

SurfaceToTUIO Instructions

The SurfaceToTUIO program accepts contact events from a Surface Table (or simulator) and converts them into TUIO messages.

We use the TUIO 1.1 protocol as defined on <http://www.tuio.org/?specification>

We support Finger Contacts, Byte Tags and Blobs. All parameters supplied by the TUIO protocol are filled, including velocity and acceleration parameters.

The user can decide whether to send a Finger contact as /tuio/2Dcur or /tuio/2Dblob. This way all information supplied by the Surface Contact can be used in the final application (i.e. finger ellipse).

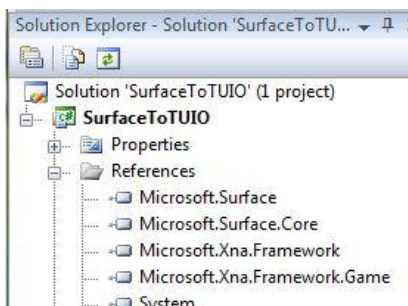
Our program has to run on the Surface Table, or the machine running the Simulator. We use the SurfaceCore layer and XNA framework for capturing Surface events. A window is created; however, this window can be minimized during operation. The main application logic is in App1.cs.

Compiling Instructions

You need to have installed:

- MS Surface SDK
<http://www.microsoft.com/downloads/details.aspx?FamilyID=3db8987b-47c8-46ca-aafb-9c3b36f43bcc&displaylang=en>
- MS XNA Framework (we used the Microsoft XNA Framework Redistributable 3.1)
<http://www.microsoft.com/downloads/details.aspx?familyid=53867A2A-E249-4560-8011-98EB3E799EF2&displaylang=en>
- MS Visual Studio 2008

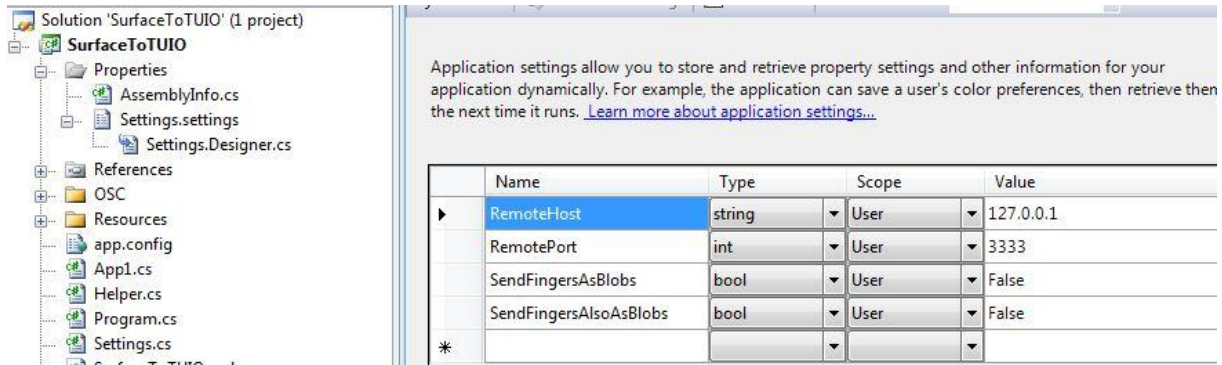
You need to supply the correct References for Surface SDK and MS XNA Framework.



The program has to be compiled as x86 build.

Configuration

The configuration is done via app.config file. You can either modify that file directly or the Settings.settings in Visual Studio



Configuration Parameters

- RemoteHost: IP Address of the machine you want to send to.
- RemotePort: Port of the machine you want to send to.
- SendFingersAsBlobs: Surface Finger Contacts are sent as /tuio/2Dblob. This has the advantage that information like contact dimension and orientation are conserved.
- SendFingersAlsoAsBlobs: Surface Finger Contacts are sent as /tuio/2Dblob and /tuio/2Dcur. This way the receiving application can decide which one to take into account.

TUIO handling

A Surface Finger Contact is converted into /tuio/2Dcur or /tuio/2Dblob (or both), depending on the configuration. We fill all parameters the TUIO protocol supplies. The velocity information is extracted from ManipulationProcessors. Movement acceleration, rotation acceleration and rotation velocity are computed manually.

A Surface Byte Tag is converted into a /tuio/2Dobj message. All parameters are filled.

For further information on the exact specification of TUIO parameters, see <http://www.tuio.org/?specification>