

CPSC 304 Project Cover Page

Milestone #: 4

Date: December 1st, 2023

Group Number: 112

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

Project Summary:

Our project manages job applications submitted by individuals, offering a streamlined and efficient system for individual job seekers. It not only allows users to effortlessly manage job positions through creation, modification, and deletion but also includes advanced query functionalities for accessing detailed information about various job opportunities.

Schema Changes since Milestone 2:

We have added these new tables:

ApplicationJobPostingLink(ApplicationID INT, **JobPostingLink** varchar[2000], **JobBoardLink** varchar[2000])

ApplicationStatus(ApplicationID INT, AppStatus varchar[20])

ApplicationStatusLink(ApplicationID INT, AppStatusLink varchar[20])

ApplicationUserEmail(ApplicationID INT, **UserEmail** varchar[100])

JobBoard_PositionPay (JobTitle varchar[50], Description varchar[2000], Salary INT, **JobBoardLink** varchar[2000], **JobPostingLink** varchar[2000])

We have also removed these table:

JobBoard_PositionDeadline(JobBoardLink, JobPostingLink, Deadline)

Documents (Title: varchar[50], CoverLetter: varchar[2000], Resume: varchar[2000], Transcript: varchar[2000], **ApplicationID**: int NOT NULL)

JobBoard_PositionWorkTerm(JobStartDate, WorkTerm)

JobBoard_PositionSalary(JobTitle, Description, Salary)

These tables have been renamed to include the prefix JobBoard:

PositionDeadline(JobBoardLink, JobPostingLink, Deadline)

PositionDescription(JobBoardLink, JobPostingLink, Description)

PositionJobStartDate(JobBoardLink, JobPostingLink, JobStartDate)

PositionJobTitle(JobBoardLink, JobPostingLink, JobTitle)

PositionCompanyName(JobBoardLink, JobPostingLink, CompanyName)

PositionWorkTerm(JobStartDate, WorkTerm)

PositionSalary(JobTitle, Description, Salary)

Schema and Screenshots:

Users (Email: varchar[100], Name: varchar[100], Pass: varchar[100])

	🔑 EMAIL	🔑 NAME	🔑 PASS
1	colin@ubc.ca	Colin	Chen
2	steven@ubc.ca	Steven	Huang
3	alex@ubc.ca	Alex	Wu
4	nathan@ubc.ca	Nathan	Lee
5	kevin@ubc.ca	Kevin	Hu

Notes (NoteID: int, Title: varchar[2000], Description: varchar[2000], **UserEmail**: varchar[100] NOT NULL)

	🔑 NOTEID	🔑 TITLE	DESCRIPTION	🔑 USEREMAIL
1	1	Todo List	Apply to Jobs, Prepare for Interview, Leetco...	colin@ubc.ca
2	2	Homework	CPSC 304 Milestone 2 Project	steven@ubc.ca
3	3	Interviews	Oct 24th 2:00PM Amazon, Oct 30th 3:00PM Meta	alex@ubc.ca
4	4	Leetcode Practice	Fizzbuzz, Valid Parentheses	nathan@ubc.ca
5	5	Coffee Chat	Oct 30th Nathan Lee	kevin@ubc.ca

Interview (InterviewID: int, **ApplicationID**: int NOT NULL, StartTime: char[5], InterviewDate: char[15])

	🔑 INTERVIEWID	🔑 APPLICATIONID	STARTTIME	INTERVIEWDATE
1	1	3	02:00	11/10/2023
2	2	1	02:00	11/12/2023
3	3	1	12:00	11/15/2023
4	4	2	11:00	11/22/2023
5	5	2	01:00	11/27/2023

JobBoard(JobBoardLink: varchar[2000], Name: varchar[50], **CompanyName**: varchar[50] NOT NULL)

	🔑 JOBBBOARDLINK	🔑 NAME	🔑 COMPANYNAME
1	https://www.apple.com	Apple	Apple
2	https://www.meta.com	Meta	Meta
3	https://www.microsoft.com	Microsoft	Microsoft
4	https://www.netflix.com	Netflix	Netflix
5	https://www.google.com	Google	Google

AppliesTo(JobBoardLink: varchar[2000], JobPostingLink varchar[2000] , **ApplicationID**: int)

	APPLICATIONID	JOBPOSTING...	JOBBOARDLINK
1	1	https://www.apple...	https://www.apple...
2	2	https://www.metad...	https://www.meta...
3	3	https://www.micro...	https://www.micro...
4	4	https://www.netfl...	https://www.netfl...
5	5	https://www.googledev.com	/www.googl...

Company (CompanyName: varchar[50], *Website*: varchar[2000], *Email*: varchar[50], Address: varchar[50], *Number*: varchar[50])

	COMPANYNAME	WEBSITE	EMAIL	ADDRESS	PHONENUMBER
1	Google	https://www.google.com	googleemail@gmail.com	5435 Robson St	778-111-1111
2	Meta	https://www.meta.com	metaemail@gmail.com	2963 Kerr Ave	778-222-2222
3	Apple	https://www.apple.com	appleemail@gmail.com	1014 Shelby Dr	778-333-3333
4	Netflix	https://www.netflix.c...	netflixemail@gmail.com	3285 Silicon St	778-444-4444
5	Microsoft	https://www.microsoft...	microsoftemail@gmail...	5009 Hornby Ave	778-555-5555




Interviewer (Email: varchar[50], Name: varchar[50], **InterviewID**: int NOT NULL)

	EMAIL	NAME	INTERVIEWID
1	recruiter1@gmail.com	John Smith	2
2	recruiter2@gmail.com	Nathan Suen	3
3	recruiter3@gmail.com	Tammy Goel	3
4	recruiter4@gmail.com	Rammy Hadyullath	3
5	recruiter5@gmail.com	Marcus Lai	4



PostInterviewQuestion(**ApplicationID**: int, *ContactInformation*: varchar[200], **NoteID**: int, **InterviewID**: int)

	APPLICATIONID	CONTACTINFORMA...	NOTEID	INTERVIEWID
1	1	recruiter1@gmail.com, ...	1	2
2	2	recruiter2@gmail.com, ...	2	2
3	3	recruiter3@gmail.com, ...	3	1
4	4	recruiter4@gmail.com, ...	4	3
5	5	recruiter5@gmail.com, ...	5	1

OnlineAssessment(**InterviewID**: int, AssessmentType: varchar[50], Link: varchar[2000], Industry: varchar[50])

	 INTERVIEWID ▾	 ASSESSMENTTYPE ▾	 LINK ▾
1	1	Hackerrank	https://www.hackerrank.com
2	2	Leetcode	https://www.leetcode.com
3	3	IQTest	https://www.iqtest.com
4	4	PuzzleGames	https://www.puzzlegames.com
5	5	CodeReview	https://www.codereview.com




InPersonInterview(**InterviewID**: int, Questions: varchar[2000])

	 INTERVIEWID ▾	 QUESTIONS ▾
1	1	Tell me about yourself
2	2	Tell me a time you had conf...
3	3	What are your strengths and...
4	4	Why do you want to join our...
5	5	What is your experience wit...




VirtualInterview(**InterviewID**: int, Link: varchar[2000])

	 INTERVIEWID ▾	 LINK ▾
1	1	https://www.zoomus1.com
2	2	https://www.zoomus2.com
3	3	https://www.zoomus3.com
4	4	https://www.zoomus4.com
5	5	https://www.zoomus5.com

JobBoard_PositionDescription(JobBoardLink, JobPostingLink, Description)

	 JOBBOARDLINK	 JOBPOSTINGLINK	 DESCRIPTION
1	https://www.apple.com	https://www.appledev...	something to do 1
2	https://www.meta.com	https://www.metadev.c...	something to do 1
3	https://www.microsoft...	https://www.microsoft...	something to do 1
4	https://www.netflix.c...	https://www.netflixde...	something to do 1
5	https://www.google.com	https://www.googledev...	something to do 1




JobBoard_PositionJobStartDate(JobBoardLink, JobPostingLink, JobStartDate)

	 JOBBOARDLINK	 JOBPOSTINGLINK	 STARTDATE
1	https://www.apple.com	https://www.appledev...	2023/12/01
2	https://www.meta.com	https://www.metadev.c...	2023/12/02
3	https://www.microsoft...	https://www.microsoft...	2023/12/03
4	https://www.netflix.c...	https://www.netflixde...	2023/12/04
5	https://www.google.com	https://www.googledev...	2023/12/05




JobBoard_PositionTitle(JobBoardLink, JobPostingLink, JobTitle)

	 JOBBOARDLINK	 JOBPOSTINGLINK	 JOBTITLE
1	https://www.apple.com	https://www.appledev...	Software Eng
2	https://www.meta.com	https://www.metadev.c...	Data Analytic
3	https://www.microsoft...	https://www.microsoft...	Full Stack
4	https://www.netflix.c...	https://www.netflixde...	Front End
5	https://www.google.com	https://www.googledev...	Back End



JobBoard_PositionCompany(JobBoardLink, JobPostingLink, **CompanyName**)

	 JOBBOARDLINK	 JOBPOSTINGLINK	 COMPANY
1	https://www.apple.com	https://www.appledev...	Apple Inc
2	https://www.meta.com	https://www.metadev.c...	Meta Inc
3	https://www.microsoft...	https://www.microsoft...	Microsoft Inc
4	https://www.netflix.c...	https://www.netflixde...	Netflix Inc
5	https://www.google.com	https://www.googledev...	Google Inc



ApplicationJobPostingLink(ApplicationID INT, **JobPostingLink** varchar[2000], **JobBoardLink** varchar[2000])

	 APPLICATIONID ▾	 JOBPOSTINGLINK ▾	 JOBBBOARDLINK ▾
1		1 https://www.appledev.com	https://www.apple.com
2		2 https://www.metadev.com	https://www.meta.com
3		3 https://www.microsoftdev.com	https://www.microsoft.com
4		4 https://www.netflixdev.com	https://www.netflix.com
5		5 https://www.googledev.com	https://www.google.com
6		7 https://www.appledev2.com	https://www.apple.com
7		8 https://www.appledev3.com	https://www.apple.com
8		9 https://www.appledev4.com	https://www.apple.com
9		10 https://www.appledev5.com	https://www.apple.com

ApplicationStatus(ApplicationID INT, AppStatus varchar[20])

	 APPLICATIONID ▾	 APPSTATUS ▾
1		1 Applied
2		2 Not Applied
3		3 Interview
4		4 Waiting for Response
5		5 Applied

ApplicationStatusLink(ApplicationID INT, AppStatusLink varchar[20])

	 APPLICATIONID ▾	 APPSTATUSLINK
1		1 https://www.appstatuslink1.com
2		2 https://www.appstatuslink2.com
3		3 https://www.appstatuslink3.com
4		4 https://www.appstatuslink4.com
5		5 https://www.appstatuslink5.com

ApplicationUserEmail(ApplicationID INT, **UserEmail** varchar[100])

	APPLICATIONID	USEREMAIL
1	3	alex@ubc.ca
2	8	alex@ubc.ca
3	1	colin@ubc.ca
4	5	kevin@ubc.ca
5	10	kevin@ubc.ca
6	4	nathan@ubc.ca
7	9	nathan@ubc.ca
8	2	steven@ubc.ca
9	7	steven@ubc.ca

SQL Queries Used (Line Numbers)

Function	Line in appController.js	Line in appService.js
Insert	57-72	89-103
Delete	85-100	105-119
Update	102-126	121-135
Selection	214-223	228-259
Projection	153-171	168-182
Join	225-234	312-339
Aggregation with Group By	174-185	184-207
Aggregation with Having	188-198	210-226

Nested Aggregation with Group By	201-211	263-284
Division	236-244	286-310

SQL Queries Screenshots

INSERT

Before:

Job Positions						Refresh
Job Title	Description	Salary	Job Board Link	Job Posting Link	Action	Action
SWE1	Level 1	100000	https://www.apple.com	https://www.appledev.com	Delete	Update
SWE2	Level 2	200000	https://www.meta.com	https://www.metadev.com	Delete	Update
SWE3	Level 3	300000	https://www.microsoft.com	https://www.microsoftdev.com	Delete	Update
SWE4	Level 4	400000	https://www.netflix.com	https://www.netflixdev.com	Delete	Update
SWE5	Level 5	500000	https://www.google.com	https://www.googledev.com	Delete	Update

During:

New Posting

Job Title:

Salary:

SWE3

200000

Description:

Level 1

Job Board Link:

Job Posting Link:

https://www.apple.com

https://www.appledev.cc

Add Job

After:

Job Positions

Refresh

Job Title	Description	Salary	Job Board Link	Job Posting Link	Action	Action
SWE1	Level 1	100000	https://www.apple.com	https://www.appledev.com	Delete	Update
SWE2	Level 2	200000	https://www.meta.com	https://www.metadev.com	Delete	Update
SWE3	Level 3	300000	https://www.microsoft.com	https://www.microsoftdev.com	Delete	Update
SWE4	Level 4	400000	https://www.netflix.com	https://www.netflixdev.com	Delete	Update
SWE5	Level 5	500000	https://www.google.com	https://www.googledev.com	Delete	Update
SWE3	Level 1	200000	https://www.apple.com	https://www.appledev.com	Delete	Update

DELETE

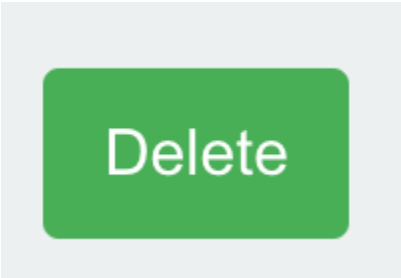
Before:

Job Positions

Refresh

Job Title	Description	Salary	Job Board Link	Job Posting Link	Action	Action
SWE1	Level 1	100000	https://www.apple.com	https://www.appledev.com	Delete	Update
SWE2	Level 2	200000	https://www.meta.com	https://www.metadev.com	Delete	Update
SWE3	Level 3	300000	https://www.microsoft.com	https://www.microsoftdev.com	Delete	Update
SWE4	Level 4	400000	https://www.netflix.com	https://www.netflixdev.com	Delete	Update
SWE5	Level 5	500000	https://www.google.com	https://www.googledev.com	Delete	Update
SWE3	Level 1	200000	https://www.apple.com	https://www.appledev.com	Delete	Update

During:



After:

Job Positions

Refresh

Deletion Successful

Job Title	Description	Salary	Job Board Link	Job Posting Link	Action	Action
SWE1	Level 1	100000	https://www.apple.com	https://www.appledev.com	Delete	Update
SWE2	Level 2	200000	https://www.meta.com	https://www.metadev.com	Delete	Update
SWE3	Level 3	300000	https://www.microsoft.com	https://www.microsoftdev.com	Delete	Update
SWE4	Level 4	400000	https://www.netflix.com	https://www.netflixdev.com	Delete	Update
SWE5	Level 5	500000	https://www.google.com	https://www.googledev.com	Delete	Update

UPDATE

Before:

Job Positions

Refresh

Job Title	Description	Salary	Job Board Link	Job Posting Link	Action	Action
SWE1	Level 1	100000	https://www.apple.com	https://www.appledev.com	Delete	Update
SWE2	Level 2	200000	https://www.meta.com	https://www.metadev.com	Delete	Update
SWE3	Level 3	300000	https://www.microsoft.com	https://www.microsoftdev.com	Delete	Update
SWE4	Level 4	400000	https://www.netflix.com	https://www.netflixdev.com	Delete	Update
SWE5	Level 5	500000	https://www.google.com	https://www.googledev.com	Delete	Update

During:

Update Job

Description:

Level 2

Salary:

200000

Job Board Link:

https://www.apple.com

Update

After:

Job Positions

Refresh

Update Successful

Job Title	Description	Salary	Job Board Link	Job Posting Link	Action	Action
SWE1	Level 2	200000	https://www.apple.com	https://www.appledev.com	Delete	Update
SWE2	Level 2	200000	https://www.meta.com	https://www.metadev.com	Delete	Update
SWE3	Level 3	300000	https://www.microsoft.com	https://www.microsoftdev.com	Delete	Update
SWE4	Level 4	400000	https://www.netflix.com	https://www.netflixdev.com	Delete	Update
SWE5	Level 5	500000	https://www.google.com	https://www.googledev.com	Delete	Update

SELECTION

Before:

Enter Job Title

Enter Description

Enter Salary

Enter Job Board Link

Enter Job Posting Link

AND

Fetch Job Data

During:

SWE1

Level 1

Enter Salary

Enter Job Board Link

Enter Job Posting Link

AND

Fetch Job Data

After:

SWE1

Level 1

Enter Salary

Enter Job Board Link

Enter Job Posting Link

AND

Fetch Job Data

Job Title	Description	Salary	Job Board Link	Job Posting Link
SWE1	Level 1	100000	https://www.apple.com	https://www.appledev.com

JOIN

Before:

Enter Company Name

Fetch Job Postings by Company

During:

Apple

Fetch Job Postings by Company

After:

Apple

Fetch Job Postings by Company

Job Posting Link	Deadline	Job Board Name	Company Name	Company Website	Company Email	Company Address	Company Phone Number
https://www.appledev.com	2023/12/01	Apple	Apple	https://www.apple.com	appleemail@gmail.com	1014 Shelby Dr	778-333-3333
https://www.appledev2.com	2023/12/01	Apple	Apple	https://www.apple.com	appleemail@gmail.com	1014 Shelby Dr	778-333-3333
https://www.appledev3.com	2023/12/01	Apple	Apple	https://www.apple.com	appleemail@gmail.com	1014 Shelby Dr	778-333-3333
https://www.appledev4.com	2023/12/01	Apple	Apple	https://www.apple.com	appleemail@gmail.com	1014 Shelby Dr	778-333-3333
https://www.appledev5.com	2023/12/01	Apple	Apple	https://www.apple.com	appleemail@gmail.com	1014 Shelby Dr	778-333-3333

PROJECTION

Before:

Projection Selector

Select Table:

Select a table

Submit Projection

During:

Projection Selector

Select Table:

COMPANY

Select Attributes:

☒ COMPANYNAME ☒ WEBSITE ☐ EMAIL ☐ ADDRESS ☐ PHONENUMBER

Submit Projection

After:

Projection Selector

Select Table:

COMPANY

Select Attributes:

☒ COMPANYNAME ☒ WEBSITE ☐ EMAIL ☐ ADDRESS ☐ PHONENUMBER

Submit Projection

COMPANYNAME	WEBSITE
Google	https://www.google.com
Meta	https://www.meta.com
Apple	https://www.apple.com
Netflix	https://www.netflix.com
Microsoft	https://www.microsoft.com

AGGREGATION with GROUP BY

Before:

Job Positions

Refresh

Job Title	Description	Salary	Job Board Link	Job Posting Link	Action	Action
SWE1	Level 2	200000	https://www.meta.com	https://www.metadev.com	Delete	Update
SWE1	Level 1	100000	https://www.apple.com	https://www.appledev.com	Delete	Update
SWE2	Level 2	200000	https://www.meta.com	https://www.metadev.com	Delete	Update
SWE3	Level 3	300000	https://www.microsoft.com	https://www.microsoftdev.com	Delete	Update
SWE4	Level 4	400000	https://www.netflix.com	https://www.netflixdev.com	Delete	Update
SWE5	Level 5	500000	https://www.google.com	https://www.googledev.com	Delete	Update

During:

Salary

Select Table:

JobBoard_PositionPay

Calculate Average Salary

After:

Salary

Select Table:

JobBoard_PositionPay

Calculate Average Salary

Salary Analysis Results

Job Title	Average Salary
SWE2	\$200000.00
SWE4	\$400000.00
SWE3	\$300000.00
SWE5	\$500000.00
SWE1	\$150000.00

NESTED AGGREGATION with GROUP BY

Before:

Job Position Analysis

Min Positions Available:

1

Find Total Job Positions by Company

Company	Total Job Positions
Meta Inc	1
Google Inc	1
Apple Inc	2
Microsoft Inc	1
Netflix Inc	1

During:

Job Position Analysis

Min Positions Available:

2

Find Total Job Positions by Company

Company	Total Job Positions
Meta Inc	1
Google Inc	1
Apple Inc	2
Microsoft Inc	1
Netflix Inc	1

After:

Job Position Analysis

Min Positions Available:

2

Find Total Job Positions by Company

Company	Total Job Positions
Apple Inc	2

DIVISION

Before:

Salary Analysis

Minimum Salary Threshold:

80000

Find Job Positions

Job Title	Average Salary
SWE2	\$200000.00
SWE4	\$400000.00
SWE3	\$300000.00
SWE5	\$500000.00
SWE1	\$150000.00

During:

Salary Analysis

Minimum Salary Threshold:

150000

Find Job Positions

Job Title	Average Salary
SWE2	\$200000.00
SWE4	\$400000.00
SWE3	\$300000.00
SWE5	\$500000.00
SWE1	\$150000.00

After:

Salary Analysis

Minimum Salary Threshold:

150000

Find Job Positions

Job Title	Average Salary
SWE2	\$200000.00
SWE4	\$400000.00
SWE3	\$300000.00
SWE5	\$500000.00