**COMP20070 Final Assignment – Applicant Tracking System**

*Samuel Dornan – 20385853*

Database represents the following scenario: “Hospitals advertise positions which require specific skills (e.g., nursing, administrative, etc.). Candidates may be invited to interviews for the positions”.

Applicant Tracking System for a hospital or health service, allowing applicants to apply for jobs, determine which jobs they may be a good fit for based on their skills, and allowing hiring managers to see which jobs an applicant may be a good fit for based on their skills provided.

This system relies heavily on the use of ID numbers for indexing to increase the likelihood of a user finding the results they are looking for, and assumes the user has some familiarity with MySQL.

Key constraints defined in step 2 are primarily handled through the interviews table, or else are handled through link tables such as “position\_skills” and “candidate\_skills”/

Developed on Windows 11 Pro

Data Lineage

|  |  |  |  |
| --- | --- | --- | --- |
| **Table Name** | **Column Name** | **Type** | **Description** |
| `candidate\_details` | `candidate\_address` | TEXT | Free text to allow users to input longer addresses |
| `candidate\_details` | `candidate\_firstname` | TEXT | Free text to allow for different symbols used in different names |
| `candidate\_details` | `candidate\_id` | INT-PRIMARY KEY | Primary key to allow consistent indexing |
| `candidate\_details` | `candidate\_surname` | TEXT | Free text to allow for different symbols used in different names |
| `candidate\_details` | `candidate\_telephone` | INT | Integer to assure that telephone numbers remain as telephone numbers, increasing the likelihood that they are useful |
| `candidate\_skills` | `candidate\_details-id` | INT-PRIMARY KEY | Primary key for consistent indexing and relational integrity |
| `candidate\_skills` | `skills\_details-id` | INT-PRIMARY KEY | Primary key for consistent indexing and relational integrity |
| `hospital\_details` | `hospital\_address` | TEXT | Free text to allow users to input longer addresses |
| `hospital\_details` | `hospital\_id` | INT | Primary key for consistent indexing and relational integrity |
| `hospital\_details` | `hospital\_name` | TEXT | Free text as hospital names may be more than one word or contain symbols such as apostrophes |
| `hospital\_details` | `hospital\_telephone` | INT | Integer to assure that telephone numbers remain as telephone numbers, increasing the likelihood that they are useful |
| `interview\_details` | `candidate-hired` | TINYINT | Tinyint used as MySQL treats these as Boolean operators; 1 = True, 0 = False |
| `interview\_details` | `interview-candidate\_id` | INT | Used to create a relationship between the candidate details and interview table |
| `interview\_details` | `interview-position\_id` | INT | Used to create a relationship between the position details and the interview table |
| `interview\_details` | `interview\_date` | DATE | ISO 8601 Format |
| `interview\_details` | `interview\_id` | INT-PRIMARY KEY | Primary key for consistent indexing and relational integrity |
| `position\_details` | `hospital\_details-id` | INT | Used to create a relationship between the position details and the hospital details table |
| `position\_details` | `position\_id` | INT-PRIMARY KEY | Primary key for consistent indexing and relational integrity |
| `position\_details` | `position\_name` | TEXT | Used to allow position name to be entered in plain language |
| `position\_details` | `position\_type` | TEXT | Used to allow position type to be entered in plain language |
| `position\_skills` | `position\_details-id` | INT-PRIMARY KEY | Used to create a relationship between the position details table and skills table |
| `position\_skills` | `skills\_details-id` | INT-PRIMARY KEY | Used to create a relationship between the position details table and skills table |
| `skills\_details` | `skill\_id` | INT-PRIMARY KEY | Primary key for consistent indexing and relational integrity |
| `skills\_details` | `skill\_name` | TEXT | Used to allow skills to be entered in plain language |

Assumptions & additions

* Addition of link tables for the creation of many-many relationships
* Task 4.6: Requires to search for position ID rather than position name
* Task 4.8: This doesn't explicitly say which positions need to be found; assumed all positions would need to be found for a given hospital ID
* Task 4.9: Dates are in ISO 8601 format
* Task 4.10: Returns unique candidates who were interviewed on a specific date. Note: does not account for candidates who may have been interviewed on dates other than the one selected; does not show if a candidate was interviewed more than once on the selected date. (This is because it was assumed a hiring manager who wanted to know which candidates were interviewed more than once on a specific date would ask for that dammit.)

Reaction policies

* Heavy reliance on indexing by ID values to ensure that valid results are returned after queries
* Use of automatically generated integers for ID values where possible to reduce the risk of users forgetting to input these or else attempting to input values that already exist.
* Constraining connections by ID to ensure that referential integrity is maintained

ER Diagram

A diagram of a job interview

Description automatically generated