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System FAST Career Connect System

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1. Introduction

FASTCareerConnect is a comprehensive career management system designed to facilitate connections between students and recruiters through job applications, interviews, and job fair events. The system streamlines the entire process from student profile creation to job placement tracking.

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2. Tech Stack

2.1 Development Environment

- **Framework:** .NET Framework (Windows Forms)

- **IDE:** Visual Studio

- **Programming Language:** C#

- **Database:** Microsoft SQL Server (MSSQL)

- **Reporting:** Microsoft Report Viewer (RDLC reports)

2.2 Libraries and Dependencies

- `System.Data.SqlClient`

- `Microsoft.ReportViewer.WinForms`

- `Microsoft.ReportViewer.Common`

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3. Database Schema

The database consists of several interconnected tables designed to manage the various aspects of the career connect system:

3.1 Core Tables

- **Users:** Central user management table storing all user types

- **Students:** Student-specific information including GPA and degree program

- **Companies:** Company information for recruiters and job postings

- **Recruiters:** Links users to companies for recruitment activities

3.2 Job-Related Tables

- **Skills:** Catalog of available skills

- **StudentSkills:** Many-to-many relationship between students and skills

- **JobPostings:** Available positions posted by companies

- **JobPostingSkills:** Skills required for each job posting

- **Applications:** Student applications for job postings

3.3 Event-Related Tables

- **JobFairEvents:** Information about scheduled job fairs

- **Booths:** Company booths at job fairs

- **Visits:** Tracking student visits to booths

- **Interviews:** Scheduled interviews between students and recruiters

- **Reviews:** Student feedback on recruiters/companies

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4. System Architecture

4.1 User Roles

- **Student:** Create profiles, apply for jobs, attend job fairs, and provide feedback

- **Recruiter:** Manage job postings, review applications, conduct interviews

- **TPO (Training & Placement Officer):** Oversee the entire process, access reports

- **Booth Coordinator:** Manage company booths at job fairs

4.2 Module Structure

The system is organized into several core modules:

- **User Management:** Registration, authentication, and profile management

- **Job Management:** Posting, searching, and application processing

- **Interview Management:** Scheduling and tracking interviews

- **Event Management:** Job fair organization and booth allocation

- **Reporting System:** Analytics and data visualization

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5. Forms and Functionality

5.1 Student Module

- **Profile Creation/Update:** `1.1_Creat_Profile.cs` – Students can create and maintain their profiles

- **Job Search and Application:** `1.2_Search_ApplyJobs.cs` – Students can search and apply for jobs

- **Interview Scheduling:** `1.3_Schedule_Interview.cs` – Students can view and manage interview slots

- **Reviews Submission:** `1.4_Submit_reviews.cs` – Students can provide feedback on recruiters

5.2 Recruiter Module

- **Recruiter Dashboard:** `2_Recruiter.cs` – Central access point for recruiters

- **Application Management:** `2.2_Shortlist_application.cs` – Shortlisting and managing applications

- **Interview Allocation:** `2.3_Allocate_Interview_Slots.cs` – Scheduling interviews with candidates

- **Hiring Process:** `2.4_Hire.cs` – Final hiring decisions and offers

5.3 TPO/Admin Module

- **User Approval:** `3.1_User_approval.cs` – Administrator user management

- **Monitoring Dashboard:** `3.4_TPO_Monitoring_Form.cs` – System activity monitoring

- **Report Access:** `3.5_Report_Access.cs` – Access to all system reports and analytics

5.4 Event Management Module

- **Booth Check-in:** `4.1_Booth_Student_CheckIN.cs` – Student registration at company booths

- **Booth Traffic Monitoring:** `4.2_Monitor Booth traffic.cs` – Real-time tracking of booth activity

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6. Reports

The system includes comprehensive reports for data analysis and decision-making:

6.1 Student Reports

- GPA distribution across applicants

- Department-wise registration counts

- Placement statistics by degree program

6.2 Recruiter Reports

- Total interviews conducted per company

- Offer-to-application acceptance ratios

- Student ratings for recruiters

6.3 Event Performance Reports

- Booth traffic statistics (visits per booth)

- Peak participation hours

- Resource usage metrics (booth utilization)

6.4 Placement Statistics

- Overall placement percentage

- Department-wise placement rates

- Average salary offered by degree program

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7. How to Run the System

7.1 Prerequisites

- Windows operating system

- .NET Framework 4.8 or higher

- SQL Server 2012 or higher

- Visual Studio (for development)

7.2 Installation Steps

Database Setup:

- Execute the database creation script (`Data_base_Creation.sql`)

- Ensure the SQL Server instance is running

Application Configuration:

- Update the connection string in `App.config` to point to your SQL Server

- Build the solution in Visual Studio

First-time Setup:

- Run the application

- Log in as an administrator (default credentials provided)

- Create necessary user accounts and approve them

7.3 User Access

- **Students:** Register and log in to create profiles and apply for jobs

- **Recruiters:** After approval, can post jobs and manage applications

- **TPO/Admin:** Has access to all system features and reports

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8. Security Considerations

- User authentication with role-based access control

- Secure password storage

- Input validation to prevent SQL injection

- User approval workflow for new registrations

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9. Future Enhancements

- Mobile application for students

- Integration with university enrollment systems

- Advanced analytics with predictive placement trends

- Email notifications for important events

- Calendar integration for interview scheduling

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10. Troubleshooting

10.1 Common Issues

- **Database Connection Errors:** Check connection string and SQL Server status

- **Report Generation Errors:** Ensure Microsoft Report Viewer is properly installed

- **Constraint Violations:** Verify data integrity in database operations

10.2 Support Contacts

- **Technical Support:** [------]

- **Database Administrator:** [------]

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11. Conclusion

FASTCareerConnect provides a comprehensive solution for managing the entire career placement process for educational institutions. The system connects students with potential employers while providing administrators with powerful tools for monitoring and improving placement outcomes.

The modular architecture allows for future expansion and customization to meet evolving needs of the institution, students, and industry partners.