|  |  |  |  |
| --- | --- | --- | --- |
| Attribute name | Type | Description | Remark |
| email | string | Email form of users used to identify and validate user’s account. |  |
| password | string | Password of email used to identify and validate user’s account. |  |
| course | Course | Course which user can access. |  |
| courses | Course [] | List of courses. |  |
| student | Student | Student user type in the system. |  |
| teachers | Teacher [] | List of teachers. |  |
| courseId | string | ID of each course. |  |
| name | string | Name of entities in the system such as student, course and so on. |  |
| seat | number | Number of maximum enrollment for each course. |  |
| credit | number | Credit or weight of course for calculation. |  |
| semester | string | Semester of a course. |  |
| year | number | Year that a course is available to enrollment. |  |
| teachers | String [] | List of teacher names. |  |
| students | String [] | List of student names. |  |
| totalCredit | number | Number of total credit of a student that get from enrolled courses. |  |
| totalFee | number | Number of total fee of a student that get from calculation of credits. |  |
| studentId | string | ID of each student. |  |
| surname | string | Surname of any user types in the system. |  |
| enrolledCourse | String [] | List of enrolled courses of a student. |  |
| grade | String [] | Grade of a student. |  |
| teacherId | string | ID of each teacher. |  |
| teachingCourse | String [] | List of course names that a teacher taught. |  |

# Attribute

# Method

## •AddCourseComponent

|  |  |  |  |
| --- | --- | --- | --- |
| Method name | Parameters | Description | Remark |
| addCourse | course:Course | Add a new course to the system. |  |

## •ListCourseComponent

|  |  |  |  |
| --- | --- | --- | --- |
| Method name | Parameters | Description | Remark |
| showDetail | course:Course | Show details of a course. |  |
| enrollCourse | course:Course | Add a course to enrolled course of a student. |  |
| findStudentByEmail | email:string | Search a student by using email of the student. |  |

## •ViewCourseComponent

|  |  |  |  |
| --- | --- | --- | --- |
| Method name | Parameters | Description | Remark |
| findCourseById | id:string | Search a course by using course ID. |  |
| generateTeacherData |  | Generate the teaching courses of a teacher. |  |

## •LoginComponent

|  |  |  |  |
| --- | --- | --- | --- |
| Method name | Parameters | Description | Remark |
| login | emailInput:string  passwordInput:string | Validation of user account using email and password. |  |

## •MenuComponent

|  |  |  |  |
| --- | --- | --- | --- |
| Method name | Parameters | Description | Remark |
| login |  | Navigate to login page when user logout from the system. |  |
| logout |  | Set user type, that now use the system, to default. |  |

## •StudentComponent

|  |  |  |  |
| --- | --- | --- | --- |
| Method name | Parameters | Description | Remark |
| calculateCredit |  | Calculate total credits from enrolled courses. |  |
| viewGPA |  | Show GPA of student. |  |
| removeCourse | index:number | Remove a course from enrolled courses. |  |
| showDetail | id:string | Show details of a course in enrolled courses. |  |
| generateCourseData |  | Generate courses list that student enrolled. |  |

## •ViewStudentGpaComponent

|  |  |  |  |
| --- | --- | --- | --- |
| Method name | Parameters | Description | Remark |
| generateCourseData |  | Generate courses list that student enrolled. |  |

## •GradingComponent

|  |  |  |  |
| --- | --- | --- | --- |
| Method name | Parameters | Description | Remark |
| generateStudentData |  | Generate students that enrolled a course. |  |
| gradeChanged | event:Event  gradeIndex: number  student:Student | Update a grade of a course for each student in the system. |  |

## •TeacherComponent

|  |  |  |  |
| --- | --- | --- | --- |
| Method name | Parameters | Description | Remark |
| showDetail | id:string | Show details of a course. |  |
| generateCourseData |  | Generate courses that teacher taught. |  |