CRC Cards For Object Oriented Programming Project 2024

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| Class Name: PartScale |  |
| **Responsibilities:**   * Represents the salary scale for part-time employees, often based on hourly or shift rates. * Provides methods for calculating pay based on the hours worked or shifts completed. * Handles salary adjustments for part-time staff based on varying work hours. | **Collaborations:**   * **SalaryScale**: Retrieves salary rules for part-time employees, handling hourly pay calculations. * **PayrollSystem**: Uses part-time salary data for accurate payroll processing based on work hours. * **PartTimeStaff**: To calculate the salary for part-time employees based on the number of hours worked |

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| Clas Name: DBController |  |
| * Handles all database interactions such as querying, inserting, updating, and deleting records. * Ensures the database connection is open and queries are executed successfully. * Performs validations and error handling when interacting with the database. * Executes custom SQL queries for specific needs (e.g., fetching employee data or payroll history). | * **Staff**: Collaborates to fetch and save employee data, such as job titles, address, department, etc. * **PayrollSystem**: Retrieves payroll data (e.g., employee pay, deductions) for processing and updates after payroll runs. * **SalaryUpdate**: Updates salary information in the database, using methods to execute SQL queries to reflect changes. * **DBTest**: Used to test database queries for consistency, correctness, and performance. * **Address**: Stores and retrieves employee address data from the database. |

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| Clas Name: FullScale |  |
| **Responsibilities:**   * Represents the full-time salary scale, including base salaries, bonuses, and tax deductions. * Calculates salary for full-time employees based on their job titles and years of experience. * Provides methods for retrieving salary data and applying tax deductions (e.g., income tax, USC, PRSI). | **Collaborations:**   * **SalaryScale**: Works with the SalaryScale class to retrieve salary rules specifically for full-time staff. * **PayrollSystem**: Uses FullScale data to calculate salaries for full-time employees. * **Staff**: Provides salary details and updates to employees in full-time positions. |

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| Class Name: PasswordUtil |  |
| **Responsibilities:**   * Provides utility functions for secure password handling, including encryption, hashing, and validation. * Ensures passwords are securely stored and compared during login. * Validates user-provided passwords and hashes them for storage in the database. | **Collaborations:**   * **Staff**: Validates and stores staff login passwords securely. * **DBController**: Uses password hashing methods when storing and retrieving staff passwords securely. * **PayrollSystemMenu**: Uses the PasswordUtil class for login validation within the payroll system interface. |

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| Class Name: PayrollSystem |  |
| Responsibilities:   * Manages the payroll calculation and distribution process for all employees (full-time, part-time, etc.). * Handles salary calculations, including deductions like income tax, PRSI, USC, and bonuses. * Generates payslips and tracks payment status for each employee. | **Collaborations:**   * **DBController**: Retrieves employee data, payroll data, and updates the payroll records in the database. * **FullScale**: Uses salary scales for full-time employees to calculate their pay. * **PartScale**: Uses part-time employee salary rules to compute pay based on hours worked. * **TaxCalc**: Calculates tax deductions and applies them to employee salaries during payroll processing. * **Staff**: Retrieves and processes staff payroll data, including the calculation of pay and generation of payslips. * **SalaryUpdate**: Updates the salary of employees after processing payroll. |

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| Class Name: PayrollSystemMenu |  |
| **Responsibilities:**   * Manages the user interface and navigation for interacting with the payroll system. * Displays menu options for users to access different payroll-related features like generating payslips, managing promotions, etc. * Accepts user input and processes payroll-related actions based on user choice. | **Collaborations:**   * **PayrollSystem**: Coordinates with PayrollSystem to execute payroll-related operations based on user input. * **Staff**: Provides options for staff to view their payroll data, promotions, and history.   **SalaryUpdate**: Allows users to access options for salary updates. |

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| Class Name: SalaryScale |  |
| **Responsibilities:**   * Represents the salary scales for different employee categories, such as full-time and part-time staff. * Defines salary bands and rules based on job titles, experience, and work hours. * Provides methods for retrieving and calculating salaries based on the defined scale. | **Collaborations:**   * **FullTimeScale**: Provides salary scale data specific to full-time employees. * **PartScale**: Provides salary scale data specific to part-time employees. * **PayrollSystem**: Uses the salary scale data for salary calculations during payroll processing. |

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| Class Name: SalaryUpdate |  |
| **Responsibilities:**   * Handles the updating of employee salary records in the database after a promotion, salary adjustment, or payroll processing. * Updates salary records based on user input (e.g., a salary raise or promotion). * Ensures salary changes are reflected in the system after calculations. | **Collaborations:**   * **DBController**: Updates the employee's salary data in the database. * **PayrollSystem**: Integrates updated salary data into payroll calculations. * **Staff**: Collaborates to apply salary updates for individual staff members. |

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| Class Name: TaxCalc |  |
| Responsibilities:   * Calculates the tax deductions (USC, PRSI, income tax) for each employee based on their salary and relevant tax bands. * Ensures correct tax rates are applied during payroll calculations. * Calculates tax-related deductions and adds them to the overall payroll processing. | Collaborations:   * PayrollSystem: Collaborates to calculate tax deductions and apply them to payroll. |