

Fearlessly Forward

A database of program ranks and more

BUDT 702 | 0501 | Group 1

Dec 10, 2023

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Background

Users

- Administration
- Admissions Team
- Faculty

Data Sources

- Bloomberg Businessweek
- Financial Times
- US News
- UMD Website

‘

*We're building a database that can track
current and past rankings of any program
from multiple ranking websites*

,



Mission Statement

Provide a centralized database to access rankings of various programs offered at Smith School of Business.

This database has been designed to help:

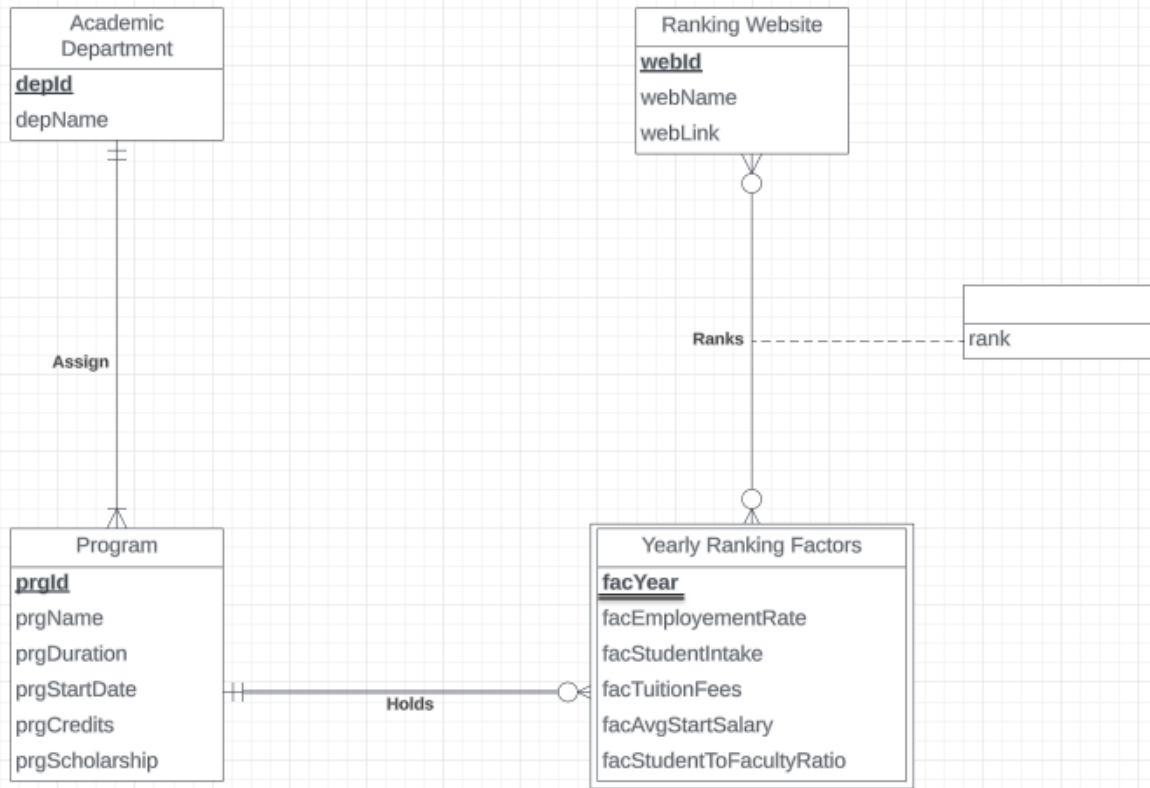
- *administrators can plan and invest better*
- *faculty can make informed decisions*

Objectives

- *To find employment rates across programs*
- *To find programs that have high starting salary*
- *To view and find trends of programs across the years*
- *To calculate return on investment for each program*

*(ROI) = Employment rate * average starting salary * 10 / tuition fee * program length in years)*





Project_0501_01_ERD

Conceptual Database Design

Logical Database Design

Relational Schema

Academic Department (deptId, depName)

Program (prgId, prgName, prgDuration, prgStartDate, prgCredits, prgScholarship, deptId)

Yearly Ranking Factors (prgId, facYear, facEmploymentRate, facStudentIntake, facTuitionFees, facAvgStartSalary, facStudentToFacultyRatio)

Ranking Website (webId, webName, webLink)

Ranks (facYear, prgId, webId, rank)





DROP AND CREATE STATEMENTS FOR RELATION “Ranks”

USE BUDT702_Project_0501_01;

-- SQL DROP statements

DROP TABLE IF EXISTS Ranks;

-- SQL CREATE TABLE statements

CREATE TABLE Ranks (

 facYear CHAR(4) NOT NULL,

 prgId CHAR(4) NOT NULL,

 webId CHAR(4) NOT NULL,

 rank INTEGER,

 CONSTRAINT pk_Ranks PRIMARY KEY (facYear, prgId, webId),

 CONSTRAINT fk_Ranks_prgId_facYear

 FOREIGN KEY (facYear, prgId) REFERENCES YearlyRankingFactors(facYear, prgId)

 ON DELETE CASCADE ON UPDATE CASCADE,

 CONSTRAINT fk_Ranks_webId

 FOREIGN KEY (webId) REFERENCES RankingWebsite(webId)

 ON DELETE CASCADE ON UPDATE CASCADE

);

Physical Database Design

Q1: List available program rankings published by US News

GO

DROP VIEW IF EXISTS Programs_Ranking_view

GO

CREATE VIEW Programs_Ranking_view AS

```
SELECT p.prgName AS 'Program Name', y.facYear AS 'Year',
       r.rank
```

```
FROM Program p
```

```
JOIN YearlyRankingFactors y ON p.prgId = y.prgId
```

```
JOIN Ranks r ON y.prgId = r.prgId AND y.facYear = r.facYear
```

```
JOIN RankingWebsite w ON r.webId = w.webId
```

```
WHERE w.webName = 'US News'
```

```
GROUP BY p.prgName, y.facYear, r.rank
```

GO

SELECT *

FROM Programs_Ranking_view;

	Program Name	Year	rank			
1	Full-Time MBA	2017	47	11	MS Informati...	2023 8
2	Full-Time MBA	2018	48	12	MS Informati...	2024 6
3	Full-Time MBA	2019	40	13	MS Manage...	2022 24
4	Full-Time MBA	2020	44	14	MS Marketin...	2022 17
5	Full-Time MBA	2021	42	15	MS Supply C...	2022 18
6	MS Accounti...	2022	50	16	Online MBA	2017 9
7	MS Informati...	2016	10	17	Online MBA	2018 9
8	MS Informati...	2019	9	18	Online MBA	2019 8
9	MS Informati...	2020	9	19	Online MBA	2020 10
10	MS Informati...	2022	9	20	Online MBA	2021 10
				21	Online MBA	2022 12

Q2: What is the return on investment for each program during 2022? (ROI = Employment rate * average starting salary * 10 / tuition fee * program length in years)

GO

DROP VIEW IF EXISTS Return_Inv_view

GO

CREATE VIEW Return_Inv_view AS

```
SELECT p.prgName AS 'Program Name',
       CAST((y.facEmploymentRate * y.facAvgStartSalary * 10) /
            (y.facTuitionFees * p.prgDuration) AS DECIMAL(10,2)) AS
       'Return on Investment'
```

```
FROM Program p
```

```
JOIN YearlyRankingFactors y ON p.prgId = y.prgId
```

```
WHERE y.facYear = 2022
```

GO

SELECT *

FROM Return_Inv_view;

	Program Name	Return on Investment
1	MS Finance	725.45
2	MS Marketing Analytics	805.67
3	MS Information Systems	831.32
4	MS Accounting	713.20
5	MS Supply Chain Management	675.73
6	MS Business Analytics	928.68
7	MS Management Studies	1053.80
8	MS Quantitative Finance	406.23
9	Full-Time MBA	NULL
10	Online MBA	NULL

THANK YOU

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