Project ID: 2

Project Title

Co-Op Program Data Dashboard And Reporting

Client Name

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Group Capacity

3 groups

Project Background

Several existing reporting processes within the Co-op office currently rely on the manual collation of data from multiple sources, including both university information systems and external spreadsheets.

As a result, many of these processes are time-consuming and prone to producing reports that are inaccurate, incomplete, or delayed.

This project aims to streamline key Co-op workflows that involve extracting data from the Co-op Admin system, the Career Manager system, and incorporating additional information managed separately in Excel spreadsheets.

Project Scope

The project envisages implementing two data dashboards - one for program sponsors and one for scholars.

In addition there will be two reporting deliverables required for annual sponsor reporting :-

a scholar performance summary and
a sponsor commitment summary.

The dashboards will be created by extracting information from two existing university information systems :

Co-op Admin
Career Manager

and adding additional manually entered and calculated fields derived from this information.

* Sponsor Dashboard

Data will be drawn from Co-op Admin.

The sponsor dashboard will present a set of records keyed on an Umbrella code and a Company Code (COCODE). The Company Code is currently the primary key for records in the Co-op Admin system, while the Umbrella code identifies sponsors that are part of the same company.

The Umbrella codes are currently unreliable and will need to be added to the dashboard via an external look up table, and the updated, accurate information passed back to the Co-op Admin system.

A number of fields will be calculated by parsing extracted data, referencing an external look-up table, or adding filesystem paths.

* Scholar Dashboard

Data will be drawn from Career Manager.

The scholar dashboard will present a set of records keyed on Student number (STUNUM).

A number of fields will be calculated by parsing extracted data, manually inputting data and importing data from external sources.

* Sponsor Commitment Summary

Data will be drawn from Co-op Admin and Career Manager.

Each commitment summary will be generated for valid Company Codes (COCODE) and acquire a set of scholar records for each COCODE.

The data is displayed by year, showing the scholar placements for each year, from every sponsorship that the company has funded.

* Scholar Performance Summary

Data will be drawn from Co-op Admin and Career Manager.

Each performance summary will be generated for valid Company Codes (COCODE) and acquire a set of scholar records for each COCODE.

The data is displayed by company, and includes fields extracted from the sponsor survey data that is also collected in Career Manager.

Project Requirements

* Sponsors Dashboard

Record to be extracted from Co-op Admin for each UMBRELLA then COCODE :-

COMPANY
CONTACT: KC
CONTACT: IN
PROGRAM
POSITION (used to calculate the number of sponsorships)
SCHOOL (from a lookup table)
CO-OP PROGRAM (from lookup table)
STATUS (tells us if sponsor is current)
PROGRAM YEAR (can be obtained by parsing the PROGRAM code)
LOGO (file path and filename for current logo based on agreed syntax)
LOGO LAST UPDATED (calculated field based on the year of the LOGO file path)
PROGRAM VALUE
SPONSORSHIP COST (calculated field based on number of sponsorships and cost by year)

Search requirements :-

The number of sponsors in each PROGRAM/SCHOOL/CO-OP PROGRAM by PROGRAM YEAR range with STATUS = current/not current

A list of COMPANY/CONTACT: KC/CONTACT: IN in each PROGRAM/SCHOOL/CO-OP PROGRAM by PROGRAM YEAR range with STATUS = current/not current

The number of scholarships SUM(POSITION) for each COMPANY by PROGRAM YEAR range with STATUS = current/not current

The number of scholarships SUM(POSITION) for each PROGRAM by PROGRAM YEAR range with STATUS = current/not current

* Scholars Dashboard

Record to be extracted from Career Manager for each STUDENT NUMBER :-

PROGRAM
YEAR
STUDENT NUMBER
FIRST NAME
PREFERRED NAME
LAST NAME

DEFAULT EMAIL
ALTERNATE EMAIL
UNIVERSITY STATUS
DATE OF BIRTH
GENDER
SCHOOL CODE
SCHOOL NAME
GATEWAY SCHOOL (YES/NO)
INDIGENOUS STUDENT (YES/NO)
START DATE
END DATE
SCHOLAR TYPE (ORGINAL, LATE, REPLACEMENT)
DIETARY PREFERENCE
DIETARY ALLERGIES
DIETARY RELIGIOUS
MEDICAL ALLERGIES
IT NUMBER (multiple records for each IT for each students)
SPONSOR NAME
DEPARTMENT
SUPERVISOR NAME
SUPERVISOR TITLE
ITE START
ITE END
ITE DETAILS INPUT DATE (appears in Career manager but not in a current report?)
ITE INPUT IN TIME (YES/NO)
LATEST START DATE
EXPECTED START DATE
START DATE MET (YES/NO)
END DATE MET (YES/NO)
IT CHANGE APPROVED
IT PLACEMENT DATES CORRECT (YES/NO)
PD AGREEMENT SUBMISSION DATE
PD SUBMITTED (YES/NO)
PLACEMENT MID-POINT
MPC CALL DATE
MPC CALL ON TIME? (YES/NO)
MPC DOCUMENT DUE DATE
MPC SUBMITTED DATE
MPC SUBMITTED ON TIME (YES/NO)
END OF IT PRESENTATION DATE
END OF IT INPUT DATE
COMPLETED ONTIME (YES/NO?)
UNSW ATTENDEE ON PRESENTATION

SPONSOR EVALUATION SENT TO SPONSOR DATE
SENT BEFORE END OF PLACEMENT? (YES/NO)
SPONSOR COMPLETED DATE
SCHOLAR COMMENT
COMPLETED ON TIME? (YES/NO)
PLACEMENT COMPLETED DATE
PLACEMENT GRADE
PLACEMENT PERFORMANCE
GRADE UPDATED
GRADE UPDATED DATE

Includes fields that are extracted directly from Career Manager, calculated based on inputs, manually inputted and maintained in the daskboard and extracted from a lookup table.

* Sponsor Commitment Report

The Sponsor commitment report needs to draw for each CO-CODE in Career Manager a set of records for each student IT placement at that CO-CODE including :-

COCODE
PROGRAM ID
ITE NUMBER (wether its for IT1, IT2 or IT3 or 1,2 for internship)
STUDENT TYPE (CURRENT SCHOLAR, INTERNSHIP)

A sample report can be provided with exact formatting if the project proceeds.

* Scholar Performance Summary

The Scholar performance summary report needs to draw for each CO-CODE in Career Manager a set of records for each student IT placement at that CO-CODE including

SCHOLAR NAME
TEAM
SUPERVISOR
GRADE
VALUE CONTRIBUTED
SPONSOR FEEDBACK

A sample report can be provided with exact formatting if the project proceeds.

Required Skills

While further investigation is required to determine the available APIs and best data extraction methods from the Co-op admin and Career manager systems, we can presuppose

these general areas of knowledge will be helpful.

* Technical Knowledge

API Fundamentals
Understanding of RESTful and SOAP APIs
Familiarity with authentication protocols (e.g., OAuth2, API keys)
Ability to read and interpret API documentation

Data Formats and Transformation
JSON, XML, and CSV handling
Knowledge of data cleaning and normalization techniques
Awareness of data integrity and validation best practices

Systems Integration
Understanding of how to connect disparate systems (especially older, legacy platforms)
Awareness of middleware or ETL (Extract, Transform, Load) tools

Dashboard/BI Tools
Experience with tools like Tableau, Power BI, Looker, or open-source alternatives
Ability to define and structure KPIs, charts, and data visualizations

Database Concepts
SQL querying and schema comprehension
Familiarity with relational vs non-relational databases

* Analytical & Design Skills

Requirements Gathering
Ability to interview stakeholders and translate business needs into technical specs
Distinguishing between “must-have” and “nice-to-have” features

Data Modeling
Understanding how data should be structured to support the dashboard
Designing logical data flows

UX/UI Understanding
Knowledge of effective dashboard layout principles
Awareness of accessibility and usability best practices

* Project and Stakeholder Management

Legacy System Constraints Awareness

Understanding common limitations (e.g., outdated APIs, performance issues, proprietary formats)
Experience in working around or mitigating such constraints

Collaboration and Communication
Translating between technical teams (developers, data engineers) and non-technical stakeholders
Documenting specifications clearly and accessibly

Change Management and Scalability Considerations
Ensuring the dashboard can evolve with changing data sources or requirements
Planning for version control and backward compatibility

Expected Outcomes

* Dashboards & Reports

Functional scholar and sponsor dashboards
Method for generating sponsor reports keyed on CO-CODE
Source code for any customised software

* Documentation

Technical Docs
System Diagram
Config Guide
User Guides
Data Dictionary

* Future-Ready Design

Scalability Report
Component Library
Change Log

* QA & Testing

Test Cases
QA Logs
Monitoring Plan

Disciplines

Software Development;Web Application Development;Mobile Application Development;Computer Science and Algorithms;Big data Analytics and Visualization;Human Computer Interaction (HCI);

Other Resources

A technical contact for the Co-op Admin and Career Manager systems will provide details on the current database implementation, including the location of key data and any available APIs or methods for data extraction.

Please note that the information systems involved in this project contain sensitive and highly sensitive data. All students participating in the project will be required to adhere to university policies regarding data handling and may need to sign additional agreements to ensure appropriate data protection and confidentiality.