

USE CASES POINT METRIC

Made by:

Arunakiran Mahadevamangalam - 207110

Pranava Vedagnya - 207125

Lakshya Jalan - 207138

Divya Soni - 207124

Use cases overview:

<i>Primary actor</i>	<i>Use cases</i>
Student	<ol style="list-style-type: none">1. Look up events on campus2. Simplified registration for events3. Unregister for events4. Find information about clubs5. Apply for clubs
Student representative	<ol style="list-style-type: none">6. Add exam schedules7. Add class schedules8. Update cancelled classes
Club Representative	<ol style="list-style-type: none">9. Add/edit information about clubs10. Add/edit events coming up11. Promote events12. Track registrations for events13. Make announcements about the events14. Archive events information
College Administrator	<ol style="list-style-type: none">15. Monitor all student/club activities16. Manage club representatives

Use case 1:

Use case id	1		
Use case name	Look up events on campus		
Created by	Pranava	Last Updated By:	Pranava
Date created	16/09/2022	Date Last Updated:	16/09/2022
Actors	Student		
Description:	A student can access information about every event that has been put up by the club representatives, as well as exams and schedules for the particular year, branch and section put up by the respective class representatives.		
Preconditions:	1. Student may be logged into the portal using college email address		
Postconditions:	1. The data of the student accessing the information taken into account to produce relevant other club suggestions.		
Normal Flow:	1.0 Look up general information regarding clubs		

	<ol style="list-style-type: none"> 1. Open the web app or the mobile application of the service. 2. Calendar displays events being conducted by clubs on a particular day along with their information and register button.
Alternative Flows:	<p>1.1 Look up schedules related to class - existing user (after step 1)</p> <ol style="list-style-type: none"> 1. Log into it using college email id. 2. Calendar displays schedules such as exams, classes cancelled etc. along with events going on. <p>1.2 Look up schedules related to class - registered user (after step 1)</p> <ol style="list-style-type: none"> 1. Sign up using college email id. 2. Calendar displays schedules such as exams, classes cancelled etc. along with events going on.
Exceptions:	<p>1.1.E.1 Invalid email or password</p> <ol style="list-style-type: none"> 1. UI shows an error and asks to re-enter email or click on “forgot password”. <p>1.2.E.1 Email does not exist</p> <ol style="list-style-type: none"> 1. UI asks the user to enter a valid password
Includes:	ID 2, ID 3
Priority:	High
Frequency of Use:	Approximately 5000 users, averaging 80 per day.

Business Rules:	-
Special Requirements:	None
Assumptions:	<ol style="list-style-type: none"> 1. People accessing the class schedules service belong to the institution - either as students, or faculty.
Notes and Issues:	<ol style="list-style-type: none"> 1. The default calendar points to the current date. 2. The default user is a generic user who has access to club events but not the class events unless logged in.

Use case 2:

Use case id	2		
Use case name	Simplified registration for events		
Created by	Divya	Last Updated By:	Lakshya
Date created	16/9/22	Date Last Updated:	16/9/22
Actors	Student		

Description:	<p>After finding a relevant event, the student can then go to the event's page, and begin the registration process. The general details of the student (name, email, branch, year, etc) are made available to the event's organiser directly. Extra, event-specific details are entered by the student and sent to the organiser.</p>
Preconditions:	<ol style="list-style-type: none"> 1. Student is logged into the system 2. Student belongs to the target audience of the event
Postconditions:	<ol style="list-style-type: none"> 1. The user is added to the attendees list of the event 2. The organiser is notified about the registration
Normal Flow:	<p>1.0 Register for an event</p> <ol style="list-style-type: none"> 1. User clicks on register button on the event page 2. User is redirected to the registration page 3. User is shown details about the event 4. User is also asked to fill details, if any, that are required by the organiser 5. After filling details, the user completes the registration 6. User is sent an email confirming the registration, with the details 7. The organiser is informed about the registration via a notification on the admin panel
Alternative Flows:	None
Exceptions:	<p>1.0.E.1 User tries to register after the registration deadline has closed</p> <ol style="list-style-type: none"> 1. User will not be allowed to register for the event. A relevant message will be displayed.

	1.0.E.2 User tries to register for the event that they are not eligible for 1. User will be displayed a relevant message, and will not be able to register
Includes:	None
Priority:	High
Frequency of Use:	5000 users. Approximately 50/day, during peak event time.
Business Rules:	None
Special Requirements:	An event needs to be scheduled by any organisation
Assumptions:	1. The student accessing the event is interested in attending the event, and has an event upcoming, that he/she can register for.
Notes and Issues:	None.

Use case 3:

Use case id	3		
Use case name	Creation of An Event		
Created by	Divya	Last Updated by	Lakshya
Date created	16/9/22		
Actors	Club Representative		
Description:	A club representative can create and post an event, mentioning the relevant details, so as to spread awareness, and also gain registrations.		
Preconditions:	<ol style="list-style-type: none">1The user must be signed into the platform2. The user must have the correct permissions to create and post an event		
Postconditions:	<ol style="list-style-type: none">1. The event is posted onto the feed2. The event is displayed on the relevant audience's feed		
Normal Flow:	<p>1.0 Creating an event</p> <ol style="list-style-type: none">1. The user starts the event adding process		

	<ol style="list-style-type: none"> 2. The user adds the event name, description, and relevant links 3. The user adds the date, registration deadline 4. The user adds the extra registration questions, if any 5. The user adds the relevant audiences, and restricts it to them, if necessary 6. The user adds in a poster, if any 7. The user submits and posts the event
Alternative Flows:	None
Exceptions:	<p>1.0.E.1 User tries to schedule an event in the past</p> <p>The user will not be allowed to do so.</p> <p>1.0.E.2 User tries to make the event open to none</p> <p>1. User will be displayed a relevant message, and will not be able to post such an event</p>
Includes:	None
Priority:	High
Frequency of Use:	20 users. Approximately 5/week, during peak event time.
Business Rules:	None
Special Requirements:	An event needs to be scheduled by a registered organisation.

Assumptions:	The user is a registered and verified club representative.
Notes and Issues:	None.

Use case 4:

Use case id	6		
Use case name	Add exam schedules		
Created by	Divya	Last updated by	Pranava
Date created	16/9/22	Date last updated	10/28/2022
Actors	Student Representative		
Description:	A student representative can add an exam schedule pertaining to the certain class/section that they are a part of.		

Preconditions:	<ol style="list-style-type: none"> 1. The user must be signed into the platform 2. The user must have the correct permissions to create and post an event. 3. The user must be a student. 4. The user must be a class representative.
Postconditions:	<ol style="list-style-type: none"> 1. The schedule is posted onto the logged in students' feed. 2. It is reflected on the student's calendar.
Normal Flow:	<p>1.0 Adding an exam</p> <ol style="list-style-type: none"> 1. Navigate to the calendar - to a date. 2. Click on add an exam. 3. Fill in the details - such as course name, time slot, place. 4. Click on next. 5. Type in comments/instructions from the teacher if any, else "N/A" 6. Click on 'post'.
Alternative Flows:	None
Exceptions:	<p>1.0.E.1 User tries to schedule an exam in the past</p> <ol style="list-style-type: none"> 1. Error message will be displayed. <p>1.0.E.2 User tries to schedule two exams in the same slot</p> <ol style="list-style-type: none"> 1. Error message will be displayed. <p>1.0.E.2 User tries to enter a time slot or course name that is not valid</p> <ol style="list-style-type: none"> 1. Error message will be displayed.

Includes:	None
Priority:	High
Frequency of Use:	40 users. Approximately 3/week.
Business Rules:	None
Special Requirements:	The exam needs to be scheduled by a user with student representative permissions.
Assumptions:	The user is a registered and verified student representative.
Notes and Issues:	None.

Use case 5:

Use case id	7
Use case name	Edit class schedule

Created by	Pranava	Last updated by	Arunakiran
Date created	16/9/22	Date last updated	10/28/2020
Actors	Student Representative		
Description:	A student representative can update the classes taken by professors for the class/section they are a part of.		
Preconditions:	<ol style="list-style-type: none"> 1. The user must be signed into the platform 2. The user must have the correct permissions to create and post an event. 3. The user must be a student. 4. The user must be a class representative. 		
Postconditions:	<ol style="list-style-type: none"> 1. The schedule is posted onto the logged in students' feed. 2. It is reflected on the student's calendar. 		
Normal Flow:	<p>1.0 Updating class for a day</p> <ol style="list-style-type: none"> 1. Navigate to the calendar - to a date. 2. Click on update/add schedule. 3. Fill in the details - such as course name, time slot, place, professor name. 4. Click on 'update'. 		
Alternative Flows:	None		
Exceptions:	1.0.E.1 User tries to schedule a class in the past		

	<p>1. The user will not be allowed to do so.</p> <p>1.0.E.2 User tries to schedule a class beyond class hours</p> <p>1. Error message will be displayed.</p> <p>1.0.E.3 User tries to schedule two classes in the same time slot</p> <p>1. Error message will be displayed.</p>
Includes:	None
Priority:	Medium
Frequency of Use:	40 users. Approximately 15/week
Business Rules:	None
Special Requirements:	A class needs to be scheduled by a student with student representative permissions.
Assumptions:	The user is a registered and verified student representative.
Notes and Issues:	None.

Code:

```
#include<bits/stdc++.h>
#include <iostream>
using namespace std;

double use_cases = 5;
double UUCW;
double UAW;
double TCF;
double ECF;
double UCP;
double avg_working_time = (73*8)/4;
double estimated_effort;

void UUCW_func(vector<double>UUCW_wt) {
    vector<int> uuc;
    cout<<"For Unadjusted Use Case Weight: "<<endl;
    cout<<"Enter 1 for Simple i.e 1 to 3 transactions"<<endl;
    cout<<"Enter 2 for Average i.e 4 to 7
transactions"<<endl;
    cout<<"Enter 3 for Complex i.e 8 or more
transactions"<<endl;
    cout<<endl;
    for(int i=0;i<use_cases;i++){
        cout<<"For Use Case "<<i+1<<": ";
        int temp;
        cin>>temp;
        uuc.push_back(temp);
    }

    // For calculation of UUCW
    for(int i=0;i<uuc.size();i++){
        UUCW += UUCW_wt[uuc[i]-1];
    }
}
```

```

    }
}

void UAW_func(vector<double>UAW_wt) {
    vector<int> uuc;
    cout<<"For Unadjusted Actor Weight: "<<endl;
    cout<<"Enter 1 for Simple"<<endl;
    cout<<"Enter 2 for Average"<<endl;
    cout<<"Enter 3 for Complex"<<endl;
    cout<<endl;
    for(int i=0;i<use_cases;i++){
        cout<<"For Use Case "<<i+1<<": ";
        int temp;
        cin>>temp;
        cout << endl;
        uuc.push_back(temp);
    }

    // For calculation of UAW
    for(int i=0;i<uuc.size();i++){
        UAW += UAW_wt[uuc[i]-1];
    }
}

void TCF_func(vector<double>TCF_wt) {
    vector<int> tcf;
    cout<<"For Technical Factor Value: "<<endl;
    cout<<"Enter a value between 0 and 5 for the following
factors: (1 being lowest, 5 being highest)"<<endl;
    for(int i=0;i<13;i++){
        cout<<"For T"<<i+1<<": ";
        int temp;
        cin>>temp;
    }
}

```

```

        cout << endl;
        tcf.push_back(temp);
    }
    double tcf_temp;
    // For calculation of TCF
    for(int i=0;i<tcf.size();i++){
        tcf_temp += TCF_wt[i] * tcf[i];
    }
    TCF = 0.6 + ((tcf_temp) / 100.00);
}

void ECF_func(vector<double> ECF_wt) {
    vector<int> ecf_values;
    cout<<"For Environmental Complexity Factor Value:
"<<endl;
    cout<<"Enter a value between 0 and 5 for the following
factors: (1 being lowest, 5 being highest)"<<endl;
    for(int i=0;i<8;i++){
        cout<<"For E"<<i+1<<": ";
        int temp;
        cin>>temp;
        cout << endl;
        ecf_values.push_back(temp);
    }
    double ecf_temp;
    // For calculation of TCF
    for(int i=0;i<ecf_values.size();i++){
        ecf_temp += ECF_wt[i] * ecf_values[i];
    }
    ECF = 1.4 + ((ecf_temp) * (-0.03));
}

```



```

void UCP_func() {
    UCP = (UUCW + UAW) * TCF * ECF;
    // Average Working time
    estimated_effort = UCP*avg_working_time;
}

int main() {
    vector<double> UUCW_wt = {5,10,15};
    vector<double> UAW_wt = {1,2,3};
    vector<double> TCF_wt =
{2.0,1.0,1.0,1.0,1.0,0.5,0.5,2.0,1.0,1.0,1.0,1.0,1.0};
    vector<double> ECF_wt =
{1.5,0.5,1.0,0.5,1.0,2.0,-1.0,-1.0};
    UUCW_func(UUCW_wt);
    UAW_func(UAW_wt);
    TCF_func(TCF_wt);
    ECF_func(ECF_wt);
    UCP_func();
    cout<<"UUCW\tUAW\tTCF\tECF\tUCP\n";

    cout<<UUCW<<"\t"<<UAW<<"\t"<<TCF<<"\t"<<ECF<<"\t"<<UCP<<"\n";
    cout << "estimated effort: " << estimated_effort << endl;
}

```

Output:

```
For Unadjusted Use Case Weight:  
Enter 1 for Simple i.e 1 to 3 transactions  
Enter 2 for Average i.e 4 to 7 transactions  
Enter 3 for Complex i.e 8 or more transactions
```

```
For Use Case 1: 1  
For Use Case 2: 2  
For Use Case 3: 2  
For Use Case 4: 2  
For Use Case 5: 2  
For Unadjusted Actor Weight:  
Enter 1 for Simple  
Enter 2 for Average  
Enter 3 for Complex
```

```
For Use Case 1: 3  
  
For Use Case 2: 3  
  
For Use Case 3: 3  
  
For Use Case 4: 3  
  
For Use Case 5: 3
```

```
For Technical Factor Value:  
Enter a value between 0 and 5 for the following factors: (1 being lowest, 5 being highest)  
For T1: 3  
  
For T2: 4  
  
For T3: 4  
  
For T4: 2  
  
For T5: 3  
  
For T6: 4  
  
For T7: 5  
  
For T8: 3  
  
For T9: 2  
  
For T10: 1  
  
For T11: 1  
  
For T12: 4  
  
For T13: 0
```

```
For Environmental Complexity Factor Value:
Enter a value between 0 and 5 for the following factors: (1 being lowest, 5 being highest)
For E1: 1

For E2: 3

For E3: 4

For E4: 5

For E5: 4

For E6: 5

For E7: 3

For E8: 3

UUCW    UAW    TCF    ECF    UCP
45      15      0.975  0.875  51.1875
estimated effort: 7473.37
```