with the database system is the responsibility of the individual gym that produced that data. Therefore, any inaccurate or missing data will be sent back to the individual gym for correction, and the conglomerate reports across the whole company for reporting monthly revenue will be deemed as estimated revenue, pending the addition of the accurate/missing data from the individual gym(s).

## COST ESTIMATE
The estimated costs for the Fit-World Gym Project are detailed in the table below.

| Expense | Estimated Budget | Expended to Date | Estimate to Complete | Variance |
|---|---|---|---|---|
| Labor | | | | |
| Internal | $0 | $0 | $0 | N/A |
| External | $40,000 | $0 | $50,000 | +/- $2,000 |
| Software | $0 | $0 | $0 | N/A |
| Hardware | $0 | $0 | $0 | N/A |
| Other | $10,000 | $0 | $10,000 | +/- $500 |
| Total | $50,000 | $0 | $50,000 | |

## COST BENEFIT ANALYSIS

If this project is implemented, then the company can expect to gain a net of $1,350,000 every year. Without this project, the company will continue to lose an estimated $1,400,000 on a yearly basis.

| | With Fit-World Gym Project | Without Fit-World Gym Project |
|---|---|---|
| Costs of Project | | |
| Recurring Cost | $0 | $0 |
| Non-Recurring Cost | $50,000 | $0 |
| Capital Costs | $0 | $0 |
| **Total Cost of PMD Project** | **$50,000** | **$0** |
| | | |
| Benefits (1 year) | | |
| Gym Membership Revenue | $500,000 | -$500,000 |
| Merchandise Sales | $400,000 | -$400,000 |
| Improve Resource Allocation | $500,000 | -$500,000 |
| **Total Benefits of PMD Project** | **$1,400,000** | **-$1,400,000** |
| | | |
| **Net Benefits of PMD Project** | $1,350,000 | -$1,400,000 |
| | | |

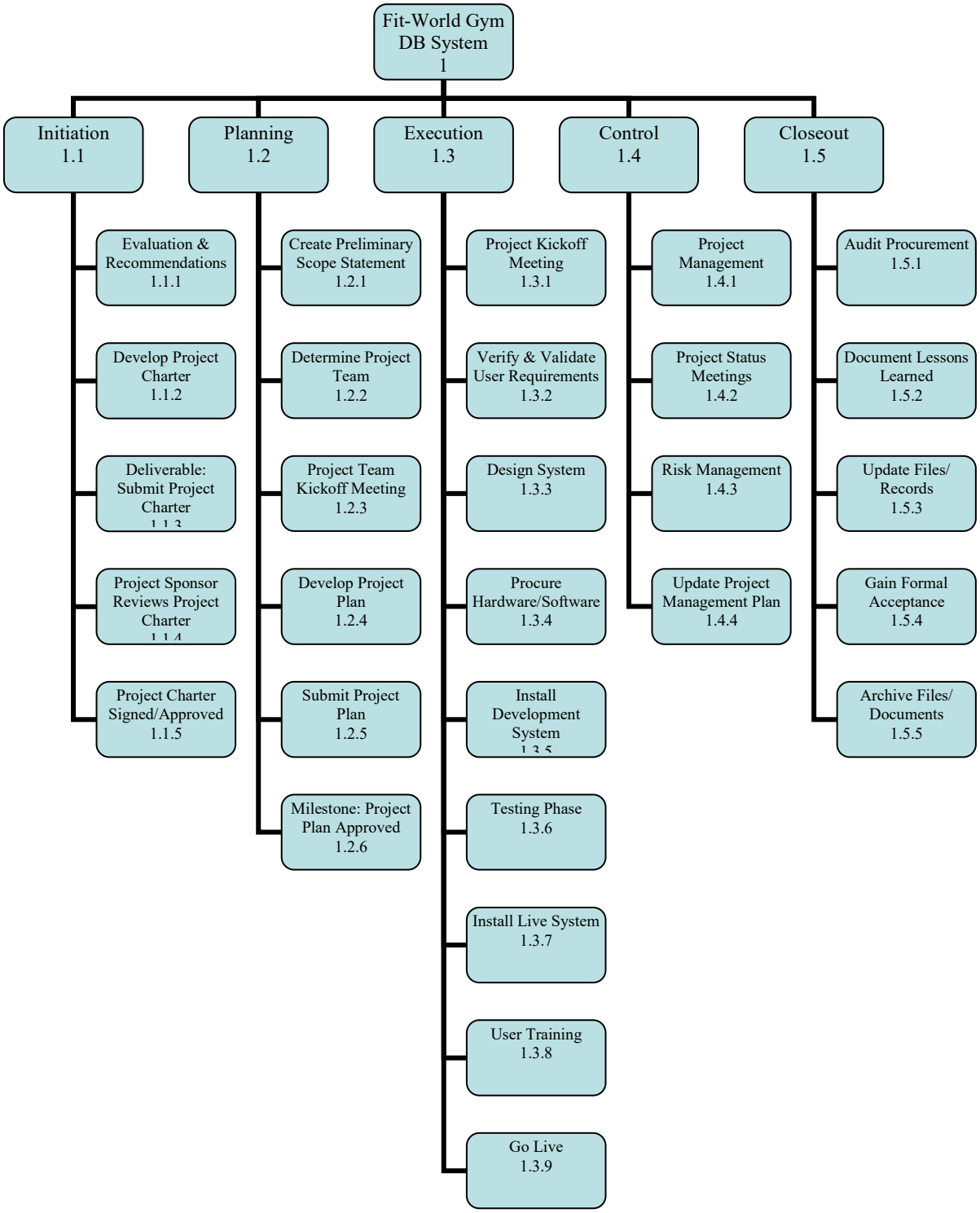
## WORK BREAKDOWN STRUCTURE (WBS): INTRODUCTION

This Work Breakdown Structure represents all the requirements to complete this project.

## OUTLINE VIEW

1. Fit-World Gym Database System
    - 1.1 Initiation
        - 1.1.1 Evaluation & Recommendations
        - 1.1.2 Develop Project Charter
        - 1.1.3 *Deliverable:* Submit Project Charter
        - 1.1.4 Project Sponsor Reviews Project Charter
        - 1.1.5 Project Charter Signed/Approved
    - 1.2 Planning
        - 1.2.1 Create Preliminary Scope Statement
        - 1.2.2 Determine Project Team
        - 1.2.3 Project Team Kickoff Meeting
        - 1.2.4 Develop Project Plan
        - 1.2.5 Submit Project Plan
        - 1.2.6 *Milestone:* Project Plan Approval
    - 1.3 Execution
        - 1.3.1 Project Kickoff Meeting
        - 1.3.2 Verify & Validate User Requirements
        - 1.3.3 Design System
        - 1.3.4 Procure Hardware/Software
        - 1.3.5 Install Development System
        - 1.3.6 Testing Phase
        - 1.3.7 Install Live System
        - 1.3.8 User Training
        - 1.3.9 Go Live
    - 1.4 Control
        - 1.4.1 Project Management
        - 1.4.2 Project Status Meetings
        - 1.4.3 Risk Management
        - 1.4.4 Update Project Management Plan
    - 1.5 Closeout
        - 1.5.1 Audit Procurement
        - 1.5.2 Document Lessons Learned
        - 1.5.3 Update Files/Records
        - 1.5.4 Gain Formal Acceptance
        - 1.5.5 Archive Files/Documents

## TREE STRUCTURE VIEW

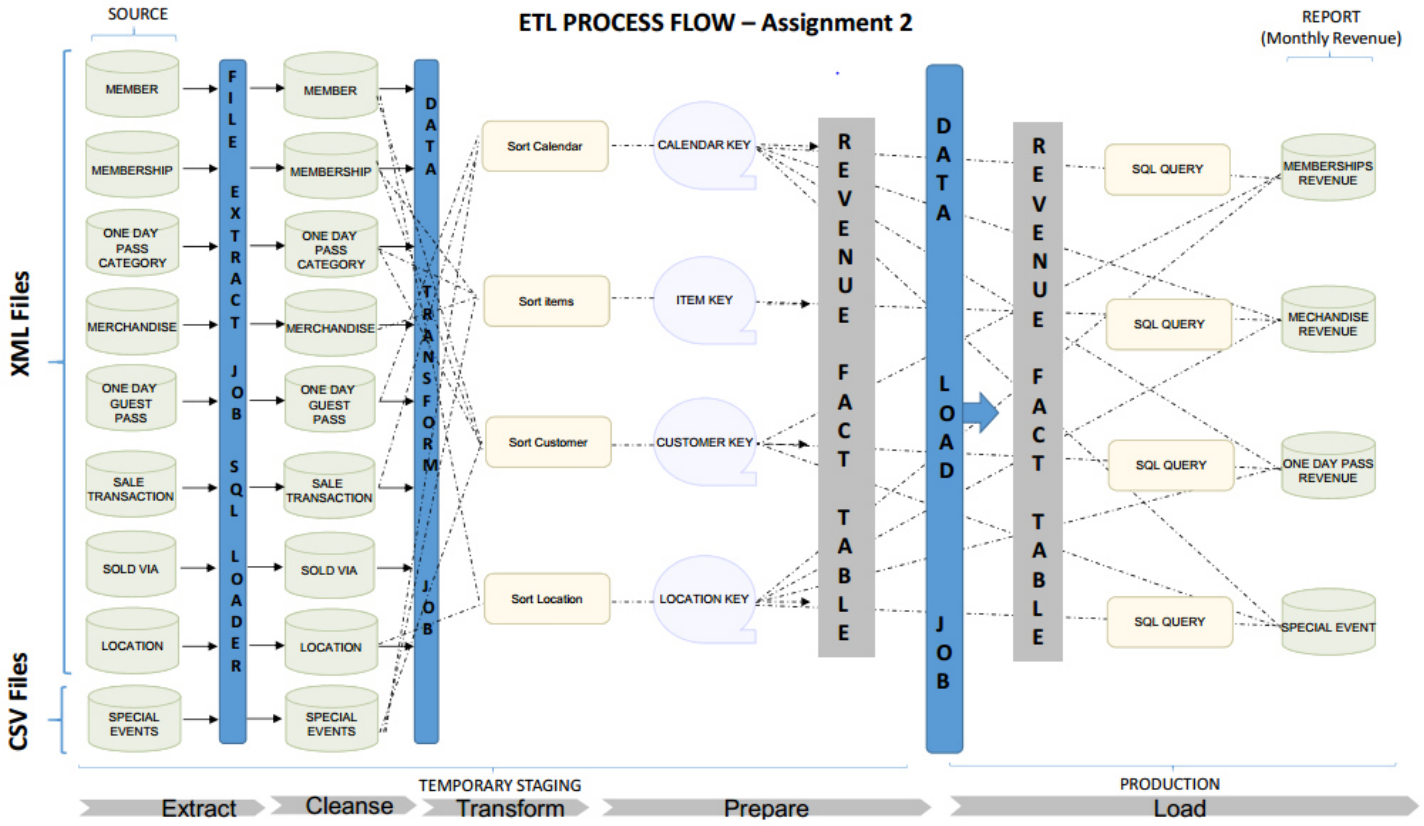


## WBS DICTIONARY

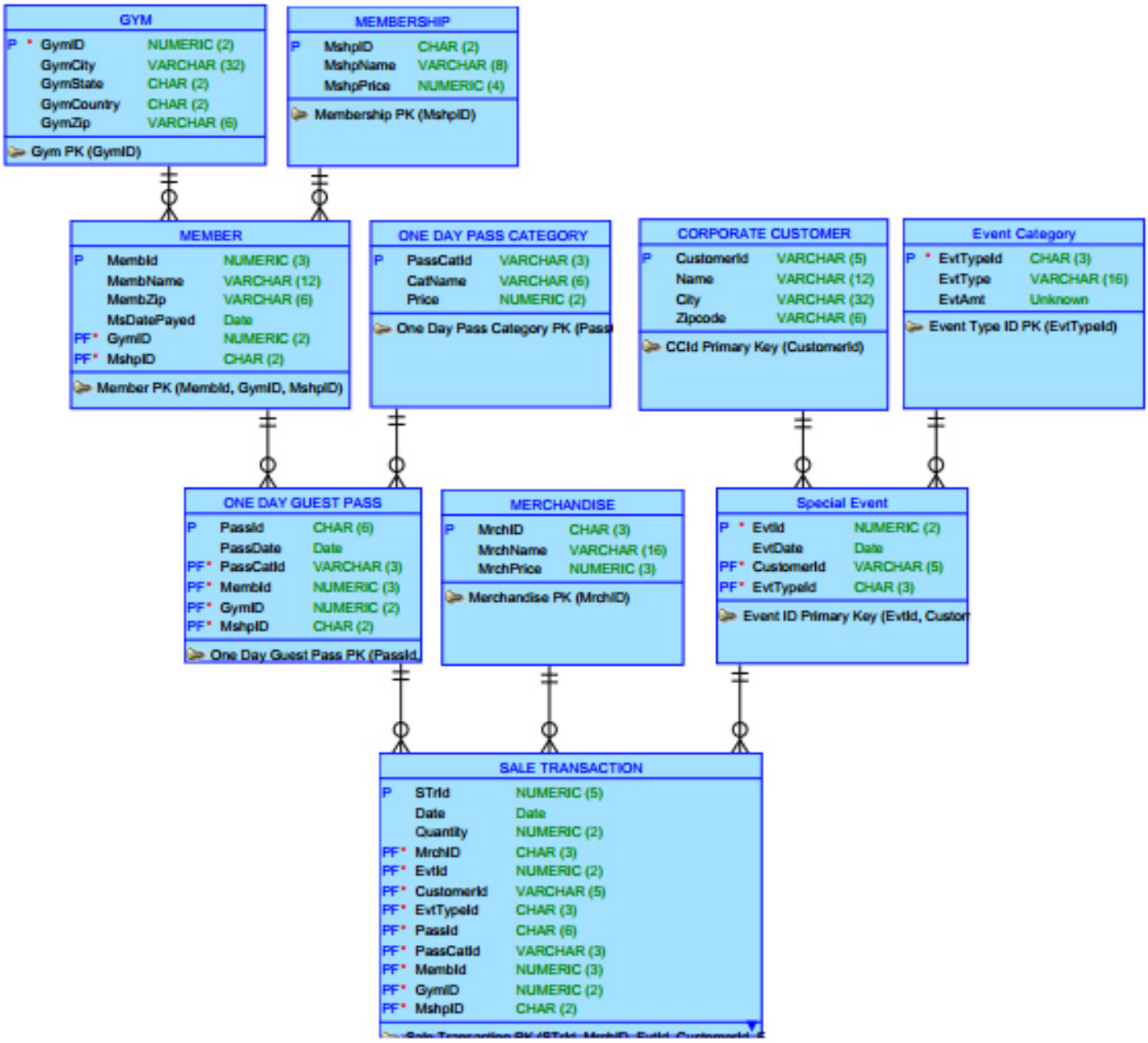
| Level | WBS Code | Element Name | Definition |
|---|---|---|---|
| 1 | 1 | Fit-World Gym Database System | All work to implement a new database system. |
| 2 | 1.1 | Initiation | The work to initiate the project. |
| 3 | 1.1.1 | Evaluation & Recommendations | Working group to evaluate solution sets and make recommendations. |
| 3 | 1.1.2 | Develop Project Charter | Project Manager to develop the Project Charter. |
| 3 | 1.1.3 | Deliverable: Submit Project Charter | Project Charter is delivered to the Project Sponsor. |
| 3 | 1.1.4 | Project Sponsor Reviews Project Charter | Project sponsor reviews the Project Charter. |
| 3 | 1.1.5 | Project Charter Signed/Approved | The Project Sponsor signs the Project Charter which authorizes the Project Manager to move to the Planning Process. |
| 2 | 1.2 | Planning | The work for the planning process for the project. |
| 3 | 1.2.1 | Create Preliminary Scope Statement | Project Manager creates a Preliminary Scope Statement. |
| 3 | 1.2.2 | Determine Project Team | The Project Manager determines the project team and requests the resources. |
| 3 | 1.2.3 | Project Team Kickoff Meeting | The planning process is officially started with a project kickoff meeting which includes the Project Manager, Project Team and Project Sponsor (optional). |
| 3 | 1.2.4 | Develop Project Plan | Under the direction of the Project Manager the team develops the project plan. |
| 3 | 1.2.5 | Submit Project Plan | Project Manager submits the project plan for approval. |
| 3 | 1.2.6 | Milestone: Project Plan Approval | The project plan is approved and the Project Manager has permission to proceed to execute the project per the project plan. |
| 2 | 1.3 | Execution | Work involved to execute the project. |
| 3 | 1.3.1 | Project Kickoff Meeting | Project Manager conducts a formal kick off meeting with the project team, project stakeholders and project sponsor. |

| | | | |
|---|---|---|---|
| 3 | 1.3.2 | Verify & Validate User Requirements | The original user requirements are reviewed by the project manager and team, then validated with the users/stakeholders. This is where additional clarification may be needed. |
| 3 | 1.3.3 | Design System | The technical resources design the new widget management system. |
| 3 | 1.3.4 | Procure Hardware/Software | The procurement of all hardware, software and facility needs for the project. |
| 3 | 1.3.5 | Install Development System | Team installs a development system for testing and customizations of user interfaces. |
| 3 | 1.3.6 | Testing Phase | The system is tested with a select set of users. |
| 3 | 1.3.7 | Install Live System | The actual system is installed and configured. |
| 3 | 1.3.8 | User Training | All users are provided with a four hours training class. Additionally, managers are provided with an additional two hours class to cover advanced reporting. |
| 3 | 1.3.9 | Go Live | System goes live with all users. |
| 2 | 1.4 | Control | The work involved for the control process of the project. |
| 3 | 1.4.1 | Project Management | Overall project management for the project. |
| 3 | 1.4.2 | Project Status Meetings | Weekly team status meetings. |
| 3 | 1.4.3 | Risk Management | Risk management efforts as defined in the Risk Management Plan. |
| 3 | 1.4.4 | Update Project Management Plan | Project Manager updates the Project Management Plan as the project progresses. |
| 2 | 1.5 | Closeout | The work to close-out the project. |
| 3 | 1.5.1 | Audit Procurement | An audit of all hardware and software procured for the project, ensures that all procured products are accounted for and in the asset management system. |
| 3 | 1.5.2 | Document Lessons Learned | Project Manager along with the project team performs a lessons learned meeting and documents the lessons learned for the project. |
| 3 | 1.5.3 | Update Files/Records | All files and records are updated to reflect the widget management system. |
| 3 | 1.5.4 | Gain Formal Acceptance | The Project Sponsor formally accepts the project by signing the acceptance document included in the project plan. |

| | | | |
|---|---|---|---|
| 3 | 1.5.5 | Archive Files/Documents | All project related files and documents are formally archived. |


ETL PROCESS FLOW – Assignment 2
SOURCE
REPORT
(Monthly Revenue)
XML Files
CSV Files
MEMBER
MEMBERSHIP
ONE DAY PASS CATEGORY
MERCHANDISE
ONE DAY GUEST PASS
SALE TRANSACTION
SOLD VIA
LOCATION
SPECIAL EVENTS
FILE EXTRACT JOB
SQL LOADER
DATA TRANSFORM JOB
Sort Calendar
Sort items
Sort Customer
Sort Location
CALENDAR KEY
ITEM KEY
CUSTOMER KEY
LOCATION KEY
REVENUE FACT TABLE
DATA LOAD JOB
SQL QUERY
SQL QUERY
SQL QUERY
SQL QUERY
MEMBERSHIPS REVENUE
MECHANDISE REVENUE
ONE DAY PASS REVENUE
SPECIAL EVENT
TEMPORARY STAGING
PRODUCTION
Extract
Cleanse
Transform
Prepare
Load

# Assignment 2 - Entity Relationship Diagram



## Volumetric Worksheet

Volumetric Worksheet

| Table name | Update strategy | Load Frequency | ETL job | Initial rowcount | Avg Row length | Grows with | Expected monthly rows for all Gym | Expected Monthly bytes | Initial table size bytes |
|---|---|---|---|---|---|---|---|---|---|
| Gym | Insert | On demand | Gym updation | 10 | 86 | New entities | 10 | 860 | 860 |
| Member | Insert | Daily | Member updation | 150 | 50 | New members | 75 | 3750 | 7500 |
| Membership | Insert | Daily | Membership updation | 3 | 32 | New memberships | 3 | 96 | 96 |
| One day pass category | Insert | On demand | One daypass category updation | 3 | 31 | New pass category generated | 1 | 93 | 93 |
| One day guest pass | Truncate/Reload | On demand | One dayguest pass updation | 30 | 39 | New guest generated | 12 | 468 | 1170 |
| Sale transaction | Truncate/Reload | Daily | sale transaction updation | 250 | 52 | New sale generated | 90 | 4680 | 13000 |
| Sold via | Truncate/Reload | Daily | Sold updation | 300 | 47 | New sale line item | 60 | 2820 | 14100 |
| Merchandise | Insert | Daily | Merchandise updation | 55 | 41 | New merchandises | 15 | 615 | 2255 |
| Corporate customer | Insert | On demand | Customer updation | 20 | 55 | New corporate customers | 5 | 275 | 1100 |
| Event category | Insert | weekly | Event category updation | 30 | 41 | New event category | 8 | 328 | 1230 |
| special event | Truncate/Reload | On demand | Special Event updation | 25 | 16 | New special event | 10 | 160 | 400 |
| Dim Calendar | Insert | Daily | Calendar updation | 3835 | 110 | New calendar entries | 365 | 40150 | 421750 |
| Dim Customer | Insert | Daily | Customer updation | 250 | 55 | New customer entries | 75 | 4125 | 15750 |
| Dim Item | Truncate/Reload | On demand | Item updation | 75 | 49 | New item entities | 15 | 735 | 3675 |
| Dim Revenue | Truncate/Reload | Daily | Revenue updation | 60 | 110 | New revenue entries | 20 | 2200 | 6600 |
| Dim Gym | Truncate/Reload | On demand | Gym location updation | 30 | 84 | New gym location entities | 10 | 840 | 840 |

**Note:** 8 bytes are used for the date expression

**Note:** 22 bytes are used for the number expression

**Initial row count** - The team must estimate the total number of rows each table contains in the staging area

**Average row length** - It is necessary to provide the DBA with the average row length in each staging table

**Expected monthly rows** - Expected growth is required for DBA to allocate space to the table

**Expected monthly bytes** - It is a calculation of average row length times expected monthly rows

**Initial table size** - It is a calculation of average row length times initial row count