**Testing Document**

1. **Unit Testing**
   1. Unit testing will be performed using MSTest. They will test the CRUD for correctness and against injection attacks
2. **Integration Testing**
   1. Integration testing will be performed using Selenium. It will test the CRUD looking at the source code of the HTML.
3. **Sql Testing**
   1. SQL testing will be performed manually through pgadmin. It will test SQL constraints of the database.
4. **Traceability Matrix**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Unit Test (MS Test) | Integration Test(Selenium | SQL Test (pgAdmin) |
| IE11 Functionality |  |  |  |
| Chrome Functionality |  |  |  |
| Injection Attacks |  |  |  |
| CRUD Functionality |  |  |  |
| Database constraints |  |  | X |

Tests could not be run do to Dev not having complete code.

1. **Steps To Perform Test**
   1. **Preconditions**
      1. PostgreSQL installed
      2. Selenium WebDriver installed on nuget
      3. At beginning of each unit and integration tests assumed default database is reloaded on
      4. Ensured code is set up as outlined in PRD
      5. Project is Built
   2. **Unit Testing**
      1. Open Tests solution
      2. Select UnitTest.cs
      3. Run test:
         1. Click ‘Test’ drop down at top of VS IDE
         2. Select ‘Debug’ option
         3. Select ‘Selected Tests’
      4. See final results.
   3. **Integration Testing**
      1. Open Tests solution
      2. Select UICreateTest.cs, UIDeleteTest.cs, UIUpdateTest.cs, or UIReadTest.cs,
      3. Run test:
         1. Click ‘Test’ drop down at top of VS IDE
         2. Select ‘Debug’ option
         3. Select ‘Selected Tests’
      4. See final results.
      5. Repeat step 5.3.2 for another test mentioned
   4. **Sql Testing**
      1. Open SQL Shell of PostgreSQL
      2. Create database with queries stored in LU.ENG3675.Proj2.sql in the SQL folder.
      3. Exit Shell
      4. Open pgAdmin
      5. Connect to localhost
      6. Select database LU.ENGI3675.Proj2
      7. Click SQL query button at top of screen
      8. Create table with queries stored in animals.sql in the SQL folder
      9. Populate table with queries stored in queries.sql in the SQL folder
      10. Run Test queries stored in testing\_queries.sql in the SQL\_Test\_Scripts
      11. Check if constraints held on each test or not