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| Actor | Actor’s Goal | Use Case Name |
| User | To touch specific area of screen and select the employee/administer mode | UC-1: log-in/register |
| User | To touch specific area of screen and log-in | UC-1 |
| User | To touch specific area of screen and register | UC-1 |
| User | To touch specific area of screen and choose the menu | UC-1, UC-2 |
| User | To select ‘back’ to return to previous display | UC-2: Selecting menu |
| Display | To show a virtual keyboard on display if user tapped on specific area of screen | UC-1 |
| Database | To display company information when user input command through touch screen | UC-3: Company information |
| Database | To record user’s log-in information periodically | UC-1 |
| Display | To display pop up screen that has question and yes button and no button | UC-1, UC-2, UC-4: Suggestion box |
| Display | To display suggestion box bulletin when user input command from menu screen | UC-4 |
| User | To click on the submit button and comment to the article | UC-4 |
| Database | To display articles written by other users | UC-4 |
| Display | To display payment page when user input command from menu screen | UC-5: Payment |
| Database | To display the information of employees at specific menu | UC-5, UC-6: Employee management |
| Display | To display leave management page if user input command from menu screen | UC-7: Leave management |
| Message system | To receive request message from employee users | UC-1, UC-7, UC-8: Retirement/Absence |
| Message system | To send the result of request message to employee users | UC-1, UC-7, UC-8 |
| Database | To display employee management page if user inputs command from menu screen | UC-6 |
| User | To edit employee’s information and save the data | UC-6 |
| Database | To save edited data and update the data | UC-4, UC-6 |
| Database | To display Retirement/absence page and display Retirement button and Absence button when user selects it on menu screen | UC-8 |
| Database | To save unfinished document and recall when user requests | UC-4, UC-6 |
| Time system | To receive date and calendar when employee user access Leave, Retirement/Absence and Schedule | UC-7, UC-8, UC-9: Schedule |
| Database | To receive company’s schedule and receive user’s schedule | UC-9 |

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| Use case UC-1: | Log-in/Register |
| Related Requirement | REQ1, REQ2, REQ4, REQ5, REQ14, REQ21, REQ38, REQ39, REQ40 |
| Initiating Actor | User |
| Actor’s goal | * To touch specific area of screen and select the employee/administer mode * To touch specific area of screen and log-in * To touch specific area of screen and register * To touch specific area of screen and choose the menu * To show a virtual keyboard on display if user tapped on specific area of screen * To record user’s log-in information periodically |
| Participating actor | Database, Display, Message system |
| Preconditions | * Before log-in or register, there should be “Employee” and “Administer” buttons in order to choose the mode * ID and Password that user typed in should be same as the one in database else display * Administer needs company’s ID in order to prove themselves as an administer so they can register |
| Postconditions | Log-in as administer, Log-in as Employee, Register as administer, Request register as employee |
| Flow of Events for Main Success Scenario  → 1. User selects Employee button or Administer button on the first screen of the app  ← 2. Display shows ID/password area, Log-in button and Register button  → 3. User selects Register button  ← 4. Display shows area to type ID, Password, Password check, Name, phone number, age, e-main address, company name, rank and a Register button  → 5. User types in all required information and tap on Register button  ← 6. Database saves typed information  7. Message system send the request message to administer if user is in employee mode  8. Display shows message “Registration has been complete! Please wait for approval” in employee mode, “Registration has been complete! Returning to Log-in menu…” in administer mode and automatically turn to Log-in menu.  → 9. User types in ID and Password, then select on Log-in button  ← 10. Database check whether the typed-in ID and Password is valid, if it is, gives user an approval  → 11. User moves to main menu | |

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| Use case UC-2: | Selecting menu |
| Related Requirement | REQ3, REQ5, REQ17, REQ22 |
| Initiating Actor | User |
| Actor’s goal | * To touch specific area of screen and choose the menu * To select ‘back’ to return to previous display |
| Participating actor | Display |
| Preconditions | * Administer mode’s main menu should contain “Company information”, “Suggestion box”, “Payment”, “Leave management”, “Employee management” and “Retirement/Absence” * Employee mode’s main menu should contain “Payment”, “Leave request/progress”, “Calendar”, “Suggestion box”, “Retirement/Absence” * Every screen must have “back” button so user can return to previous screen |
| Postconditions | Choose one of the menus, Go back to the previous screen |
| Flow of Events for Main Success Scenario  → 1. User selects one of the menus  ← 2. Display shows appropriate page according to the input  → 3. User selects on back button  ← 4. Display shows previous page | |

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| Use case UC-3: | Company information |
| Related Requirement | REQ5, REQ6, REQ17 |
| Initiating Actor | User |
| Actor’s goal | * To display suggestion box bulletin when user input command from menu screen * To click on the submit button and comment to the article |
| Participating actor | Display, Database |
| Preconditions | * Company’s information can not be accessed by employee mode * It cannot be edited by any users |
| Postconditions | Access to Company information menu |
| Flow of Events for Main Success Scenario  → 1. User selects Company information button  ← 2. Database recalls the company’s information include financial information, basic introduction, CEO, etc.  3. Display shows information in table on the screen | |

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| Use case UC-4: | Suggestion box |
| Related Requirement | REQ5, REQ7, REQ8, REQ17, REQ18, REQ33, REQ34, REQ35, REQ36, REQ37 |
| Initiating Actor | User |
| Actor’s goal | * To touch specific area of screen and choose the menu * To select ‘back’ to return to previous display * To display articles written by other users * To save edited data and update the data * To save unfinished document and recall when user requests |
| Participating actor | Display, Database |
| Preconditions | * On the administer mode, user cannot write new article * On the employee mode, user can write the article and choose whether show it to other users or to administer user only * System should array posts in chronological orders |
| Postconditions | Post an article, comment on an article, read other posts |
| Flow of Events for Main Success Scenario  ← 1. Database recalls posts written by other users  2. Display arrays posts in chronological order  → 3. User selects on +New Post button  ← 4. Display shows area to type in, check box for show it to public or not, and submit button  → 5. User clicks on submit button  ← 6. Database saves the post written by user  → 7. User clicks on one of the posts  ← 8. Database recalls the content of the post  9. Display shows the post and the comment area  → 10. User submit the comment on the post  ← 11. Database saves the comment | |

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| Use case UC-5: | Payment |
| Related Requirement | REQ5, REQ9, REQ10, REQ17, REQ24 |
| Initiating Actor | Database |
| Actor’s goal | * To display payment page when user input command from menu screen * To display the information of employees at specific menu |
| Participating actor | Display |
| Preconditions | * Employee user can access to user self’s payment information only * Administer user can access to entire employee’s payment data * This data cannot be edited |
| Postconditions | Shows payment information in table form |
| Flow of Events for Main Success Scenario  ← 1. Database recall payment information according to user’s mode  2. Display shows the data in table form | |

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| Use case UC-6: | Employee management |
| Related Requirement | REQ5, REQ13, REQ14, REQ17 |
| Initiating Actor | User |
| Actor’s goal | * To display the information of employees at specific menu * To display employee management page if user inputs command from menu screen * To edit employee’s information and save the data * To save edited data and update the data * To save unfinished document and recall when user requests |
| Participating actor | Display, Database, Message system |
| Preconditions | * This Use case is accessible by administer users only * Employee’s profile is imported by employee users * Administer manages all the employee’s account |
| Postconditions | Shows all employee’s account profile, accept/decline new employee’s register |
| Flow of Events for Main Success Scenario  ← 1. Database recalls the all-employee users’ profiles  2. Display arrays profiles in alphabetic order and shows Account management button  → 3. User click on Account management button  ← 4. Message system receives all requests from employee user  → 5. User click on accept/decline  ← 6. Message system sends the result to employee user | |

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| Use case UC-7: | Leave management |
| Related Requirement | REQ5, REQ11, REQ12, REQ17, REQ25, REQ26, REQ27, REQ28, REQ29 |
| Initiating Actor | User |
| Actor’s goal | * To display leave management page if user input command from menu screen * To receive leave request message from employee users * To send the result of request message to employee users * To receive date and calendar when employee user access Leave, Retirement/Absence and Schedule |
| Participating actor | Display, Message system, Time system |
| Preconditions | * This use case has two different conditions: Employee and administer |
| Postconditions | Request leave, check the progress of request, accept/decline request |
| Flow of Events for Main Success Scenario  ← 1. Display shows two buttons to employee user: Leave request and Progress  → 2. User choose Leave request  ← 3. Time system calls calendar  4. Display shows calendar, file upload button, and submit button  → 5. User click on any calendar’s date, and click on file upload, and click on submit button  ← 6. Message system sends request to administer user  7. Message system receives request from employee user  8. Administer mode: Display shows the list of requests  → 9. User click on accept/decline button  ← 10. Message system sends result to employee user | |

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| Use case UC-8: | Retirement/Absence |
| Related Requirement | REQ5, REQ15, REQ17, REQ31, REQ32 |
| Initiating Actor | User |
| Actor’s goal | * To receive request message from employee users * To receive request message from employee users * To send the result of request message to employee users * To display Retirement/absence page and display Retirement button and Absence button when user selects it on menu screen * To receive date and calendar when employee user access Leave, Retirement/Absence and Schedule |
| Participating actor | Display, Message system |
| Preconditions | * This use case has two different conditions: Employee and administer |
| Postconditions | Request retirement/absence, accept/decline request |
| Flow of Events for Main Success Scenario  ← 1. Display shows two buttons to employee user: Retirement and Absence  → 2. User choose one of those options  ← 3. Time system calls calendar  4. Display shows calendar, file upload button, and submit button  → 5. User click on any calendar’s date, and click on file upload, and click on submit button  ← 6. Message system sends request to administer user  7. Message system receives request from employee user  8. Administer mode: Display shows the list of requests  → 9. User click on accept/decline button  ← 10. Message system sends result to employee user | |

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| Use case UC-9: | Schedule |
| Related Requirement | REQ5, REQ16, REQ17, REQ30 |
| Initiating Actor | Time system |
| Actor’s goal | * To receive company’s schedule and receive user’s schedule |
| Participating actor | Display, Database |
| Preconditions | * Company’s schedule is imported by company’s database * User’s schedule includes approved leave request |
| Postconditions | Show calendar |
| Flow of Events for Main Success Scenario  ← 1. Time system imports calendar data  2. Database calls the company’s schedule and user’s schedule  3. Display shows calendar date associated with schedule data | |