

SC2002 OBJECT ORIENTED DESIGN & PROGRAMMING

CAMPS MANAGEMENT SYSTEM

Report of Project Structure Design & Functionality

AY22/23 Sem 2 | SCSX, Group 6

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GitHub Main Page: <https://github.com/MustafaJP/SC2002-CAMS.git>

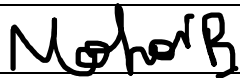


Declaration of Original Work for SC/CE/CZ2002

Assignment

We hereby declare that the attached group assignment has been researched, undertaken, completed, and submitted as a collective effort by the group members listed below.

We have honoured the principles of academic integrity and have upheld the Student Code of Academic Conduct in the completion of this work.

We understand that if plagiarism is found in the assignment, then lower marks or no marks will be awarded for the assessed work. In addition, disciplinary actions may be taken.

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1 DESIGN CONSIDERATIONS

CAMS (Camp Management System) is a Java console application. It emphasizes reusability, extensibility, and maintainability. It streamlines camp management and allocation processes, supporting diverse user types and requirements, and is structured for easy future updates and development.

1.1 DESIGN APPROACH

The Camp Management System was designed emphasizing high cohesion and loose coupling, based on the Model-View-Controller (MVC) concept. The classes are segmented into three primary domains (packages): Models, Views, and Controllers. Models include foundational entities like 'User', 'Student', and 'Staff'. Controllers comprise classes like 'UserHandler' and 'MessageManager', while Views are manifested in UI elements such as 'StudentInterface' and 'StaffInterface'. While navigating, users interact primarily with the Views. These Views, in turn, summon the Controllers to execute desired operations, be it modifying an entity or extracting data from one for display. Thus, Controllers serve as an intermediate between Models and Views.

Our system integrates all four OOP fundamentals, alongside SOLID design principles for enhanced maintainability and modifiability. These practices aim to mitigate change impacts, improving its modularity and reusability.

In our project, we utilize ArrayLists for data management, which offers the following advantages:

Dynamic Resizing	Unlike arrays, ArrayLists can dynamically resize,
Indexed Access	This allows for rapid retrieval and update of user data, facilitating efficient look-ups and manipulations.
Iterability	ArrayLists support built-in iterators, which are essential for sequentially accessing elements, such as displaying the list of Camps

At program startup, data is loaded from Excel files using the Apache POI library and then stored in ArrayLists for in-memory manipulation by the MVC-based system. Upon program termination, data is written back to the Excel database files.

1.2 HIGHLIGHTS OF SOME DESIGNS

- **Dynamic User Authentication:** The 'UserHandler' method implements a dynamic login portal, efficiently distinguishing between different user types—Staff, Student, and Committee Member—ensuring a personalized user experience tailored to each role's unique requirements.
- **Unified Data Management:** The 'DataManager' class serves as a centralized hub for data operations, encompassing methods for both data updation and retrieval, leading to a streamlined data flow.

- **Password Integrity:** A simple yet robust password management approach is evident. This is ensured by prompting users to alter default passwords and compulsorily hashing the passwords for added encryption, thus reinforcing overall security.
- **Modular User Interfaces:** Distinct interfaces such as `'StudentInterface'` and `'StaffInterface'` not only segregate functionalities but also enhance the system's scalability, ensuring a facile expansion for future modules.
- **Object-Oriented Purity:** An emphasis on inheritance and polymorphism is evident, with classes like `'User'` being further specialized into `'Student'` and `'Staff'`, exemplifying a genuine commitment to object-oriented principles. `'CampCommitteeMember'` is a special type of student so it inherits from the `'Student'` class, but also possesses some special privileges of its own which are similar to some of the `'Staff'` roles but with certain restrictions.
- **Interactive Console Display:** The system ingeniously harnesses Java's console display capabilities to craft intuitive menus, headers, and prompts, with colorful backgrounds and interesting fonts, ensuring a seamless user interaction without the need for a graphical interface.
- **Abstract Class Utilization:** In our Camp Management System, we masterfully incorporated an `'abstract class'` in `'UserInterface'`. This decision not only amplifies modularity but also sets a precedent for standardized interfaces across diverse user experiences.
- **Interactive User Experience:** Our focus on a seamless user experience is evident in the `'PromptChangePswd'` method. The inclusion of the `'changePswd'` function aids in safeguarding user data and ensuring optimal privacy. We designed this feature to offer users an interactive mechanism for changing their passwords, demonstrating our profound understanding of user-centric design. Furthermore, users are required to re-login to verify the change in their password and are also alerted if their new choice of password doesn't meet the password strength requirements.
- **Embrace of Polymorphism:** In the system, the `'currentUserInstance'` is an instance variable of the reference data type `'User'`. However, its significance extends beyond just a simple reference. This variable encapsulates the core concept of polymorphism, which is a foundational principle in object-oriented programming (OOP).
- **Intuitive User Feedback:** We've meticulously included `'System.out.println'` statements throughout the system. This strategic inclusion ensures that users are consistently provided with intuitive and timely feedback, enhancing their interaction and satisfaction with the system.

1.3 OBJECT-ORIENTED PRINCIPLES

1.3.1. Abstraction

Abstraction is used to emphasize unique qualities of entities like Camps and Students, having distinct attributes (e.g unique features such as name, staff, location, and capacity).

1.3.2. Encapsulation

In our project, encapsulation protects data by making members private and accessible only through getter and setter methods, ensuring the security of users' personal information.

1.3.3. Inheritance

Inheritance mirrors real-world hierarchies for efficient code reusability: "Student" and "Staff" classes inherit from "User," while "CampCommitteeMember," special student type with extra privileges, extends "Student," effectively modeling real-life entity relationships.

1.3.4. Polymorphism

Polymorphism, aided by inheritance, is employed for dynamic runtime binding. Upon system initialization, the `currentUserInstance` is bound to a Student, Staff, or `CampCommitteeMember` subclass object, based on the user's role. This upcasting enhances system flexibility and extensibility. Polymorphism allows objects of different classes to be treated as instances of the same class through inheritance. In this context, `'User'` likely serves as a base or superclass, while `'Student'`, `'Staff'`, and `'CampCommitteeMember'` are derived or subclasses. Although `'currentUserInstance'` is declared with a reference type of `'User'`, at runtime, it can point to an instance of any of the derived classes. This capability demonstrates the "many forms" nature of polymorphism.

When the system is initialized, based on the role of the user, `'currentUserInstance'` is dynamically bound to an object of either `'Student'`, `'Staff'`, or `'CampCommitteeMember'`. This runtime binding is crucial as it allows for flexibility and extensibility. Each subclass can have its own unique attributes and behaviors, but due to the polymorphic nature, the system can interact with them through the `'currentUserInstance'` reference seamlessly without needing to know the exact subclass it's working with.

In essence, by leveraging polymorphism, the system achieves a high degree of flexibility, maintainability, and scalability. It can easily accommodate new user roles or interface components in the future without significant restructuring, proving the robustness and forward-thinking nature of its design.

1.3 APPLIED DESIGN PRINCIPLES- SOLID

1.3.1 SINGLE RESPONSIBILITY PRINCIPLE (SRP)

The Single Responsibility Principle (SRP) states that each class in software should have one specific purpose, reducing task overlap. This approach simplifies updates, testing, and maintenance, thereby improving the software's robustness and maintainability.

We adhere to SRP by dividing the program into distinct classes, each with a specific role. The `ExcelFileManager`

class is solely responsible for read/write operations on Excel files. DataManager handles loading these files into ArrayLists and managing data, utilizing ExcelFileManager's functions. The DatabaseSearchManager class is dedicated to searching the database and retrieving specific values. This design avoids an overloaded "God" class by distributing data management tasks across three specialized classes.

1.3.2 OPEN/CLOSED PRINCIPLE (OCP)

The Open/Closed Principle (OCP) states that classes should be open for extension but closed for modification, allows addition of new functionality without changing existing code. OCP can be implemented through abstraction, inheritance, and polymorphism.

We applied OCP by creating an interface "*MessageManager*" that can be extended to create different types of Message Manager Classes such as "*EnquiryManager*" and "*SuggestionsManager*". Each subclass overrides the "submit", "edit" and "delete" methods to allow for easy extension of the Message Management system. Thus, in the future, managing new message types like "Warnings" or "Instructions" can be seamlessly integrated without altering the existing code. Similarly, we use an abstract class "*UserInterface*" to derive different types of front ends suited for different kinds of users such as "*StudentInterface*", "*StaffInterface*", and "*CampCommitteeMemberInterface*". Each subclass overrides the methods "showMenuPage," "showProfileHeader," and "showByLine" to display user-specific details. Thus, introducing a new user type in the future, such as "ReserveMember," enables easy creation of its interface without altering the existing base class or other subclasses.

1.3.3 LISKOV SUBSTITUTION PRINCIPLE (LSP)

The Liskov Substitution Principle states that the subclasses must be substitutable for the base classes. It emphasizes "design by contract," where each class defines a contract of preconditions and postconditions that subclasses must follow superclass behaviour.

The usage of this principle is widely applied here. Superclass – subclasses example :

Superclass	Subclass
User.java	A. Student.java, B. Staff.java, C. CampCommitteeMember.java
Messages.java	A. Enquiries.java, B. Suggestions.java

All these subclasses are substitutable for their superclasses while ensuring that the methods behave correctly and none of the methods demand more or return less than what the user expects according to standards set by the base class.

1.3.4 INTERFACE SEGREGATION PRINCIPLE (ISP)

The Interface Segregation Principle (ISP) states that no client should be forced to depend on methods it does not use. It advocates for creating specific interfaces rather than one "fat" general-purpose interface.

We also paid attention to this principle when designing the system for viewing camps. Instead of creating the InformationViewer class as a single "fat" interface with all kinds of views, we segregated it into two specific

interfaces “CampsViewer” and “OwnCampsViewer”. This allows the "CampCommitteeMemberView" class to specifically implement the "OwnCampsViewer" interface.

1.3.5. Dependency Injection Principle (DIP)

The dependency injection principle advocates for higher-level modules to avoid reliance on lower-level ones, with both depending instead on abstractions. This means, rather than depending on specific concrete classes for operations, reliance should be placed on interfaces and abstract classes, which are less prone to changes.

We focused specifically on this principle, like, we utilized the abstract class “UserInterface” instead of the concrete classes, resulting in easy addition of new user types and their frontends, enhancing system's extensibility with minimal effort. Likewise, employed the “MessageManager” interface, against concrete classes, to enhance the system's extensibility.

1.4 Further Enhancement Features

We added various enhancements to our application to improve its user-friendliness, security, and overall efficiency.

- Dynamic User Authentication: The “UserHandler” class implements a dynamic login portal, automatically distinguishing between different user types—Staff, Student, and Committee Member—ensuring a personalized user experience.
- Password Integrity: The “PasswordManager” class enforces secure password management by mandating strong specification. Passwords are securely hashed using PBKDF2 encryption for storage.
- Custom Search Filters: The “SearchFilters” class implements a wide range of filters for viewing the list of camps, suggestions, etc. according to user’s requirements. The Viewer classes aggregate these filters, providing compound search capabilities.
- Mailboxes: The “Mailbox” instantly notifies users whenever their suggestions or enquiries are processed

Reflection:

Upon reflection, our project has undergone a significant transformation, guided by object-oriented programming principles that have not only steered us through initial design challenges but have also laid the groundwork for future enhancements. The interconnectivity issue in our initial UML diagrams was a major hurdle that we overcame by embracing interfaces and inheritance, which has allowed us to create a system where classes have a clear hierarchy and purpose, thus avoiding the pitfalls of an overly broad superclass.

In the realm of data management, particularly with Excel databases, we've embraced encapsulation, which has paid dividends in ensuring data integrity and simplifying interactions. This foundation has streamlined our data processes, making the system more intuitive and efficient for end-users.

Looking ahead, we plan to further modularize our components, particularly controllers and models. This will not only enhance system efficiency but will also reduce complexity, making the system more navigable for both developers and users. Implementing dedicated exception handling classes is another step we anticipate taking to bolster the robustness of our code.

As we contemplate the enhancements outlined, such as transitioning to a graphical user interface and developing mobile accessibility, we are mindful of the need to maintain the balance between functionality and simplicity. Real-time collaboration tools, automated scheduling, and advanced data analytics are just some of the features we see as pivotal in elevating the system's capabilities.

The migration to a cloud-based infrastructure is a strategic move to ensure scalability and robustness.

Furthermore, the creation of an API ecosystem and the integration of real-time feedback mechanisms are enhancements aimed at fostering a responsive and interconnected system.

In our quest for continuous improvement, we recognize the importance of security. Thus, measures like multi-factor authentication will be paramount. Likewise, internationalization and compliance with accessibility standards will ensure our system is inclusive and globally relevant.

The integration of sustainable practices aligns with our commitment to environmental stewardship, while features like interactive maps and navigation, along with the potential use of VR and AR technologies, will enrich the user experience.

Lastly, the implementation of a continuous delivery and integration pipeline ensures that our system remains up-to-date and on the cutting edge of technological innovation.

In summary, our project's journey has been enlightening, underscoring the effectiveness of OOP principles in fostering a system that is both extensible and maintainable. Our planned enhancements are a testament to our commitment to not just keeping pace with, but leading in the evolution of educational technology solutions.

TESTING

Please enter your NTU Network User ID (the part before @ in your school email): UPAM
Please enter your password: password

For security reasons, you are advised to change your password from the default one.
Press Y to change password. Press N if you choose to do it later.

N

Continuing to main page...

Profile

Staff Name: Chattopadhyay Staff Account ID: UPAM Login Status: Currently Active
Faculty: EEE

Please enter your NTU Network User ID (the part before @ in your school email): UPAM
Please enter your password: xyz
Password does not match. Please try again!
Please enter your NTU Network User ID (the part before @ in your school email):

Please enter your NTU Network User ID (the part before @ in your school email): Tyler
User ID could not be found. Please try again!
Please enter your NTU Network User ID (the part before @ in your school email):

Login page:- a) Successful Login b) **User ID incorrect** c) **Password incorrect**

Please enter a menu option: 1

Welcome to Change Password System
Please enter your OLD password: password
Please enter your NEW password: qwerty
Your password must be atleast 8 characters long!
Please enter your NEW password: qwertyW@R2
Your password must contain atleast one digit, one UPPERCASE letter, one lowercase letter, one special character and no whitespaces!
Please enter your NEW password: qwertyW@R23

Your password has been changed successfully!
Please re-Login to verify the change

Welcome to Change Password System
Please enter your OLD password: qwertyW@R23
Please enter your NEW password: qwertyW@R23
The password you entered matches your previous password. Please choose some other password.
Please enter your NEW password: password
The password you entered matches the default password. Please choose some other password.
Please enter your NEW password:

Change password:- a) Successful Password Change b) **Unsuccessful Password Change**

Please enter your NTU Network User ID (the part before @ in your school email): AMWIT
Please enter your password: qwertyW@R23

Profile

Staff Name: Chattopadhyay Staff Account ID: UPAM Login Status: Currently Active
Faculty: EEE

Staff Main Page

Hello, Chattopadhyay

1. Change your password
2. Create a new camp
3. View list of all camps
4. Search for a camp
5. View list of camps started by you
6. Edit/Delete a camp under you
7. Toggle the visibility of a camp under you
8. View list of students registered for a camp under you
9. View the Camp Committee for a camp under you
10. View suggestions for a camp under you
11. Accept suggestions for a camp under you
12. View enquiries to a camp under you
13. Reply to enquiries to a camp under you
14. Generate report for a camp under you
15. Check mailbox - You have (0) notifications
16. Logout

Please enter a menu option:

Profile

Student Name: DEEPAM Student Account ID: DEEP Login Status: Currently Active
Faculty: EEE Camp Coordinator: NA

Student Main Page

Hello, DEEPAM

1. Change your password
2. View list of camps open to your faculty
3. Search for a camp open to your faculty
4. Register for a camp
5. View list of camps you have registered for
6. Withdraw from a camp
7. Submit enquiries for a camp
8. View replies to your enquiries
9. Edit/Delete your enquiries
10. Check mailbox - You have (0) notifications
11. Logout

Please enter a menu option:

Profile

Student Name: MANYA Student Account ID: MAN Login Status: Currently Active
Faculty: SSS Camp Coordinator: Karate

Camp Committee Main Page

Camp Name: Karate
You currently have : 0 points

Hello, MANYA

1. Change your password
2. View Camp Details
3. Submit a new suggestion
4. View suggestions submitted by you
5. Edit/Delete suggestions submitted by you
6. View enquiries
7. Reply to enquiries
8. Generate report for camp
9. Go back to Student mode
10. Check mailbox - You have (0) notifications
11. Logout

Please enter a menu option:

Please enter a menu option: 6.7
Please enter a valid integer!

Please enter a menu option: 19
Please choose an option from 1-16 only!

Please enter a menu option: a
Please enter a valid integer!

Profile Page:- a) Valid Option number entered
b) User input error, i.e. entering a character instead of an integer, or they accidentally enter an integer beyond the 1-16 range.

Please enter a menu option: 4

You can search for a camp using these filters:

1. Search by camp name
2. Search by camp details (location, dates, vacancies, etc)
3. Search by camp duration

Please choose a filter (1/2/3):
3

Please enter duration of camp (either in number of days or as LONG/NORMAL/SHORT):
SHORT

Ballet	
Staff-In-Charge	UPAH
Description	Dance
Location	Dance Room Hall 6
Faculty	EEE
Total Slots (Attendee+Committee)	14
Total Committee Slots	3
Start Date	Mon Dec 11 2023
End Date	Wed Dec 13 2023
Registration Deadline	Wed Nov 29 2023
Empty Slots (Attendee+Committee)	14
Empty Committee Slots	3

Cooking	
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Please enter a menu option: 2

You can view the list of camps in two formats:

1. View all camps
2. View only camps open for your registration

Please choose a format (1/2):
2

Cybersecurity	
Staff-In-Charge	HEM
Description	Computers
Location	SCSE MMLab2
Faculty	NTU
Total Slots (Attendee+Committee)	2
Total Committee Slots	1
Start Date	Sat Dec 23 2023
End Date	Tue Jan 02 2024
Registration Deadline	Wed Dec 20 2023
Empty Slots (Attendee+Committee)	1
Empty Committee Slots	0

Hiking	
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Please enter a menu option: 4

You can search for a camp using these filters:

1. Search by camp name
2. Search by camp details (location, dates, vacancies, etc)
3. Search by camp duration

Please choose a filter (1/2/3):
3

Please enter duration of camp (either in number of days or as LONG/NORMAL/SHORT):
9

Yoga	
Staff-In-Charge	KRI
Description	Meditation
Location	Hall 1 Recreation Room
Faculty	NTU
Total Slots (Attendee+Committee)	3
Total Committee Slots	2
Start Date	Wed Jan 03 2024
End Date	Fri Jan 12 2024
Registration Deadline	Mon Jan 01 2024
Empty Slots (Attendee+Committee)	1
Empty Committee Slots	1

Please enter a menu option: 4

You can search for a camp using these filters:

1. Search by camp name
2. Search by camp details (location, dates, vacancies, etc)
3. Search by camp duration

Please choose a filter (1/2/3):
1

Please enter name of camp:
Cycling

Camp not available

Please enter a menu option: 4

You can search for a camp using these filters:

1. Search by camp name
2. Search by camp details (location, dates, vacancies, etc)
3. Search by camp duration

Please choose a filter (1/2/3):
2

Please enter camp name (type 'N' to skip):
N

Please enter camp location (type 'N' to skip):
N

Please enter user ID of staff-in-charge (type 'N' to skip):
001

Please enter 'A' to view only those camps that are currently open for registration (type 'N' to skip):
N

Please enter 'C' to view only those camps that are currently open for committee registration (type 'N' to skip):
N

Please enter start date of camp in DD/MM/YYYY format (type 'N' to skip):
N

Please enter end date of camp in DD/MM/YYYY format (type 'N' to skip):
N

Hiking	
Staff-In-Charge	KRI
Description	Sports
Location	JB
Faculty	NTU
Total Slots (Attendee+Committee)	4
Total Committee Slots	2
Start Date	Tue Dec 12 2023
End Date	Fri Dec 15 2023
Registration Deadline	Sun Dec 10 2023
Empty Slots (Attendee+Committee)	4
Empty Committee Slots	2

Please enter a menu option: 3
Camp not available

Please enter a menu option: 2

Please enter name of the camp:
Piano

Please enter description of the camp:
Music

Please enter start date of the camp (DD/MM/YYYY):
14/12/2023

Please enter end date of the camp (DD/MM/YYYY):
17/12/2023

Please enter registration deadline of the camp (DD/MM/YYYY):
11/12/2023

Please enter location of the camp:
Music Room Hall 10

Please enter the faculty allowed - if whole school is allowed, then just write NTU:
EEE

Please enter total number of slots in the camp:
20

Please enter number of camp committee slots:
10

Please enter visibility status of camp (ON/OFF):
ON

You have successfully created the camp 'Piano' !

Please enter total number of slots in the camp:
-8

Total slots must be a positive integer.
Please enter total number of slots in the camp:
8.9

Invalid input. Please enter a valid integer.
Please enter total number of slots in the camp:
0

Invalid input. Please enter a valid integer.
Please enter total number of slots in the camp:
0

Total slots must be a positive integer.
Please enter total number of slots in the camp:
0

Invalid input. Please enter a valid integer.
Please enter total number of slots in the camp:

Please enter start date of the camp (DD/MM/YYYY):
qwerty

Invalid date format. Please enter the date in DD/MM/YYYY format.
Please enter start date of the camp (DD/MM/YYYY):
1332

Invalid date format. Please enter the date in DD/MM/YYYY format.
Please enter start date of the camp (DD/MM/YYYY):
2023/1/12

Invalid date format. Please enter the date in DD/MM/YYYY format.
Please enter start date of the camp (DD/MM/YYYY):
20/9/2023

Start date must be later than the current date.
Please enter start date of the camp (DD/MM/YYYY):

Staff: Create the camp, enter the name, description, etc.
a) Valid date entered b) Invalid date format used c) Start date or end date is earlier than the current date

Please enter a menu option: 6
Press 1 to edit a camp under you. Press 2 to delete a camp under you
1
These are the camps currently under you (that don't have any registrants yet):
1. Ballet
Please enter name of camp that you wish to edit:
Ballet
The current camp details are as follows:
1. Name: Ballet
2. Description: Dance
3. Location: Dance Room Hall 6
4. Total Slots: 14
5. Committee Slots: 3
6. Start Date: Mon Dec 11 2023
7. End Date: Wed Dec 13 2023
8. Registration Deadline: Wed Nov 29 2023
9. Facilities Allowed: EEE
Please choose option number of the detail that you wish to edit:
4
Please enter the name of the new faculty for which the camp will be open:
NTU
The faculty for which the camp is open has been changed successfully!

Please enter a menu option: 6
Press 1 to edit a camp under you. Press 2 to delete a camp under you
2
These are the camps currently under you (that don't have any registrants yet):
1. Ballet
Please enter name of camp that you wish to delete:
Ballet
Camp 'Ballet' has been successfully deleted!
Please enter a menu option: 6
Press 1 to edit a camp under you. Press 2 to delete a camp under you
1
These are the camps currently under you (that don't have any registrants yet):
1. Ballet
Please enter name of camp that you wish to edit:
Piano
Camp 'Piano' already has some registrants. It can no longer be edited!

Staff own: Edit/Delete can't be used for a camp that already has registrants.

Please enter a menu option: 5
To see all the camps under you, press 'A'
To see camps that still have empty slots, press 'E'
To see camps that are already full, press 'F'
E

Ballet	
Camp Name	Ballet
Staff-in-Charge	UPAM
Description	Dance
Location	Dance Room Hall 6
Faculty	EEE
Total Slots (Attendee+Committee)	14
Total Committee Slots	3
Start Date	Mon Dec 11 2023
End Date	Wed Dec 13 2023
Registration Deadline	Wed Nov 29 2023
Empty Slots (Attendee+Committee)	14
Empty Committee Slots	3

Karate	
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Please enter a menu option: 5
To see all the camps under you, press 'A'
To see camps that still have empty slots, press 'E'
To see camps that are already full, press 'F'
A

Ballet	
Camp Name	Ballet
Staff-in-Charge	UPAM
Description	Dance
Location	Dance Room Hall 6
Faculty	EEE
Total Slots (Attendee+Committee)	14
Total Committee Slots	3
Start Date	Mon Dec 11 2023
End Date	Wed Dec 13 2023
Registration Deadline	Wed Nov 29 2023
Empty Slots (Attendee+Committee)	14
Empty Committee Slots	3

Please enter a menu option: 7
These are the current visibility states of the camps started by you:
Ballet - ON
Please enter name of camp whose state you wish to toggle:
Ballet
Camp 'Ballet' has been successfully set to OFF

Staff: Toggle view / view all camp / view empty slots

Please enter a menu option: 8
These are all the camps under you:
1. Ballet
2. Karate
3. Piano
Please enter the name of the camp whose list of registrants you wish to see
Piano

AYU	
User ID	AYU
Name	AYUSH
Faculty	ASE
Role	Committee Member
NTU Email	AYU@e.ntu.edu.sg

DEEP	
User ID	DEEP
Name	DEEPAN
Faculty	EEE
Role	Attendee
NTU Email	DEEP@e.ntu.edu.sg

Please enter a menu option: 8
These are all the camps under you:
1. Ballet
2. Karate
3. Piano
Please enter the name of the camp whose list of registrants you wish to see
Ballet
No registrants yet!

Staff own: Student list view, Need to type with correct spelling of the camp, and only the camps under you.

Please enter a menu option: 9
These are all the camps under you:
1. Ballet
2. Karate
3. Piano
Please enter the name of the camp whose committee you wish to see
Piano

AYU	
User ID	AYU
Name	AYUSH
Faculty	ASE
Points	0
NTU Email	AYU@e.ntu.edu.sg

Please enter a menu option: 9
These are all the camps under you:
You don't have any camps under you

Please enter a menu option: 9
These are all the camps under you:
1. Ballet
2. Karate
3. Piano
Please enter the name of the camp whose committee you wish to see
Ballet
No camp committee members yet!

Please enter the name of the camp that you wish to register for:
Hiking
The dates of this camp clash with dates of other camps you have already registered for!
Please enter 'X' to go back to main page
X
Continuing to main page...

Profile		
Student Name: ANAY	Student Account ID: ANA	Login Status: Currently Active
Faculty: NBS	Camp Coordinator: Cybersecurity	

Student Main Page

Please enter the name of the camp that you wish to register for:
Swimming
Registration Deadline missed!
The registration deadline for Camp 'Swimming' was Tue Nov 21 2023.
Registrations for this camp are no longer open.

Please enter the name of the camp that you wish to register for:
Ballet
Camp 'Ballet' is not open to your faculty for registration!

Student : registration, b) camp not open to your faculty

Please enter a menu option: 10

These are all the camps under you:

1. Ballet
2. Karate
3. Piano

Please enter the name of the camp for which you wish to see the suggestions
Karate

Suggestion Index: 1

Suggestion	We should have mini-contests
Sender	RUIN
Status	Being Processed

Suggestion Index: 2

Suggestion	We need first-aid kits
Sender	RUIN
Status	Being Processed

Please enter a menu option: 11

These are all the camps under you:

1. Ballet
2. Karate
3. Piano

Please enter the name of the camp for which you wish to accept suggestions
Ballet
This camp has no pending suggestions waiting to be accepted!

Please enter a menu option: 11

These are all the camps under you:

1. Ballet
2. Karate
3. Piano

Please enter the name of the camp for which you wish to accept suggestions
Karate

Suggestion Index: 4

Suggestion	We need elections
Sender	MAN
Status	Being Processed

Suggestion Index: 7

Suggestion	We can shift to Hall 9
Sender	MAN
Status	Being Processed

Staff: Can make
Suggestions.

Please enter a menu option: 5

These are the camps that you are currently registered for:

Karate

Camp Name	Karate
Role	Committee Member
Staff-In-Charge	UPAM
Description	Martial Arts
Location	Hall 12 Recreation Room
Faculty	NTU
Total Slots (Attendee+Committee)	12
Total Committee Slots	10
Start Date	Tue Dec 12 2023
End Date	Fri Dec 15 2023
Registration Deadline	Sun Dec 10 2023
Empty Slots (Attendee+Committee)	8
Empty Committee Slots	8

Yoga

Camp Name	Yoga
Role	Attendee
Staff-In-Charge	KRI
Description	Meditation
Location	Hall 1 Recreation Room

Please enter a menu option: 5

These are the camps that you are currently registered for:
Camp not available

Student Own : View Camps

Please enter a menu option: 6

These are the camps that you are currently registered for:

Cooking

Camp Name	Cooking
Role	Attendee
Staff-In-Charge	AKSH
Description	Life Skills
Location	Hall 4
Faculty	NTU
Total Slots (Attendee+Committee)	3
Total Committee Slots	2
Start Date	Fri Feb 02 2024
End Date	Sun Feb 04 2024
Registration Deadline	Thu Feb 01 2024
Empty Slots (Attendee+Committee)	2
Empty Committee Slots	2

Piano

Please enter the name of the camp that you wish to withdraw from:

Piano

You are the Camp Coordinator for Camp 'Piano' ! Camp Coordinators cannot withdraw !

Please enter the name of the camp that you wish to withdraw from:

Hiking

You have not yet registered for Camp 'Hiking' !

Student: Withdraw

Please enter a menu option: 9

Press 1 to edit an enquiry. Press 2 to delete an enquiry

1

These are the enquiries that you have submitted and which haven't been processed yet:

Enquiry Index: 1

Enquiry	Are we supposed to get our own mats?
Camp	Yoga
Reply	NA
Replier	NA
Status	Being Processed

Please choose the index of the enquiry (type without #) that you wish to edit (You can only edit enquiries that have not been processed yet!):

2

Please enter your new enquiry:

Which models are we supposed to buy?

Your enquiry with ID #2 has been successfully edited!

Your new enquiry is as follows:

Which models are we supposed to buy?

Please enter a menu option: 9

Press 1 to edit an enquiry. Press 2 to delete an enquiry

2

These are the enquiries that you have submitted and which haven't been processed yet:

Enquiry Index: 1

Enquiry	Are we supposed to get our own mats?
Camp	Yoga
Reply	NA
Replier	NA
Status	Being Processed

Student: Can Edit / delete

Please enter a menu option: 7

These are the camps that are currently open to your faculty:

Cooking

Staff-In-Charge	AKSH
Description	Life Skills
Location	Hall 4
Faculty	NTU
Total Slots (Attendee+Committee)	3
Total Committee Slots	2
Start Date	Fri Feb 02 2024
End Date	Sun Feb 04 2024
Registration Deadline	Thu Feb 01 2024
Empty Slots (Attendee+Committee)	3
Empty Committee Slots	2

Cybersecurity

Please enter name of camp to which you wish to submit your enquiry:

Karate

You cannot send enquiries to this camp as you are a part of its committee

Please enter a menu option: 8

These are the enquiries that you have submitted:

Enquiry Index: 1

Enquiry	Are we supposed to get our own mats?
Camp	Yoga
Reply	Yes, that will be better
Replier	RHE
Status	Processed

Enquiry Index: 3

Enquiry	What is the entry fee?
Camp	Karate
Reply	NA
Replier	NA
Status	Being Processed

Student: can send / view enquiries

Please enter a menu option: 2

Yoga	
Staff-In-Charge	KRI
Description	Meditation
Location	Hall 1 Recreation Room
Faculty	NTU
Total Slots (Attendee+Committee)	3
Total Committee Slots	2
Start Date	Wed Jan 03 2024
End Date	Fri Jan 12 2024
Registration Deadline	Mon Jan 01 2024
Empty Slots (Attendee+Committee)	1
Empty Committee Slots	1

Please enter a menu option: 3
Please enter your suggestion:
We should have mini-contests
Your suggestion has been successfully submitted! Your unique suggestion ID is #1. It is currently being processed- you will be notified when the staff-in-charge processes it!

Please enter 'X' to go back to main page
X
Continuing to main page...

Profile		
Student Name: RUHAAN	Student Account ID: RUHN	Login Status: Currently Active
Faculty: SCSE	Camp Coordinator: Karate	

Camp Name: Karate
You currently have 1 points
Hello, RUHAAN

Please enter a menu option: 5
Press 1 to edit a suggestion. Press 2 to delete a suggestion
1
These are the suggestions that you have submitted and which haven't been processed yet:

Suggestion Index: 1	
Suggestion	We should have mini-contests
Camp	Karate
Status	Being Processed

Please enter a menu option: 4
No suggestions submitted yet!

Camp Comm : View / Suggestions

Please enter a menu option: 13
These are all the camps under you:
1. Ballet
2. Karate
3. Piano
Please enter the name of the camp for which you wish to answer enquiries
Piano

Enquiry Index: 4	
Enquiry	Will we learn Christmas songs?
Sender	JEE
Replier	NA
Reply	NA
Status	Being Processed

Please enter index number of enquiry that you wish to reply to:
7
Please enter your reply:
No, this is a leisure activity
Your reply has been sent successfully

Please enter a menu option: 13
These are all the camps under you:
1. Ballet
2. Karate
3. Piano
Please enter the name of the camp for which you wish to answer enquiries
Piano

Enquiry Index: 4	
Enquiry	Will we learn Christmas songs?
Sender	JEE
Replier	NA
Reply	NA
Status	Being Processed

Please enter index number of enquiry that you wish to reply to:
9
No such enquiry could be found!

Reply to enquiries

Hello, RUHAAN

1. Change your password
2. View list of camps open to your faculty
3. Search for a camp open to your faculty
4. Register for a camp
5. View list of camps you have registered for
6. Withdraw from a camp
7. Submit enquiries for a camp
8. View replies to your enquiries
9. Edit/Delete your enquiries
10. Go into Camp Committee Member mode for Camp 'Karate'
11. Check mailbox - You have (2) notifications
12. Logout

Please enter a menu option: 11
Unseen Notifications:
Your suggestion with index #5 has been accepted
Your suggestion with index #10 has been accepted

Please enter 'X' to go back to main page
X
Continuing to main page...

Please enter a menu option: 10
Unseen Notifications:
Your enquiry with index #1 has been answered

Mailbox: View all your notifications and see if your enquiries have been responded.

Camp Details					
Camp Name	Staff-In-Charge	Description	Location	Faculty	Total Slots
Piano	UPAN	Music	Music Room Hall 13	NTU	3
Camp Registrants List					
UserID	Name	Faculty	Role		
AYU	AYUSH	ASE	Committee Member		
DEEP	DEEPAH	EEE	Attendee		
JEE	JEEVAN	SCSE	Attendee		

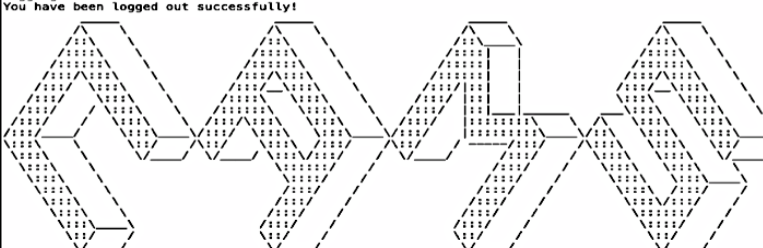
Reports : Overall, Enquiry & Performance

Student Enquiry Report					
Enquiry Index	Enquiry	Sender	Replier	Reply	Status
1	Are we supposed to get our own mats?	JUH	RHE	Yes, that will be better	Processed
6	What is the dress code?	AYU			Being Processed

Camp Committee Performance Report							
UserID	Name	Faculty	Enquiries Answered	Suggestions Sent	Accepted Suggestions	Total Points	NTU Email
MAN	MANYA	SSS	0	3	2	5	MAN@e.ntu.edu.sg
RUHN	RUHAAN	SCSE	0	5	5	10	RUHN@e.ntu.edu.sg

13. Reply to enquiries to a camp under you
14. Generate report for a camp under you
15. Check mailbox - You have (0) notifications
16. Logout

Please enter a menu option: 16
Logging out...
You have been logged out successfully!



Please enter your NTU Network User ID (the part before @ in your school email):

Logout page view

UML

Please refer to our attached .svg file for clearer view of the UML.

