Solution Development Plan

**Solution: Tara’s Twisters Gymnastics**

**Author: Tara Graeve**

**Date: 9/29/2020**

***Change Log***

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| --- | --- | --- |
| **Who** | **When** | **What** |
| Tara Graeve | 9/29/2020 | Created solution documentation documents and added to Visual Studio Solution |
| Tara Graeve | 9/30/2020 | Wrote executive summary |
| Tara Graeve | 10/1/2020 | Denormalized OLTP to meet guidelines for OLAP, created IP, and wrote business requirements |
| Tara Graeve | 10/3/2020 | Created STAR Schema and documented DM objects in Solution Workbook spreadsheet |
| Tara Graeve | 10/4/2020 | Revised solution workbook and STAR Schema |
| Tara Graeve | 10/5/2020 | Revised executive summary |
| Jack Cahill & Max Potter | 10/5/2020 | Peer Review Phase 1 |
| Tara Graeve | 10/5/2020 | Tweaked STAR schema appearance and modified IP/solution workbook based on feedback |
| Tara Graeve | 10/6/2020 | Final review of all deliverables; revised contents of executive summary |
| Tara Graeve | 10/8/2020 | Fixed nomenclature of IP per feedback |
| Tara Graeve | 10/8/2020 | Wrote DM build script |
| Tara Graeve | 10/12/2020 | Reviewed DM build script and relationship diagram; Added build script to Visual Studio solution; revised object workbook |
| Jack Cahill & Max Potter | 10/12/2020 | Peer review Phase 2 |
| Tara Graeve | 10/12/2020 | Minor changes to formatting of build script as per peer feedback |
| Tara Graeve | 10/12/2020 | Revised build script; double checked that build of DM objects matched object workbook |
| Tara Graeve | 10/19/2020 | Added and loaded data into new OLTP tables |
| Tara Graeve | 10/20/2020 | Created Visual Studio ETL package and associated containers; Performed ETL |
| Jack Cahill | 10/21/2020 | Peer review Phase 3 |
| Tara Graeve | 10/21/2020 | Slight enhancements based on peer feedback |
| Tara Graeve | 11/5/2020 | Created multidimensional analysis folder and spreadsheet, added to Visual Studio solution |
| Tara Graeve | 11/5/2020 | Reviewed business requirements, chose question to answer; set up PowerPivot with connection to DM, reviewed data in PowerPivot and gave friendly names, hid the keys; began analysis in PowerPivot |
| Tara Graeve | 11/6/2020 | Continued analysis in PowerPivot, more DAX calculations, created PivotTables |
| Tara Graeve | 11/9/2020 | Enhanced PivotTables, ensured everything included sorted properly and made tweaks when needed |
| Tara Graeve | 11/9/2020 | Created PivotCharts; performed analysis and wrote recommendations |
| Jack Cahill | 11/9/2020 | Peer Review Phase 4 |
| Tara Graeve | 11/9/2020 | Tweaks based on peer review, final review of deliverables |
| Tara Graeve | 11/17/2020 | Created Power BI file and directory inside solution directory; performed necessary checks on data (hiding keys, verifying relationships, handling sort issues) |
| Tara Graeve | 11/18/2020 | Created Executive Summary tab, added dashboard and analysis tabs |
| Tara Graeve | 11/30/2020 | Performed calculations, constructed dashboard, and performed analysis based on finished dashboard |
| Jack Cahill | 11/30/2020 | Peer Review Phase 5 |
| Tara Graeve | 11/30/2020 | Minor tweaks based on peer feedback |
| Tara Graeve | 12/1/2020 | Final review of deliverables |

***Executive Summary***

Tara’s Twisters Gymnastics has established itself as a reputable gym in the Denver area. Due to its growth and expected operation for years to come, the owners of Tara’s Twisters Gymnastics have identified the need for a data mart. While the gym has established and maintained a relational database, the continued operation reveals a need for a historical view of data like a data mart provides. Further, the owners expressed the desire to consolidate score records for archival purposes and quick retrieval. This will allow the owners to have optimized reporting capabilities as well as enable analytic capabilities that can be used to aid in athlete development as well as logistical planning. Due to these reasons, it is evident that a data mart is the preferred solution.

***Business Requirements***

* How do gymnasts score on each event and how have the scores changed over the last year, month, and week the gymnasts have competed? Does age play a role?
  + Reason: The owners and coaches would like to know how the gymnasts are performing and if they have made any improvements. From there the coaches can work on plans for gymnasts’ training regimens moving forward.
* How do scores vary across different meets and judges over years and month?
  + Reason: The owners would like to know which judges or meets have a reputation for being harsh judges and which judges tend to score more leniently. This can then be used to schedule judges and/or to help coaches prepare gymnasts accordingly.
* How do gymnasts score based on the meet type, event, year, and month?
  + Reason: The owners and coaches would like to know how meet type (i.e. normal, postseason) affects each gymnast’s scores on each event. They would also like to know how these scores are impacted by month and if they have changed over the years and months. This will not only be useful to assess gymnast performance, but to also get an idea of trends for the different meet types.

***Information Package (IP)***

**Information Subject: Gymnast Scores**

**Hierarchies**

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| --- | --- | --- | --- |
| **Dimensions** | | | |
| **Date** | **Gymnast** | **Meet** | **Event** |
| Date | First Name | Start Date | Event Name |
| Year | Last Name | End Date | Judge 1 First Name |
| Month | Date of Birth | Meet Type | Judge 1 Last Name |
| Day of Week | Previous Gym | Level Involved | Judge 1 Rating |
|  | Previous Gym Start Date (bin) | Session Date | Judge 2 First Name |
|  | Previous Gym End Date (bin) |  | Judge 2 Last Name |
|  | Previous Gym City |  | Judge 2 Rating |
|  | Previous Gym State |  |  |
| **Fact:** Score, AA Score\*  **\***calculated by adding up all event scores on a particular date | | | |