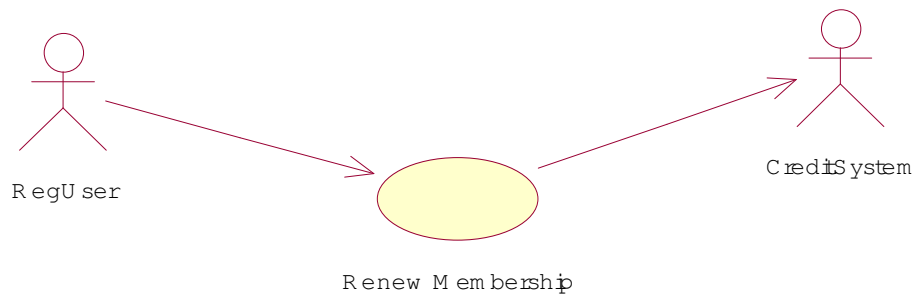**Use Case:**   Renew Membership

Description: The Use Case allows a user to renew his/her membership by making the required payment through a Credit Card. The renewal should be done before the date of expiry. The user can additionally change his personal information or password details. The renewal is subject to approval of the transaction by the Credit System. The renewed subscription is valid for a period of 1 more year. Upon renewal, the user is set to the logged in status.

Use Case diagram:

RegUser   CreditSystem

Renew Membership

Pre-conditions: None.

Post-conditions: If the Use Case is successful,
                    The user information is (optionally updated and) stored.
                    The renewal fee is transferred to the company's account.
                    The user is set to logged-in status.
        If not, the system state is unchanged.

Flow of Events:

Primary Flow:

This use case starts when the user chooses to renew his membership.

1. The system requests that the actor enter his/her username and password information.
2. The actor enters his username and password information.
3. The system validates the username and password.
4. The system checks if the current date is more than the date of expiry plus one month.
5. The system displays the user's personal and password information and requests that the actor updates this information, if necessary and enter his card information.
6. The actor optionally updates the personal and password information and enters his card information.
7. The system validates the card information.
8. The system requests the Credit System for approval of the transaction.
9. The Credit System approves the transaction and transfers the amount to the company's account.
10. The system resets the date of expiry.
11. The system stores the user's personal and password information.
12. The system sets the user to the logged-in status.
13. The system displays a confirmatory message to the user and the date of expiry.
14. Use Case ends.

Alternate Flows:

1.   Username or password is not valid

1.1. If the username or password is not valid, the system displays an error message. The actor can choose to either return to the beginning of the Primary Flow or cancel the renewal at which point the Use Case ends.

2. **Account has expired**
   2.1. If the system finds that the account has expired by more than 1 month, the system displays an error message. The Use Case ends.

3. **Card information is not valid**
   3.1. If the user's card information is not valid, the system displays an error message. The actor can choose to either return to the beginning of the Primary Flow or cancel the renewal at which point the Use Case ends.

4. **Credit System unavailable**
   4.1. If the system is unable to communicate with the Credit System, the system will attempt to reconnect with the Credit System after a specified period. If there is a failure to connect after fixed number of attempts, the system displays an error message. The actor can choose to either return to the beginning of the Primary Flow or cancel the renewal at which point the Use Case ends.

5. **Credit card transaction is not approved**
   5.1. If in the primary flow, the system does not get an approval from the Credit System, the system displays an error message. The actor can choose to either return to the beginning of the Primary Flow or cancel the registration at which point the Use Case ends.

6. **Account is still active**
   6.1. If in the primary flow, the system finds that the account is still active, the date of expiry is set to 12 months plus the balance number of months between the current date and the current date of expiry. Use Case continues.

Special Requirements: User's card information needs to be kept confidential and secure.
It may be required to interact with different credit systems.

Extension Points: None.