**Steps to reproduce the defect :**

**1. Inputs available for reproducing the defect:**

**1. a Source code:**
The following files are provided:

1. ProjectionData.h
2. ProjectionData.cpp
3. Projection.vcxproj
4. Stdafx.h
5. Stdafx.cpp
6. Main.cpp

Build the project using VS2010. It will give Projection.exe as the output.

**1. b Test data:**

The TopoDS_Face are available as .brep files.

The polygon points are available in the text file "DataFile.txt". The first line gives the number of points in the polygon. Next line onwards the points are given.

After the polygon points, the file gives the number of TopoDS_Face entities. After the number of faces each line contains the name of the brep files corresponding to each of the individual ToppDS_Face.

**1. c Pre-requisites:**

It is required to set an environment variable "CASROOT" to point to the path of the OCCT installation folder. The installation folder is the one which contains the following sub-folders:

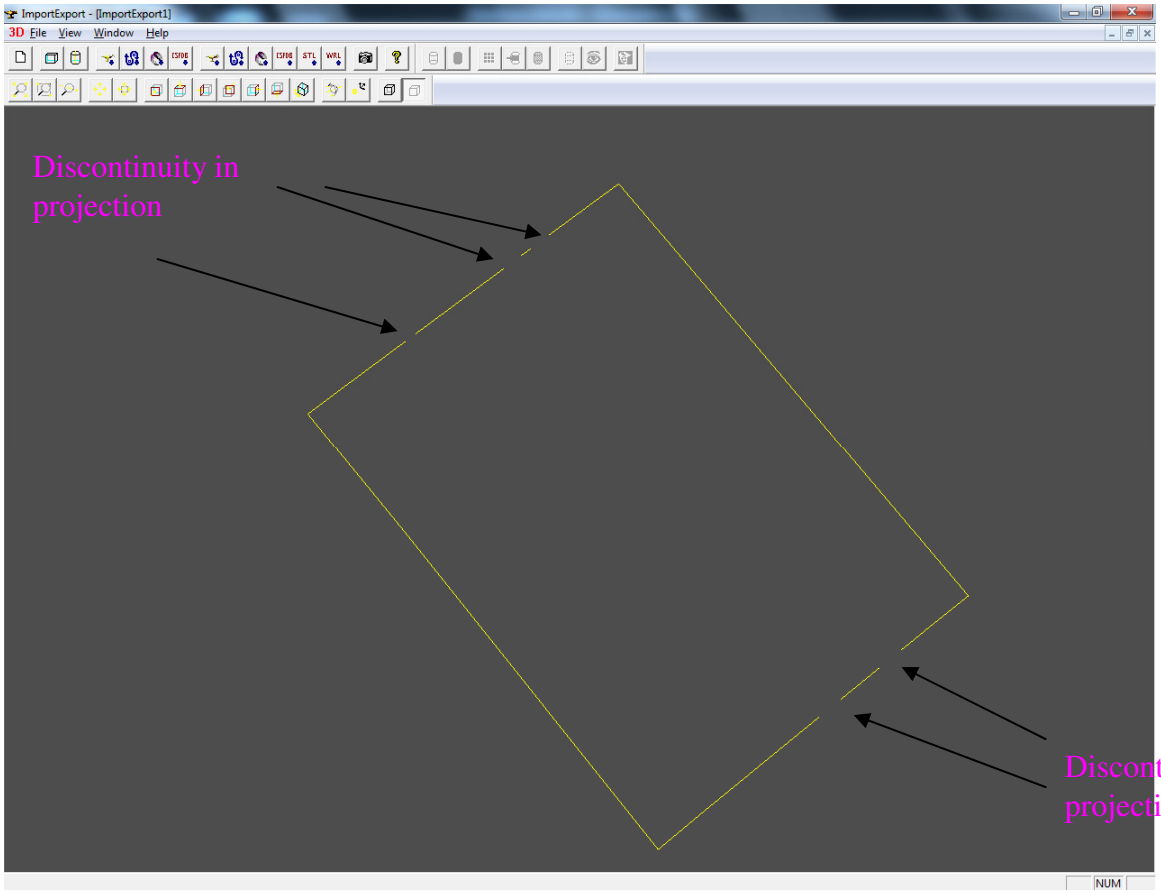
1. Inc
2. win32
3. win34

**2. Running of the source code:**

1. In the command prompt pass the complete path of the DataFile.txt including the name of the file itself to the executable.
2. OR in the Visual Studio Debug options set the complete path [including file name] in Command Arguments.

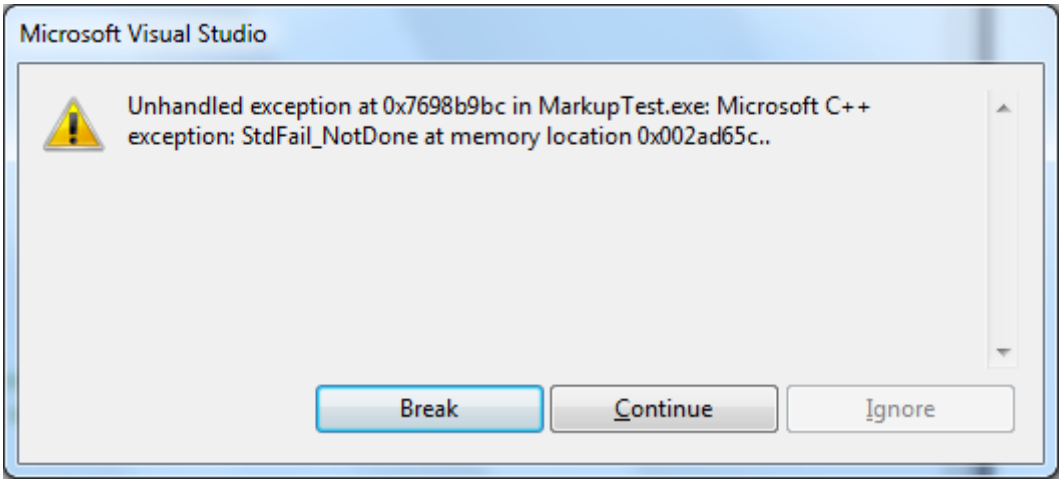
**3. Test cases**

**3. a Test case 1 [Planar faces]**: For the planar faces, the result of the projection is shown in the picture below taken from the occtviewer.




After making the correction in the file ProjLib_CompProjectedCurve, the corrected output is as shown in the figure below.

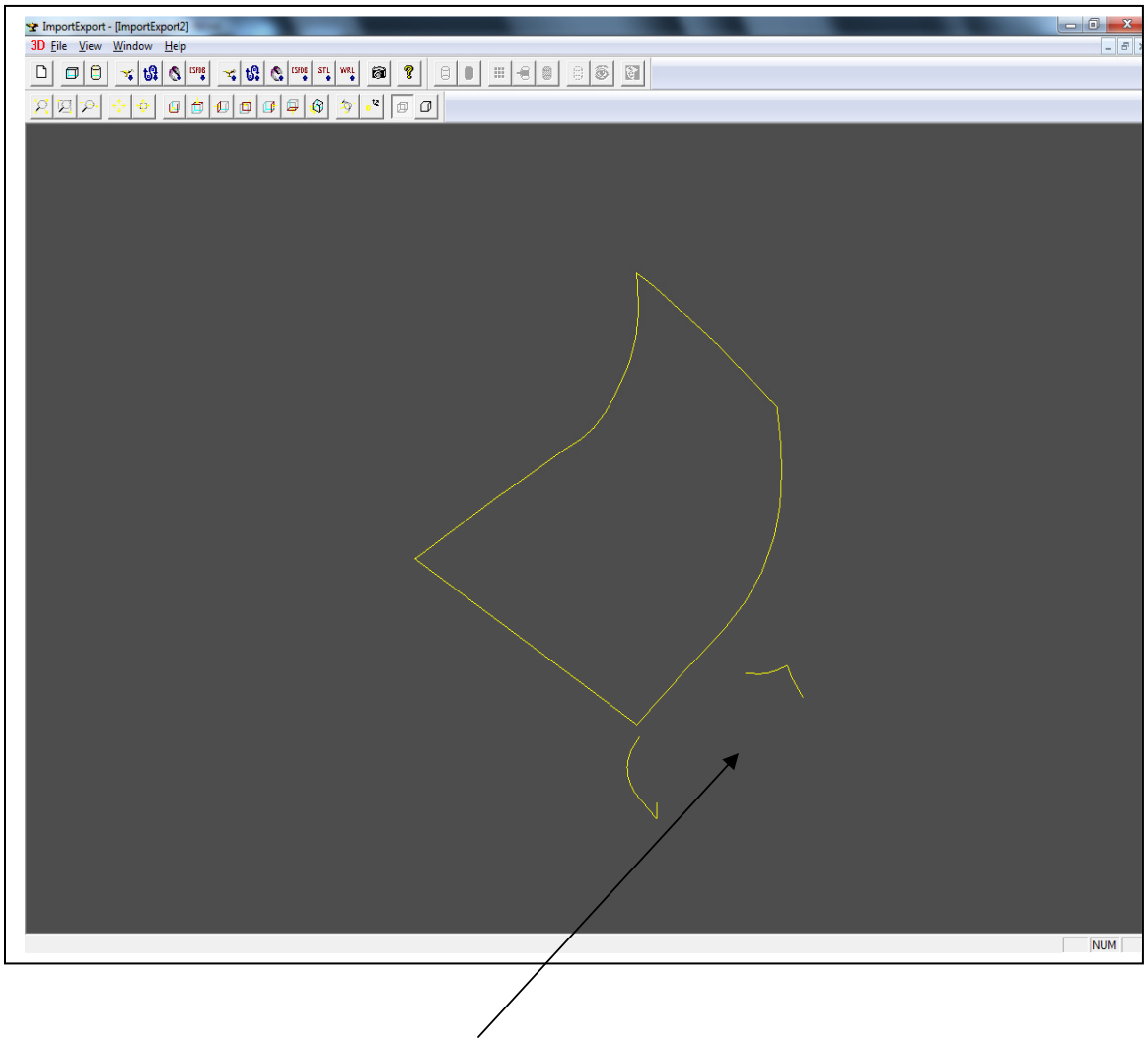
**3. b Test case 2 [Non-planar faces]:** For the non-planar faces, another issue comes up. It gives an exception as shown in the figure below.



The correction provided is to catch any such exception and then continue with the projection. The intent of this correction is to obtain the projection result irrespective of any failure for any individual projection during the execution of the algorithm.

Try-catch method is provided in the two files [and the corresponding functions] of ProjLib_CompProjectedCurve.cxx file ProjLib_CompProjectedCurve::BuildIntervals () and BRepAlgo_NormalProjection::Build ().

After handling the exception the output is as shown in the figure below:




It is assumed that the exception occurs while projection in the this region happens.