

BS Contact Mobile 1.0 User's Guide

Introduction

This document will explain how to use the basic functionalities within BS Contact Mobile and which nodes are currently supported.

System Requirements

BS Contact Mobile requires the Microsoft Windows® Mobile operating system.
www.microsoft.com/windowsmobile

Installing BS Contact Mobile

To install BS Contact Mobile you simply have to download BS Contact Mobile.cab archive to your device and launch it. If you're upgrading to a newer version of BS Contact Mobile be sure to un-install any previous versions before installing the new version.

Scene Limitations

To improve speed, BS Contact Mobile uses a monochromatic illumination model, which means that lights are always "grey" lights so all colors receive the same illumination depending on the intensity and direction of the light.
BS Contact Mobile also only supports directional lights.

BS Contact Mobile supports a subset of the standard VRML97/X3D nodes:

Node	Supported fields
Transform	All fields supported
Group	All fields supported
Anchor	All fields supported, at the moment the anchor node is only used to switch between different viewpoints inside the same scene by specifying #ViewpointName in the url field
Appearance	All fields supported
Background	At the moment only the first color in skyColor is used as color background
Coordinate	All fields supported
DirectionalLight	The light is monochromatic
ImageTexture	Does not support multitexturing, repeatS and repeatT are always TRUE
Material	Support only: diffuseColor, emissiveColor, transparency

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Node	Supported fields
NavigationInfo	Support only: avatarSize, headlight, speed, type, visibilityLimit and type (can be either "WALK" or "FLY")
Shape	All fields supported
TimeSensor	All fields supported
TouchSensor	Supports only enabled, isActive and touchtime
Viewpoint	All fields supported
WorldInfo	All fields supported
TextureCoordinate	All fields supported
ColorInterpolator	All fields supported
CoordinateInterpolator	All fields supported
OrientationInterpolator	All fields supported
PositionInterpolator	All fields supported
ScalarInterpolator	All fields supported
IndexedFaceSet	Primary fields supported <u>except</u> normal, normalIndex, normalPerVertex, color, colorIndex and colorPerVertex (normals are generated automatically using creaseAngle)
ProximitySensor	All fields supported except: enterTime, exitTime and isActive
Box	All fields supported

Preparing VRML/X3D content for display within BS Contact Mobile

To prepare content for display within BS Contact Mobile various the following steps should be taken:

- 1) Eliminate unsupported language features like script, proto, externproto
- 2) Eliminate unsupported nodes (see above for the list of supported nodes)
- 3) Cleanup VRML code and make sure that unused fields (like normal etc) are not used
- 4) Adjust lighting as BS Contact Mobile only support directional lights
- 5) Convert all images to jpeg, gif or png format

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- 6) Consider converting all images to 32x32, 64x64, 128x128, 256x256 or 512x512 as with those sizes there's no need to rescale if automap is on
- 7) Always remember that mobile devices have limited memory which is shared between applications and content, so always keep the scene and textures as small as possible. Textures should usually be 64x64 or, at most, 128x128
- 8) You may texture objects with local or remote images – simply specify the full URL such as: <http://servername/pathyoudesire/image.jpg> to load a texture from the specified path.

When porting content to BS Contact Mobile always remember that:

- the speed of the scene is directly proportional to the number of polygons that need to be displayed
- using visibilityLimit inside the NavigationInfo node may help to reduce the number of visible polygons drawn. This means, for example, that you can have a larger scene but only a limited part of the scene is visible at any one time.
- In the case of large scenes, consider subdividing the scene into sectors, having all the nodes of a sector within a Transform node and use bboxCenter and bboxSize of the Transform node. Such fields are used by the engine and they're very useful to cull part of a large area, thereby optimizing performance.

Interaction

While in the scene you can press the cursor key to move around within the scene. You can pick nodes by clicking on the touchscreen.

By pressing key 1 you can switch illumination on and off

By pressing key 2 you can switch rendering between high and low detail

By pressing key 3 you can change the size of the rendering screen

By pressing key 4 you can exit the application

File Format Support

BS Contact Mobile supports .vrml and .x3d file formats without gzip compression.

Licensing

To license BS Contact Mobile you have to copy your BS Contact Mobile key file to the directory where you've installed BS Contact Mobile. Please contact Bitmanagement Software using the details below to purchase a license.

Using BS Contact Mobile within a Pocket Internet Explorer Page

BS Contact Mobile can be used as an ActiveX control embedded inside Pocket Internet Explorer. To embed the ActiveX control inside a page, use the following code within the <body> of your HTML:

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```
<OBJECT ID="viewer" CLASSID="CLSID:D0981BFB-4A71-4151-9A33-55A6178341AE" width="150" height="150">  
  <param name="scene" value="sample.wrl" />  
  <param name="illumination" value="off" />  
  <param name="lowdetails" value="off" />  
</OBJECT>
```

Where:

ID is the name of the object (for use in javascript)

CLASSID must be set to "CLSID:D0981BFB-4A71-4151-9A33-55A6178341AE"

width is the width of the embedded ActiveX control

height is the height of the embedded ActiveX control

scene must point to a scene that is contained inside the same directory of the page

illumination may be on or off to enable/disable illumination

lowdetails may be on or off to enable/disable low detail mode

You also have access to some javascript methods to launch events within the scene:

SetNodeField(<NodeName>, <Field>, <Value>)

is used to set the value of a field of a named node.

For example:

```
viewer.SetNodeField("Bottom", "set_bind", "TRUE")  
set's to TRUE the field set_bind of node Bottom.
```