**Testing and Evaluation**

Diabetic retinopathy detection application is web-based application which can predict the DR by processing fundus retinal images. After finishing the application, I have done the testing which are given below.

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| **What was tested**: Form validation | | |
| **S.N.** | **Expected output** | **Actual Output** |
|  | When we click at check result without uploading image it should give appropriate message | When I click at check result button without uploading image I show “please upload image” message |
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| **Analysis**: When click at check result button without uploading retinal image, it displays “please upload image” message on the right corner and stay on the same page. This proved that it could handle form validation. | | |

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| **What was tested**: Diabetic Retinopathy affected retinal image | | |
| **S.N.** | **Expected output** | **Actual Output** |
| 1. | System should detect the Diabetic Retinopathy when DR affected retinal images are given | When the DR affected retinal funds image was uploaded and given to predict, it predicts correctly |
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| **Analysis**: Diabetic Retinopathy affected retinal image was given to the system to predict. The application predicted correctly with “Diabetic retinopathy detect” and stage “severe” message. I have fed 9 retina images which have Diabetic retinopathy and it predict all the retain image correctly. This proved that it could predict DR effected fundus image correctly. | | |

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| **What was tested**: No Diabetic Retinopathy retinal image | | |
| **S.N.** | **Expected output** | **Actual Output** |
| 1. | System should detect give “Normal” result when No DR retinal images is given to the application | When No DR retina images are given to the system it predicts “No DR”. Which means it predict correctly. |
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| **Analysis**: No Diabetic Retinopathy retinal fundus images are given to the application it predicts No DR by giving “Normal” message. I fed 9 images to predict, and it predict all the retinal images correctly. This proved that it could predict No DR retinal images correctly. | | |

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| **What was tested**: Moderate Diabetic Retinopathy retinal image | | |
| **S.N.** | **Expected output** | **Actual Output** |
|  | System should detect moderate retinal images and display message | When the Moderate DR affected retinal fundus, image was uploaded and given to predict, it predicts correctly |
|  | |
| Analysis: Moderate Diabetic Retinopathy retinal fundus images are given to the application it predicts correctly by displaying “Moderate” message. I fed 9 images to predict, and it predict all the retinal images correctly. This proved that it could predict moderate retinal images correctly. | | |