

Year1

Lab Exercise-Use Case Diagrams

IT1060 – Software Process Modeling

Year 1 Semester 2 - 2024

In this Lab we will draw Use Case diagrams by identifying Use Cases, Actors and Relationships appropriately to model the given case studies.

We will be using Draw.io software (which can be accessed through <https://www.draw.io/>).

Instructions for using Draw.io:

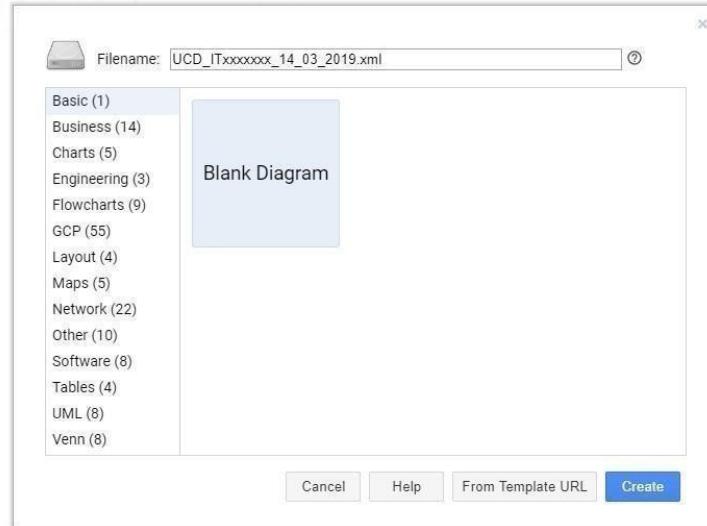
- Go to the provided link.
- New window will appear and select “create new diagram”.



- Give a file name and select “Basic → Blank Diagram” and then click on

“Create”. (For this lab, use the format given below for the file name)

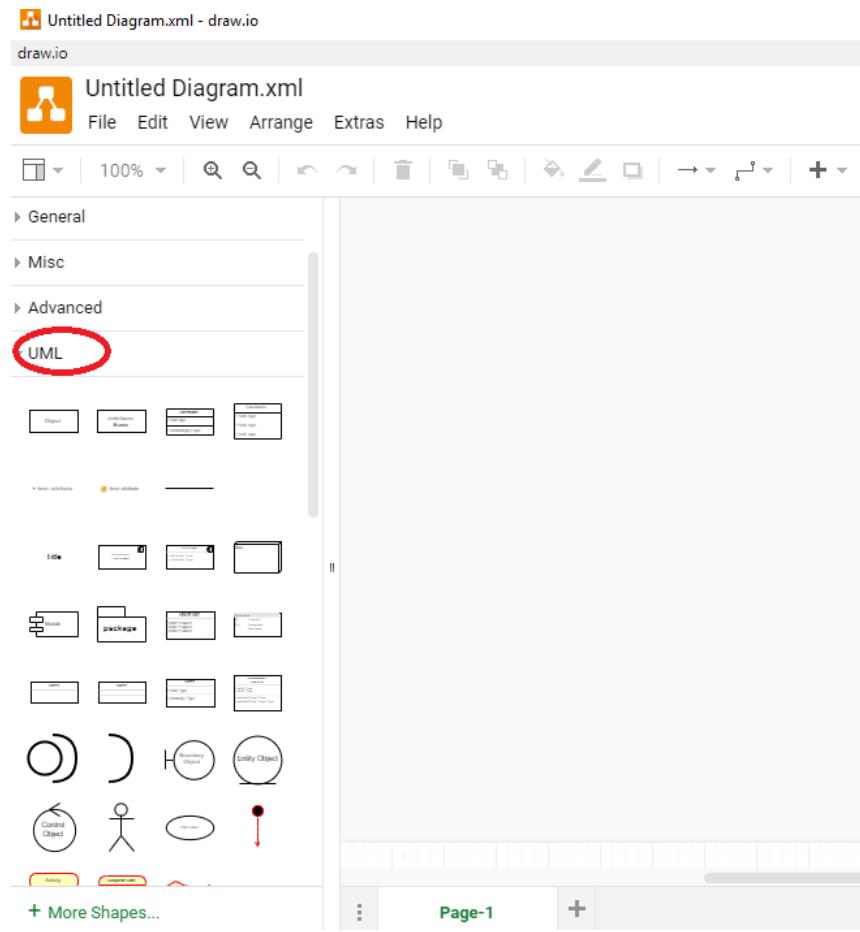
File name format – UCD_ITxxxxxxx_DD_MM_YYYY



Year1

Lab Exercise-Use Case Diagrams

-
- Select “UML” category from left side bar.
 - Click on suitable notations to draw the use case diagram.



Year1

Lab Exercise-Use Case Diagrams

Exercise 1: Draw the Use Case Diagram using draw.io for the ‘Flemingo Musical System’. State any assumptions made.

“Flamingo “is a music and video store which is located around the island and Sri Lanka Media Association (SLMA) is planning to launch digital version of Flamingo. SLMA has consulted you to identify the requirements of Flamingo. Following are some of the requirements you have gathered from different stakeholders.

The visitor can watch the public gallery of the music store and he /she can search videos in gallery. Short clips of trending music videos are also available in public gallery. If any visitor needs to watch the trending ones, they have to purchase them. In order to purchase videos from Flamingo, visitor will be redirected to create a Fan account. On the other hand, if anyone who is interested in uploading their own music audio or video, they have to create a Contributor account. In creating an account, first one has to enter personal details, and agree with the terms and conditions and then they will be redirected to choose payment plan for the year.

Once registered, a user can watch trending music videos directly. In order to watch, they need to buy interested content from the pool. If there are any seasonal discounts at that time, discount will be generated in the purchasing process. Payment can be done through PayPal, Master/VISA or American Express to maintain consistency of the process.

Users of Flamingo have access to the Frequently Asked Question (FAQ) sessions and are allowed to post any issues regarding the process of Flamingo. Furthermore, users can provide rating and any feedback about trending videos. Admin of Flamingo is responsible to answer the questions, manage the FAQ and handle the feedback and rating of the system.

Contributor account holders are given special privileges. When uploading contents to the system, for every multiple of 100 videos uploaded, their level would be uplifted. Depending on the level of the contributor, when buying a video a special contributor discount will be calculated. System will also generate weekly reports for Fans and Contributors when they request.

Year1

Lab Exercise-Use Case Diagrams

Exercise 2: Draw the Use Case Diagram using draw.io for the ‘TasteBuds Catering System’

“TasteBuds (TB)” is a new restaurant at Malabe. TB needs a system to track the customers and their orders. You as a System Analyst is asked to come up with the design models for TasteBuds Catering System (TBCS).

A customer can place orders through TBCS. If the customer is a registered customer, he will be given a discount from the total bill amount depending on how many orders he has placed during the month. The orders placed will be given a number which indicates the queue position of that order. The current serving order number will be displayed on the system main page.

The order numbers together with the order details will be sent to the Head Chef (HC) to prepare the order. Based on the details, HC will prepare the order as a normal order or a priority order. The HC will assign one or few chefs for the order and will estimate the time taken for the order.

Once the order is prepared, the order will be delivered by the delivery staff. The Delivery manager will assign the delivery staff for a particular order considering its category. For example a priority order will be assigned a vehicle and a driver within 10 minutes of the time the order is ready, while the normal order delivery is assigned based on the availability of the vehicles and drivers.

To be a driver at TB, one needs to have a valid driving license. The driving license details will be stored in the TBCS for security purposes. When a delivery is handed over to the driver, he has to use the TBCS on his mobile phone and check out the delivery with the order number and his driving license number.

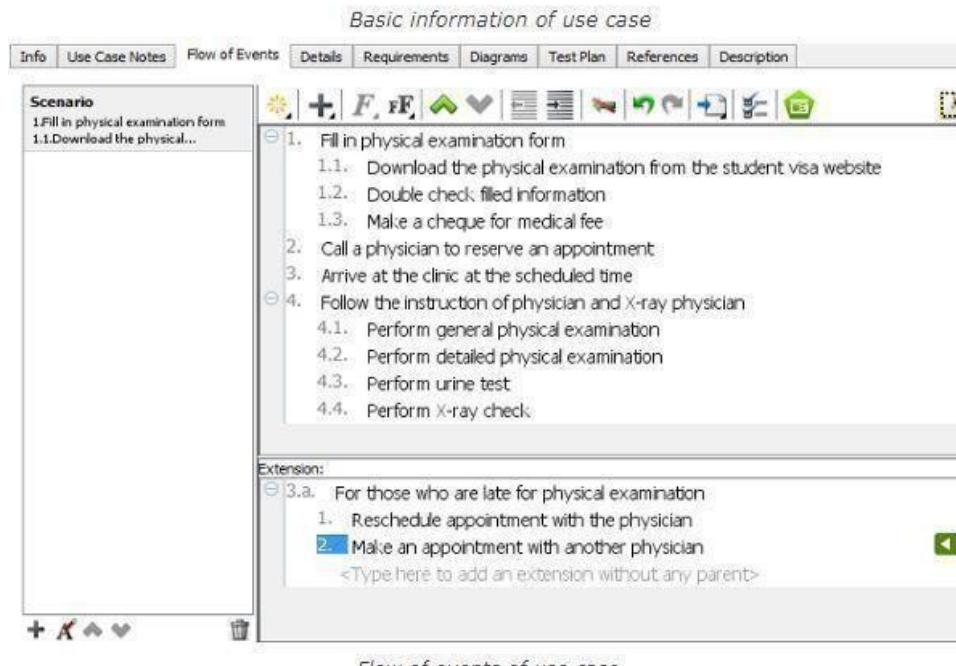
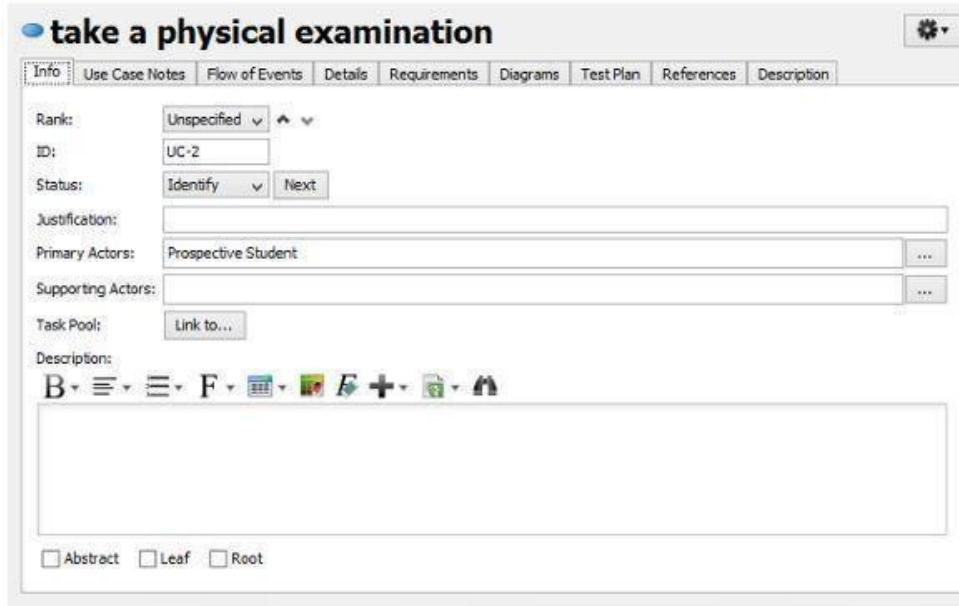
Once the delivery is handed over to the customer, s/he can mark the order has been delivered through the TBCS system. Later, the customer can give a rating to the order and also give his comments or suggestions if s/he is not satisfied with the order.

Year1

Lab Exercise-Use Case Diagrams

Use case Scenarios.

There are several online and other software's available, to write the use case scenarios. "Visual Paradigm" software is one of them. Below screenshots are taken from the software and you can try writing use case scenarios using similar software.



Year1**Lab Exercise-Use Case Diagrams****Exercise 3:**

- a) Write the use case scenario for the “login” function.
- b) Write the use case scenario for the “Search a book” function.
- c) Write the use case scenario for the “Reserve a book” function.

Hint: Use the “login” and “Search a book” scenarios you have written earlier.

Optional**Exercise 3: The scenario given below describes a hairdresser system. By going through the description, draw a use case diagram for the system at Cool Cuts Saloon.**

Jacky rings the hairdressers of Cool Cuts for an appointment for a haircut. Bianca, one of the trainees, asks her who normally cuts her hair. Jacky says Priyantha or Ruki. Bianca asks when she would like to come. Jacky says Saturday. Bianca says that Ruki has a free slot on Saturday at 1.15pm. Jacky says that would be fine.

Ravi rings Cool Cuts for an appointment for a haircut. Mandy, the receptionist, asks him who normally cuts his hair. Ravi says he hasn't been before. Mandy asks when he would like to come. Ravi says Thursday afternoon. Mandy says Diana has a free slot at 5.00pm on Thursday. Ravi says that would be fine.

Amanda rings Cool Cuts for an appointment to have a haircut and her hair colored. Michael, the manager, asks her who normally colors her hair. Amanda says she would like Diana to color her hair and Heshani to cut her hair. Michael says he can't find a time when both are free until three weeks on Monday at 10.25am. Amanda says she will take that slot.

Michael, the manager of Cool Cuts, takes on a new haircutter called Shan. Shan's day off will be Tuesday. Michael enters these details into the computer system. Michael normally enters the details of the employees. Even though Michael has full access to the system, the receptionist is mainly responsible for taking payments. He also allows Mandy to handle the inventory in his absence. After her cut and blow dry Jacky comes to the reception desk to pay. Mandy says that she has to pay Rs.1000 by calculating the payment amount. The customer pays the amount due. Mandy registers the amount paid on the system.

Year1**Lab Exercise-Use Case Diagrams**

When new stocks of hair dressing products are delivered to the saloon, Mandy notices that the prices of several items have increased; she updates the prices of the relevant items on the system. She also updates the stock levels for those items that have been delivered. When customers come to the reception to pay for their haircut, they sometimes buy hairdressing products shampoo, conditioner etc. The receptionist enters the product code and the system looks up the price of the product. If the product id is invalid system displays an error message along with a request to enter the correct product key. While receptionist entering the products to the system she can cancel some items according to customer request or if the stock is not available. Once all the items are entered to the system, receptionist informs the total amount to the customer and he makes the payment. Finally system prints an invoice for the purchased services.