

Navigating the

TECHNICAL INTERVIEW

with Michael Watson, Software Engineer &
Development Team Manager

Vermont Information Processing (VIP)





Overview



today we will cover...

1. Introduction & Big Picture Overview



2. Tips for the Technical Interview



3. Group Whiteboard Interview



4. Preparation



5. Questions



ABOUT ME & VIP

Michael Watson
Software Development

VIP is the leading technology supplier for brewers, distributors, wineries, soda bottlers, and other companies in the beverage industry.



APPLICATION PROCESS

OVERVIEW

1. Job Application
2. Phone Screen w/ HR or Hiring Manager
3. Take-home programming exercise / online test
4. Technical Interview with Hiring Manager(s)
5. Follow-up Interview with Hiring Manager(s) and/or Team Members(s)
6. Offer Letter



TECHNICAL INTERVIEW OUTLINE

1. Introductions (2-3 minutes)
2. Resume review & get to know you (15-20 minutes)
3. White board exercises/technical interview (20-30 minutes)
4. Job description & company information (5-10 minutes)
5. Open time for questions (5+ minutes)

TIPS FOR THE INTERVIEW

Research:

Know Stacks &
Technologies Used

Brush Up:

Practice, Practice,
Practice

Showcase Problem Solving Skills:

It's more than just
getting the right answer

Ask Questions:

Be engaged, ask
clarifications

Showcase Soft Skills:

Understanding big
picture, calmness, etc.

Think Out Loud:

Talk through so they can
understand your
thought process

PART 1: DATABASE DESIGN & BASIC QUERYING

Assume a database with the following tables:

EMPLOYEE:

- EmployeeID
- FirstName
- LastName
- HireDate

DEPARTMENT:

- DepartmentID
- DepartmentName

DEPARTMENT EMPLOYEE:

- DepartmentID
- EmployeeID

- **Write or describe a query that returns the First Name and Last Name of all employees hired on or after January 1st, 2020**
- **Write or describe a query that returns the First Name and Last Name of all employees who belong to the Development department**
- **Describe how we could enhance the database to assign a Job Title to an employee**
- **Describe how we could enhance the database to define an Employee Manager for a given department**



PART 2: APPLICATION DESIGN

Given the database in the previous step, can you design a web portal that allows an administrator to manage their list of employees and the departments they belong in?

The portal should allow the administrator to search for existing employees, add a new employee, update an employee, and assign an employee to one or more departments.

- Describe or draw an outline of what the application looks like from a UI/UX perspective, including its key features and components**
- Describe the data flow and/or technology stack that powers this application. Include a big picture overview of the architecture as well as details about specific technologies and frameworks along the way**



PART 3: CODE REVIEW

An employee has written the following snippet of code to help with a specific task in your application.

You have been assigned to code review. The original ticket was to "Define a method that finds all employees in a given department who were hired after a certain date."

```
public List<Employee> getResult(List<Employee> allEmployees, String departmentName, Date startDate) {  
  
    // declare list to hold employees who meet requirements  
    List<Employee> x = new ArrayList<>();  
  
    for (int i = 0; i < allEmployees.size(); i++) {  
        int id = DepartmentHelper.getDepartmentIdFromName(departmentName);  
        if (allEmployees.get(i).getHireDate().isBefore(startDate)) {  
            if (DepartmentHelper.checkEmployeeInDepartment(allEmployees.get(i), id)) {  
                x.add(allEmployees.get(i));  
            }  
        }  
    }  
  
    if (x.size() > 0) {  
        return x;  
    } else {  
        return new ArrayList<>();  
    }  
}
```

Can you code review this snippet of code and make suggestions - specifically with regards to performance and readability?

DEBRIEF

How do you practice or prepare?

What about take-home portions?

Other questions?



THANK YOU
FOR LISTENING!

Questions?

