# swTraversAll\_Lib

## Résumé :

swTraversAll a pour but de parcourir les éléments qui compose un fichier 3D de SolidWorks (2012 minimum) et de retourner une structure (voir page 3).

## Objectif final :

L’objectif final de cette application est de récupérer tous les éléments d’une 3D. En plus d’aujourd’hui, récupérer :

* Les faces des pièces et leurs propriétés
* Les arêtes
* Les points et les
* Les éléments qui compose une fonction (exemple : des lignes, des côtes dans une esquisse)

Un système d’options de récupération sera ensuite mis en place. En partant du principe des expressions régulières, il sera possible de définir ce que l’on veut récupérer dans une 3D (par exemple, ne récupérer que la couleur des faces d’une pièce.).

## La structure d’un fichier 3D solidwork:

|  |  |
| --- | --- |
|  | Un fichier Solidworks est composé d’un assemblage général. (Door « Porte preparee » «(XU112 – porte standard)  Cet assemblage est composé de :   * sous-ensemble représentés par l’icône * des pièces représentées par l’icône |
|  | Un fichier pièce est composé de :   * corps. certaines pièces peuvent en contenir plusieurs (encadré en rouge). * fonctions permettant de créer les volumes, des trous, etc. (exemple encadré en bleu) * Ce fichier comporte aussi les informations comme la matière (encadré en orange)   Chaque fonction est composée de sous-fonctions (encadré en vert) |

# Structure retournée :

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Composant SolidWorks | | | | | | | | | | | | | | | | | | |
|  | swModel As SldWorks.ModelDoc2 | | | | | | |  |  |  |  |  |  |  |  |  |  |  |
|  | swConfMgr As SldWorks.ConfigurationManager | | | | | | | | | |  |  |  |  |  |  |  |  |
|  | swConf As SldWorks.Configuration | | | | | | | |  |  |  |  |  |  |  |  |  |  |
|  | swRootComp As SldWorks.Component2 | | | | | | | |  |  |  |  |  |  |  |  |  |  |
|  | vComponent As Object | | | | |  |  |  |  |  | *Ensemble des composants enfants (ASM)* | | | | | | | |
|  | I As Integer | | |  |  |  |  |  |  |  | *Index du composant dans vComponent* | | | | | | | |
|  | swComponent As SldWorks.Component2 | | | | | | | | |  |  |  |  |  |  |  |  |  |
|  | swModelDocExt As SldWorks.ModelDocExtension | | | | | | | | | |  |  |  |  |  |  |  |  |
|  | swCustProp As SldWorks.CustomPropertyManager | | | | | | | | | |  |  |  |  |  |  |  |  |
|  | swselmgr As SldWorks.SelectionMgr | | | | | | | |  |  |  |  |  |  |  |  |  |  |
|  | swBodyFolder As SldWorks.BodyFolder | | | | | | | | |  |  |  |  |  |  |  |  |  |
|  | swCustPropMgr As SldWorks.CustomPropertyManager | | | | | | | | | |  |  |  |  |  |  |  |  |
|  | Patch As String | | | |  |  |  |  |  |  | *Chemin du composant* | | | | |  |  |  |
|  | Type As Integer | | | |  |  |  |  |  |  | *Type du composant (1=PRT ; 2=ASM)* | | | | | | |  |
|  | LastConfiguration As String | | | | | | |  |  |  | *Nom de la configuration active* | | | | | | |  |
|  | Quantity As Long | | | |  |  |  |  |  |  | *Quantité total utilisé (toutes config)* | | | | | | | |
|  | Properties() As List(Of Properties) | | | | | | | | |  |  |  |  |  |  |  |  |  |
|  |  | Name as String | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | textexp As String | | | | |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Value As String | | | |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Configuration() As List(Of Configurations) | | | | | | | | | | *Liste des configurations* | | | | | |  |  |
|  |  | Name As String | | | | |  |  |  |  | *Nom de la configuration* | | | | | |  |  |
|  |  | Quantity As String | | | | |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Bodies As Bodies | | | |  |  |  |  |  | *Les corps* | | |  |  |  |  |  |
|  |  |  | Names As Object | | | |  |  |  |  | *swCustPropMgr.GetNames* | | | | | |  |  |
|  |  |  | Body() As List(Of Body) | | | | | |  |  | *Liste des corps* | | | |  |  |  |  |
|  |  |  |  | Count As Integer | | | | |  |  | *Quantité* |  |  |  |  |  |  |  |
|  |  |  |  | Name As String | | | |  |  |  | *Nom du corps* | | | |  |  |  |  |
|  |  |  |  | Properties() As List(Of PropertiesBody) | | | | | | | *Propriétés du corps* | | | | |  |  |  |
|  |  |  |  |  | Name As String | | | |  |  | *Nom de la propriété* | | | | |  |  |  |
|  |  |  |  |  | textexp As String | | | | |  | *Expression de la propriété* | | | | | |  |  |
|  |  |  |  |  | Value As String | | | |  |  | *Valeur de la propriété* | | | | | |  |  |
|  |  | Properties As List(Of Properties) | | | | | | | |  | *Propriété du composant* | | | | | | | |
|  |  |  | Name as String | | | |  |  |  |  | *Nom* | | | | | | | |
|  |  |  | textexp As String | | | | |  |  |  | *expression* | | | | | | | |
|  |  |  | Value As String | | | |  |  |  |  | *valeur* | | | | | | | |
|  |  | Parent() As List(Of Parents) | | | | | | | | | *Liste des parents (dans quel ASM est utilisé)* | | | | | | | |
|  |  |  | Adress As String | | | |  |  |  |  | *Chemin du parent* | | | |  |  |  |  |
|  |  |  | ConfigurationName As String | | | | | | |  | *Configuration du parent* | | | | | |  |  |
|  |  |  | Quantity As Integer | | | | |  |  |  | *Quantité dans le parent* | | | | | | | |
|  |  | Functions As New List(Of Functions) | | | | | | | | | *Liste des enfants (Pour ASM)* | | | | | | |  |
|  |  |  | Adress As String | | | |  |  |  |  | *Adresse de l’enfant* | | | | |  |  |  |
|  |  |  | Configurations As List(Of ChildrenConfiguration) | | | | | | | | |  |  |  |  |  |  |  |
|  |  |  |  | Name As String | | |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | Quantity As Integer | | | | |  |  |  |  |  |  |  |  |  |  |
|  | Children() As List(Of Children) | | | | | | | | *Liste des enfants (Pour ASM)* | | | | |  |  |  |  |  |
|  |  | Adress As String | | | |  |  |  | *Adresse de l’enfant* | | |  |  |  |  |  |  |  |
|  |  | Configurations As List(Of ChildrenConfiguration) | | | | | | | | |  |  |  |  |  |  |  |  |
|  |  |  | Name As String | | |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | Quantity As Integer | | | | |  |  |  |  |  |  |  |  |  |  |  |

## Valeurs retournées dans une console :

