**Contract C01: Login**

**Operation**: login (username:String, password:String)

**Cross References**: Use case: Login and Authentication

**Preconditions**: A user is registered

**Postconditions**:

* User credential object created.
* Password is hashed using the systems’ hashing function
* User provided password hash is compared to the one stored in the system
* User logged on if passwords match
* Previous reported pothole information is loaded if platform is mobile

**Contract C02: Reset Password**

**Operation**: resetPassword(username:String, password:String)

**Cross References**: Use case: Login and Authentication

**Preconditions**: A user is registered

**Postconditions**:

* User credential object is created
* Password captured and hashed using the system’s hashing function
* New password from user is hashed, with salt if needed
* New password captured again.
* Hashed and compared.
* If old password match with one stored in system AND two new passwords matched, update password.
* Display confirmation and email confirmation to user with timestamp

**Contract C02: requestPothole**

**Operation**: requestPothole(gPSLoc: GeoPositionData, userData: String, userPicture: binary)

**Cross References**: Use case: Report Pothole

**Preconditions**: A user is registered and logged in

**Postconditions**:

* A new pothole object was created
* Pothole status set to **Reported**.
* Pothole GPS coordinates was captured from Map metadata
* Pothole associated with a ward where the work must be done
* Pothole size was calculated and added to the pothole object
* Pothole associated with the user