



# **How Data Model Changes Impact Project Development of Web Application**

Author: Snehitha Mamidi  
Project Advisor: Prof. Mihaela Sabin  
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# Motivation and Goal

There are few limitations in the previous version of this project which motivated my project study.

The goal of the project is to study the impact of changing the data model of an existing web service on

- Development process which can be essentially broken down to three phases: design, implementation and testing
- Web service architecture and its components
- Evaluation process: effective communication with the client and end-user that is UNH Manchester Academic Advising Department



# Objectives

- Implement Sorting functionality in ascending and descending order
- Implement Searchable and cascaded dependent drop-downs
- Contact Academic Advising Department to demo the project and get the new excel spreadsheet of Transfer Evaluations
- Update the database model diagram based on the newer version of spreadsheet
- Change the transfer methods
- Design logic for creating new transfer evaluation
- Change the front end design for create form of Transfer Evaluation
- Change the front end design for edit form of Transfer Evaluation
- Test backend implementation using Postman
- Inform the end user/client about the current status of project

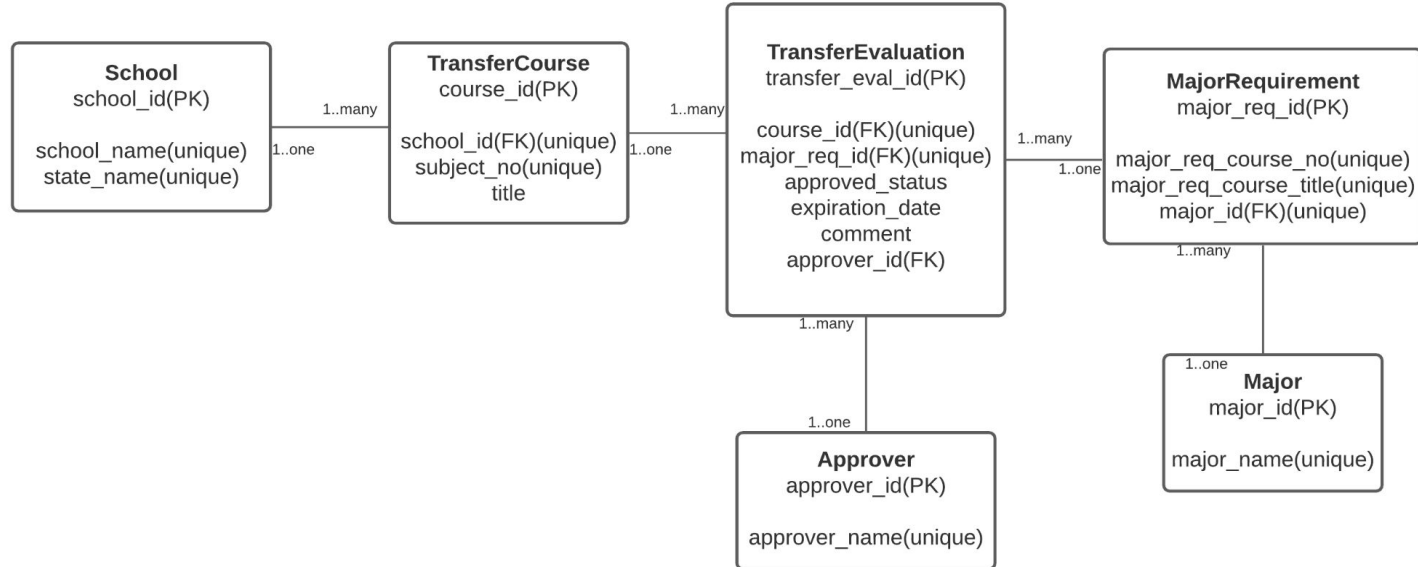


# Approach

Dataset	Frameworks	Tools	Requirements
<ul style="list-style-type: none"><li>• Excel spreadsheet with Transfer Evaluations records, where each tab corresponds to a particular major</li></ul>	<ul style="list-style-type: none"><li>• Django REST Framework</li><li>• ReactJs</li><li>• React Bootstrap</li></ul>	<ul style="list-style-type: none"><li>• Postman</li><li>• PyCharm</li><li>• CORS</li><li>• GitHub</li></ul>	<ul style="list-style-type: none"><li>• Python 3.9.1</li><li>• Django 3.1.7</li><li>• npm 7.5.3</li><li>• node v15.9.0</li><li>• Pipenv</li><li>• openpyxl</li></ul>

# Cont..

## Updated Database model diagram



# Results

- Sorting Functionality and Cascaded Drop-downs

## Transfer evaluations

**Search**

Major Name

-----Select Major Name-----

Institution Name

-----Select Institution Name-----

Course Number

-----Select course Number-----

Create

MAJOR NAME	INSTITUTION NAME	COURSE #	COURSE TITLE	UNHM COURSE #	UNHM COURSE TITLE	APPROVED STATUS	APPROVER NAME	EXPIRATION DATE		
		asc desc		asc desc		asc desc	asc desc	asc desc		
Communication Arts	Brookdale Community College	CINE 105	Film Appreciation	CA 502	Image and Sound	Y	Tenczar		Edit	Delete
Communication Arts	Brookdale Community College	COM 102	Communication Media	N/A	Not approved for major credit	N	Tenczar		Edit	Delete
Communication Arts	Brookdale Community College	SP 115	Public Speaking	CA 450	Public Relations	Y	Tenczar		Edit	Delete

- Institution page

## Institutions

STATE NAME	INSTITUTION NAME		
asc desc	asc desc		Create
New Jersey	Brookdale Community College	Edit	Delete
Vermont	Champlain College	Edit	Delete
New Hampshire	Keene State College	Edit	Delete
New Hampshire	Manchester Community College	Edit	Delete
Massachusetts	Middlesex Community College	Edit	Delete

- UNHM Course page

MAJOR NAME	UNHM COURSE TITLE	UNHM COURSE #		
asc desc	asc desc	asc desc		
Communication Arts	Image and Sound	CA 502	Edit	Delete
Communication Arts	Not approved for major credit	N/A	Edit	Delete
Communication Arts	Public Relations	CA 450	Edit	Delete
Communication Arts	Special Topics in Applied Communication	CA 520	Edit	Delete
Communication Arts	Introduction to Media Studies	CMN 455	Edit	Delete

- Create New Transfer Evaluation Form

### Create New Transfer Evaluation

Major

School

Transfer course #

Transfer course title

UNHM course number

OR

UNHM course #

UNHM course title

Approver name

Approved status

Expiration date

- Edit Transfer Evaluation Form

### Edit Transfer Evaluation

Approver name

Approved status

Expiration date

To update below Transfer Course details go to Transfer Course page  
[Transfer Course](#)

Transfer course #

Transfer course title

To update below UNHM Course details go to UNHM Course page  
[UNHM Course](#)

UNHM course #

UNHM course title



# Evaluation



- Successfully functioning web service
- Testing backend implementation using POSTMAN
- Feedback from the end user or client

## Further Development:

- Testing User Interface using selenium which is used to verify web application UI
- Heroku Deployment
- After searching transfer evaluations in home page based on major and school, to create a new transfer evaluation major and school should be directly populated in create form

Thank You!