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The user abstract class would be used to contain general user information set up by the administrator and some general access and content generation methods that are available to all users. Methods available to all users would include name modification, password self-service, email confirmation, etc.

```
classDiagram
    class UserAdmin {
        +userAdmin()
        +setUserAccount()
        +modUserAccount()
        +disableUserAccount()
        +runUserReport()
        +getUserInfo() : User
    }
    class UserAdmissions {
        +userAdmissions()
        +admitAddPatientInfo()
        +admitModPatientInfo()
        +admitDisablePatientInfo()
        +givePatientIEQuiz()
        +updatePatientIEQuiz()
    }
    class UserHealthcare {
        +userHealthCare()
        +reviewPatientInfo()
        +reviewPatientSurvey()
        +reviewShotLog()
    }
    class UserPharmacy {
        +userPharmacy()
        +addShotInventory()
        +modShotInventory()
        +disableShotInventory()
        +addInclusion()
        +modInclusion()
        +disableInclusion()
        +addExclusion()
        +modExclusion()
        +disableExclusion()
        +addInteraction()
        +modInteraction()
        +disableInteraction()
        +runInventoryReport()
        +auditInventory()
        +overrideShotPrescription()
        +getShots() : Shots
        +getPatient() : Patient
        +getSurvey() : Survey
    }
    class UserNursingStaff {
        +userNursingStaff()
        +getPatientInfo() : Patient
        +getPatientSurvey() : Survey
        +getShotRecord() : ShotList
        +addShotLogEntry()
        +modPatientInfo()
        +modPatientSurvey()
    }
    class UserPhysician {
        +userPhysician()
        +getPatientInfo() : Patient
        +getPatientSurvey() : Survey
        +getShotRecord() : ShotList
        +prescribeShot()
        +addShotLogEntry()
        +modShotLogEntry()
        +disableShotLogEntry()
        +modPatientInfo()
        +modPatientSurvey()
    }
    class UserPharmacist {
        +userPharmacist()
    }
    class UserPharmacyTech {
        +userPharmacyTech()
    }
    class Survey {
        +surveyID : Integer
        +surveyText : String
        +surveyConditionsArray : String
        +surveyAddedBy : String
        +surveyDateAdded : Date
        +surveyModifiedBy : String
        +surveyModifiedDate : Date
        +surveyActive : Boolean
        +surveySetQuestionInfo()
        +surveyModQuestionInfo()
        +surveyGetQuestionInfo() : Survey
        +surveyPrintQuestionInfo() : Survey
        +surveyDisableQuestion()
        +surveyLogAuditInfo()
        +surveyGetAuditInfo()
        +surveyPrintAuditInfo()
    }
    class Patient {
        +patientID
        +lastName
        +firstName
        +middleName
        +SSN
        +MIDN
        +Sex
        +DOB
        +Street
        +City
        +State
        +Zip
        +PhoneMain
        +PhoneAlt
        +Email
        +shotHistory
        +Active
        +surveyArray
        +setPID()
        +getPatientInfo() : Patient
        +printPatientInfo()
        +getSurvey()
        +subSurvey()
        +modSurvey()
        +getShotHistory()
        +addShotHistory()
        +modShotHistory()
        +remShotHistory()
        +logAuditInfo()
    }
    class Shots {
        +shotID
        +shotType
        +commonName
        +Vendor
        +vendorShotID
        +manufacturer
        +manufacturerShotID
        +exArray
        +intArray
        +qty
        +addedBy
        +addedDate
        +modifiedBy
        +modifiedDate
        +addShotInfo()
        +getShotInfo()
        +printShotInfo()
        +addInclusion()
        +modInclusion()
        +remInclusion()
        +addExclusion()
        +modExclusion()
        +remExclusion()
        +addInteraction()
        +modInteraction()
        +remInteraction()
        +addQty()
        +remQty()
        +logUsage()
    }
    UserAdmin --> Survey
    UserAdmissions --> Survey
    UserHealthcare --> Survey
    UserPharmacy --> Survey
    UserNursingStaff --> Survey
    UserPhysician --> Survey
    UserPharmacist --> Survey
    UserPharmacyTech --> Survey
    UserAdmin --> Patient
    UserAdmissions --> Patient
    UserHealthcare --> Patient
    UserPharmacy --> Patient
    UserNursingStaff --> Patient
    UserPhysician --> Patient
    UserPharmacist --> Patient
    UserPharmacyTech --> Patient
    UserAdmin --> Shots
    UserAdmissions --> Shots
    UserHealthcare --> Shots
    UserPharmacy --> Shots
    UserNursingStaff --> Shots
    UserPhysician --> Shots
    UserPharmacist --> Shots
    UserPharmacyTech --> Shots
```

This object provides the information for the inclusion / exclusion information used in the patient survey form to prevent some shots from interacting with previously existing conditions.

The logAuditInfo is used to track who and what was changed within the survey.

The patient object contains all the patient demographic information as well as an array containing the inclusion / exclusion responses and an array containing a historical shot record. The surveyArray provides the software with the means to logically assess whether a question is pertinent to a patient based upon demographic information as well as results from previous questions. For example, if the demographic information regarding patient sex is marked as 'Male' then any questions referring to pregnancy may be removed from the questionnaire. Additionally, this class contains the methods of modifying survey answers related to the account.

The Shots class contains inventory, audit logs, exclusion factors, and drug interactions information.