

Automating SOLIDWORKS® 2019 Using Macros

A guide to creating VSTA
macros using the Visual
Basic.NET Language



Mike Spens



Better Textbooks. Lower Prices.
www.SDCpublications.com

Visit the following websites to learn more about this book:

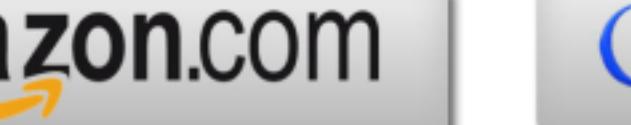


Table of Contents

Fundamentals	1
Visual Studio Tools for Applications (VSTA)	3
Create a New Macro	5
Conclusion	26
One Button PDF Publishing	27
Record the Save As Action	29
Changing Filename and Paths	31
Running Macros	33
Model Dimensions Using Excel VBA	37
Changing Dimensions	39
SOLIDWORKS VBA Macros	40
Using VBA in Excel	43
Selection Methods.....	47
Controlling Options	53
Getting and Setting Options	55
SOLIDWORKS Constants	61
Material Properties.....	63
Part 1: Basic Material Properties	65
User Forms	65
Part 2: Working with Assemblies	72
Verification and Error Handling	75
Custom Properties	77
Part 1: Adding Properties	79
Part 2: Modifying Properties	85
User Interactions	93
Debugging Tips	94
Part 3: Add and Delete Properties.....	99
Part 4: Save and Copy Between Files.....	103
Model Creation	109
Part 1: Geometry Creation	111
Creating a New Part.....	115
Creating a Sketch.....	116
Creating Features.....	118
Part 2: Feature Editing and Traversal.....	131
Feature Editing	131
Feature Traversal	137
Data Import and Export	143
3D Points.....	145
Code Changes	146
Code Files and Portability	149
3DCurves	152
Exporting Point Data	155
Saving Sheet Metal Flat Patterns.....	158
Drawing Automation.....	161
Creating Drawings.....	163
Batch Processing Files in a Folder	170
Notes, Annotations and Tables	183
Creating Notes	185
Tables	190
Conclusion	199
Building Assemblies.....	201
Processing Selections	208
Traversing Topology.....	209
Adding a Part to an Assembly	212
IMathUtility and Transforms	215
Working with File References	221
Finding File References	223
Functionality Additions	232

Saving the References List	233
Document Manager API.....	239
Getting and Setting Custom Properties	249
Bill of Materials Tables	258
Working with File References.....	267
PropertyManager Pages	275
Building a PropertyManager UI	277
Page Control Creation and Layout	285
Defining PropertyManagerPage Handlers.....	291
Using SOLIDWORKS Events in Macros.....	297
Creating the Event Handlers	300
Launching SOLIDWORKS and Macros.....	304
PDM Professional API Basics.....	307
Logging In	310
PDM Professional Interfaces.....	314
Traversing Files in a Folder.....	315
More File Properties	316
PDM Professional Files and Variables.....	325
Reading Variables	327
Check Out and Editing Card Variables.....	330
Adding Files to the Vault	335
PDM Professional Bills of Materials.....	341
Accessing Computed BOMs	343
Accessing Named BOMs	349
Favorite Code Examples	353
Batch Process Files.....	355
Traverse Features of a Part	358
Traverse Assembly Components	362
Index	367