

QGIS Application - Feature request #2987

Auto GCP detection library

2010-09-08 01:37 AM - jamesm6162 -

Status: Closed	
Priority: Low	
Assignee: Tim Sutton	
Category: C++ plugins/Georeferencer	
Pull Request or Patch supplied:	Resolution: worksforme
Easy fix?: No	Copied to github as #: 13047
Description	
<p>This is the patch for including the Auto GCP detection (AutoGCP) C++ library into the main QGIS build.</p> <p>This library is required by the [[AutoGCP]] python plugin hosted at http://pyqgis.org/repo/contributed</p> <p>The library facilitates the automated detection of Ground Control Points from a reference image and the cross-correlation of these points on a corresponding raw image.</p> <p>The [[AutoGCP]] library is currently still being developed with plans to include Ortho-rectification functionality in the near future.</p> <p>Currently the library installs parallel to the core, analysis etc. modules.</p> <p>If experience any problems with the library/plugin, or have any suggestions (would really be appreciated), feel free to contact us at foxhat.solutions@gmail.com</p>	

History

#1 - 2010-09-08 01:42 AM - jamesm6162 -

The E-Mail is foxhat.solutions (at) gmail.com

#2 - 2010-09-08 03:13 AM - Tim Sutton

- Status changed from Open to In Progress

Thanks for the patch guys - compiling it now!

Regards

Tim

#3 - 2010-09-13 04:11 AM - Tim Sutton

Hi James

I have some initial feedback for you bulleted out below. My comments relate more to the code and ui style at the moment and not on the quality of algorithm implementation etc.

First impressions: UI: You have done a great job with the user interface, nice and cleanly done (more comments on if follow below.

First impressions: Patch: The patch applied cleanly and I was able to compile your code with no issues.

Patch: I see your patch removes lines 38 - 40 of python/CMakeLists.txt - was this intentional?

Patch: I think your (c++) code would be better placed under src/analysis and become part of the QGIS analysis library. Our intention is to build out this library with analytical routines and keep the core and gui libs limited to dealing with basic file io, geometry handling, symbolisation etc.

UI: The Auto GCP menu entry is spelled incorrectly (exctration)

UI: When I first started the agcp plugin, I was prompted for a CRS - however there is no way to return to that dialog (that I can see) after closing it.

UI: The icons (while nice) are inconsistent with QGIS icons. QGIS has a theming infrastructure which you can make use of or to hedge your bets, use icons from or in keeping with the 'GIS' theme since that will most likely become the official icon theme at some point in the near future.

UI: For the map toolbars, a 'zoom to all' icon would be nice.

UI: The first 3 items under the settings menu probably belong better under the 'View' menu.

Code: Please take a look at the QGIS coding convention docs (supplied as text document 'CODING' at the root of the QGIS source tree. Take care of indentation (2 spaces) and other such mundane stuff since the code wont be accepted into trunk without it. There are tools to automatically format your code in a compliant way under the scripts dir (scripts/astyle.sh). Check with the mailing list if you need help on using it.

Documentation: Also take care to add doxygen comments describing each public method as can be seen in the other parts of core.

Documentation: Each C++ source should also get an `\\ingroup` directive (see CODING once again). Assuming your code lands up in analysis lib it would be something like this:

```
/** \\ingroup analysis
 * The QGis class provides vector geometry analysis functions
 */
```

UI: Import existing GCP's currently does nothing.

UI: It would be nice to apply the GCPs to the image to carry out a basic georeferencing (easily achieved with a shell call to gdal even) until such time as you have written your orthorectification stuff (if that is in scope of your project).

UI: Make use of a qprogressbar to show progress. If the progress is non-deterministic, qprogressbar has an option to simply bounce the cursor up & down while you are waiting.

UI: Similar to above, set the cursor to an hour glass.

These are all mainly housekeeping comments. I was able to generate a few simple autgcp runs with the tool using e.g. pan and ms bands from a spot image. I still need to do further testing.

Can you supply me with all your names so that I can credit you - I want to write a blog article highlighting your work which will hopefully generate more comments and interest (I think many people dont even realise that such a thing as Automated GCP collection exists!).

Keep up the good work!

Regards

Tim

#4 - 2010-09-13 08:29 AM - jamesm6162 -

Replying to [comment:4 timlinux]:

Hi Tim

Thanks a lot for the feedback. We are looking into your suggestions and comments.

Regarding the python/CMakeLists.txt, no I think the removal is an error caused by ours still being made from a previous version of the CMakeLists.txt. I am assuming those lines were added during the past 5 months?

Then as for the Coding Guidelines, we are aware of it and its on our to-do list.

We are working on the orthorectification at the moment, so we will probably be able to add that to the next patch, along with all the fixes you mentioned.

I will keep you updated.

#5 - 2010-09-28 08:47 AM - Tim Sutton

A couple more comments:

- please remember the last used directory so opening rasters doesnt require so much navigation through the file system
- for the selection of CRS, please follow the 'principle of least surprise' and use the existing one in QGIS - its available via the python api too.
- the processing seems to write temporary files into the image directory - it would probably be neater to use the system /tmp directory - Qt will give you in a cross platform manner - see QString QDir::tempPath ()
- On further testing I am getting a crash - see stack trace below:

Crash:

```
[Thread 0x7ffbf710 (LWP 9076) exited]
Debug: [[QgsProjectionManager]]::setProjectionInformation - Could not find specified projections.
Debug: qgsautogcpmanager.cpp: (QgsAutoGCPManager::extractControlPoints()) Starting Control Point Extraction
Debug: Analyzer Starting GCP extraction
Debug: Levels: 5
Features detected: 103132
Debug: Dividing image into 7 X 7 grids
Debug: Extracting GCP Chips
Debug: Analyzer Starting GCP extraction
Debug: Levels: 5
Features detected: 55788
Debug: Dividing image into 1001 X 1001 grids
Debug: Extracting GCP Chips

Program received signal SIGSEGV, Segmentation fault.
0x00007fffd3731d96 in QList<QgsGCP*>::detach (this=0x19ebc580) at /usr/include/qt4/QtCore/qlist.h:122
122     inline void detach() { if (d->ref != 1) detach_helper(); }
(gdb) bt
#0 0x00007fffd3731d96 in QList<QgsGCP*>::detach (this=0x19ebc580) at /usr/include/qt4/QtCore/qlist.h:122
#3905 0x00007fffd3731947 in QList<QgsGCP*>::append (this=0x19ebc580, t=@0x12859818) at /usr/include/qt4/QtCore/qlist.h:468
#3906 0x00007fffd350fbc1 in QList<QgsGCP*>::push_back (this=0x19ebc580, t=@0x12859818) at /usr/include/qt4/QtCore/qlist.h:277
#3907 0x00007fffd350f048 in [[QgsImageAnalyzer]]::QgsGrid::fillGrid (this=0x102ba660, gcpSet=0x4294010) at
```

```

/home/timlinux/dev/cpp/qgis/src/autogcp/qgsimageanalyzer.cpp:505
#3908 0x00007fffd350d4fd in [[QgsImageAnalyzer]]::matchGcps (this=0x10c8fb0, gcpSet=0x490f990) at
/home/timlinux/dev/cpp/qgis/src/autogcp/qgsimageanalyzer.cpp:121
#3909 0x00007fffd3507502 in [[QgsAutoGCPManager]]::matchControlPoints (this=0x4c0d710) at
/home/timlinux/dev/cpp/qgis/src/autogcp/qgsautogcpmanager.cpp:119
#3910 0x00007fffd373b022 in meth_QgsAutoGCPManager_matchControlPoints (sipSelf=<QgsAutoGCPManager at remote 0x4302c88>,
sipArgs=()) at sipautogcppart3.cpp:1281
#3911 0x00007fffd67fc030 in call_function (f=
  Frame 0x7b1afd0, for file /home/timlinux/.qgis/python/plugins/autogcp/autogcpguibase.py, line 1010, in matchGcps
(self=<Ui_MainWindow(dockWidgetContents_2=<QWidget at remote 0x42fca68>, dockWidgetContents_3=<QWidget at remote 0x4301160>,
rawMapCanvas=<QgsMapCanvas at remote 0x4301380>, gcpRawHighlight=[], actionTest1=<QAction at remote 0x4302738>,
menuSettings=<QMenu at remote 0x421ae20>, actionTest2=<QAction at remote 0x4302848>, actionAbout=<QAction at remote 0x4301d98>,
menubar=<QMenuBar at remote 0x421ab78>, gcpListSrcY=[<QTableWidgetItem at remote 0x430c5a0>, <QTableWidgetItem at remote
0x430ca68>, <QTableWidgetItem at remote 0x430cf30>, <QTableWidgetItem at remote 0x430d490>, <QTableWidgetItem at remote
0x430d958>, <QTableWidgetItem at remote 0x430de20>, <QTableWidgetItem at remote 0x430e380>, <QTableWidgetItem at remote
0x430e848>, <QTableWidgetItem at remote 0x430ed10>, <QTableWidgetItem at remote 0x430f270>, <QTableWidgetItem at remote
0x430f738>, <QTableWidgetItem at remote 0x430fc00>, <QTableWidgetItem...(truncated)>, throwflag=<value optimized out>) at ../Python/ceval.c:3750
#3912 [[PyEval]]_EvalFrameEx (f=
  Frame 0x7b1afd0, for file /home/timlinux/.qgis/python/plugins/autogcp/autogcpguibase.py, line 1010, in matchGcps
(self=<Ui_MainWindow(dockWidgetContents_2=<QWidget at remote 0x42fca68>, dockWidgetContents_3=<QWidget at remote 0x4301160>,
rawMapCanvas=<QgsMapCanvas at remote 0x4301380>, gcpRawHighlight=[], actionTest1=<QAction at remote 0x4302738>,
menuSettings=<QMenu at remote 0x421ae20>, actionTest2=<QAction at remote 0x4302848>, actionAbout=<QAction at remote 0x4301d98>,
menubar=<QMenuBar at remote 0x421ab78>, gcpListSrcY=[<QTableWidgetItem at remote 0x430c5a0>, <QTableWidgetItem at remote
0x430ca68>, <QTableWidgetItem at remote 0x430cf30>, <QTableWidgetItem at remote 0x430d490>, <QTableWidgetItem at remote
0x430d958>, <QTableWidgetItem at remote 0x430de20>, <QTableWidgetItem at remote 0x430e380>, <QTableWidgetItem at remote
0x430e848>, <QTableWidgetItem at remote 0x430ed10>, <QTableWidgetItem at remote 0x430f270>, <QTableWidgetItem at remote
0x430f738>, <QTableWidgetItem at remote 0x430fc00>, <QTableWidgetItem...(truncated)>, throwflag=<value optimized out>) at ../Python/ceval.c:2412
#3913 0x00007fffd67fdd60 in [[PyEval]]_EvalCodeEx (co=0x24727b0, globals=<value optimized out>, locals=<value optimized out>, args=0x1,
argcount=<value optimized out>,
  kws=<value optimized out>, kwcount=0, defs=0x0, defcount=0, closure=0x0) at ../Python/ceval.c:3000
#10 0x00007fffd6783d60 in function_call (func=<function at remote 0x248b488>, arg=
  (<Ui_MainWindow(dockWidgetContents_2=<QWidget at remote 0x42fca68>, dockWidgetContents_3=<QWidget at remote 0x4301160>,
rawMapCanvas=<QgsMapCanvas at remote 0x4301380>, gcpRawHighlight=[], actionTest1=<QAction at remote 0x4302738>,
menuSettings=<QMenu at remote 0x421ae20>, actionTest2=<QAction at remote 0x4302848>, actionAbout=<QAction at remote 0x4301d98>,
menubar=<QMenuBar at remote 0x421ab78>, gcpListSrcY=[<QTableWidgetItem at remote 0x430c5a0>, <QTableWidgetItem at remote
0x430ca68>, <QTableWidgetItem at remote 0x430cf30>, <QTableWidgetItem at remote 0x430d490>, <QTableWidgetItem at remote
0x430d958>, <QTableWidgetItem at remote 0x430de20>, <QTableWidgetItem at remote 0x430e380>, <QTableWidgetItem at remote
0x430e848>, <QTableWidgetItem at remote 0x430ed10>, <QTableWidgetItem at remote 0x430f270>, <QTableWidgetItem at remote
0x430f738>, <QTableWidgetItem at remote 0x430fc00>, <QTableWidgetItem at remote 0x4310160>, <QTableWidgetItem at remote
0x4310628>, <QTableWidgetItem at remote 0x4310af0>, <QTableWidgetItem...(truncated)>, kw=0x0) at ../Objects/funcobject.c:524
#3914 0x00007fffd67562e3 in [[PyObject]]_Call (func=<function at remote 0x248b488>, arg=Traceback (most recent call last):
  File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 1054, in to_string
    pyop = [[PyObjectPtr]].from_pyobject_ptr(self.gdbval)
  File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 343, in from_pyobject_ptr
    cls = cls.subclass_from_type(p.type())
  File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 288, in subclass_from_type
    tp_name = t.field('tp_name').string()
  File "/usr/lib/python2.6/encodings/utf_8.py", line 16, in decode
    return codecs.utf_8_decode(input, errors, True)

```

#6 - 2010-10-12 01:52 AM - jamesm6162 -

Please also make sure to download the updated [[AutoGCP]] plugin from the repository <http://pyqgis.org/repo/contributed>.

Any feedback would be appreciated.

#7 - 2010-10-15 07:18 AM - Tim Sutton

Can you verify that the current python plugin version is 0.3? The plugin manager shows only 0.2 available, but the version it installs shows version 0.3 August 2010 in the help -> about dialog. Please confirm what the version number should be to use with your latest patch.

Thanks!

Tim

#8 - 2010-10-15 09:12 AM - goocreations -

Sorry about this. We never uploaded version 0.2 to the online repository.

The new version (0.3) is now up to date on <http://pyqgis.org/repo/contributed> and must be used with the current patch uploaded to this site (12-10-10).

#9 - 2010-10-18 12:47 AM - Tim Sutton

Hi

I grabbed the new version thanks. The plugin help->about version shows as 0.4, while the listing on <http://pyqgis.org/repo/contributed> shows 0.3. It would be good to get those in sync to minimize confusion.

Regards

Tim

#10 - 2010-10-18 01:02 AM - Tim Sutton

Hi

I upgraded both the lib parts and the plugin parts. A couple of new comments:

- it would be nice to persist the last used dir for reference and raw images separately since these will often be in separate directories.
- It would be nice to have an option to simply georeference the image (as opposed to orthorectify it) for those that dont have a dem handy.
- I still get a crash when trying to gather GCP's between two images. The data is not publically shareable, so I will mail you a copy offlist.
- It would still be nice to have a 'zoom to image' tool on the toolbars.
- Thanks for updating to use the built in CRS selector from QGIS - much better usability.

Debug: qgsautogcpmanager.cpp: (QgsAutoGCPManager::extractControlPoints()) Starting Control Point Extraction

Debug: Analyzer Starting GCP extraction

Debug: Levels: 5
Debug: Chip Cache Size = 5 of 256 elements

Debug: Wavelet Iterations: 296 x 352

Debug: Dividing image into 7 X 7 grids
Debug: Extracting GCP Chips
Debug: GCP Extraction Complete
Debug: ++++++11
Debug: Analyzer Starting GCP extraction
Debug: Levels: 5
Debug: Chip Cache Size = 5 of 256 elements

Debug: Wavelet Iterations: 221 x 260

Debug: Dividing image into 56 X 56 grids
Debug: Extracting GCP Chips
Debug: GCP Extraction Complete

Program received signal SIGSEGV, Segmentation fault.
0x00007fffd34c9254 in QList<QgsGcp*>::detach (this=0x86333e0) at /usr/include/qt4/QtCore/qList.h:122
122 inline void detach() { if (d->ref != 1) detach_helper(); }

backtrace:

```
#0 0x00007fffd34c9254 in QList<QgsGcp*>::detach (this=0x86333e0) at /usr/include/qt4/QtCore/qList.h:122
#3905 0x00007fffd34c8d99 in QList<QgsGcp*>::append (this=0x86333e0, t=@0x69109b8) at /usr/include/qt4/QtCore/qList.h:468
#3906 0x00007fffd327a9cf in QList<QgsGcp*>::push_back (this=0x86333e0, t=@0x69109b8) at /usr/include/qt4/QtCore/qList.h:277
#3907 0x00007fffd3279e2e in [[QgsImageAnalyzer]]::QgsGrid::fillGrid (this=0x49121c0, gcpSet=0x61f9f30)
    at /home/timlinux/dev/cpp/qgis/src/autogcp/qgsimageanalyzer.cpp:521
#3908 0x00007fffd327821d in [[QgsImageAnalyzer]]::matchGcps (this=0x4091630, gcpSet=0x5f58180)
    at /home/timlinux/dev/cpp/qgis/src/autogcp/qgsimageanalyzer.cpp:127
#3909 0x00007fffd3270b9e in [[QgsAutoGCPManager]]::matchControlPoints (this=0x44fa290) at
/home/timlinux/dev/cpp/qgis/src/autogcp/qgsautogcpmanager.cpp:138
#3910 0x00007fffd34ddd3f in meth_QgsAutoGCPManager_matchControlPoints (sipSelf=<QgsAutoGCPManager at remote 0x43ff7c0>,
sipArgs=())
    at sipautogcppart3.cpp:1361
#3911 0x00007fffd67e1030 in call_function (f=
    Frame 0x408b230, for file /home/timlinux/.qgis/python/plugins/autogcp/guiibase.py, line 1235, in matchGcps
(self=<Ui_MainWindow(dockWidgetContents_2=<QWidget at remote 0x43fb490>, dockWidgetContents_3=<QWidget at remote 0x43fbaf0>,
rawMapCanvas=<QgsMapCanvas at remote 0x43fbd10>, actionTest1=<QAction at remote 0x43fe160>, menuSettings=<QMenu at remote
0x43f67c0>, actionTest2=<QAction at remote 0x43fe270>, actionAbout=<QAction at remote 0x43fd7c0>, menubar=<QMenuBar at remote
0x43f65a0>, menuHelp=<QMenu at remote 0x43f6628>, actionZoomInAll=<QAction at remote 0x43fec88>, actionDetectGCP=<QAction at
remote 0x43fd380>, actionZoomOutAll=<QAction at remote 0x43fed10>, bandCount=<QString at remote 0x43e68d8>,
refLayer=<QgsRasterLayer at remote 0x43feaf0>, actionZoomOut2=<QAction at remote 0x43fe518>, rawScaleText=<QLineEdit at remote
0x43fd050>, actionShowRefImage=<QAction at remote 0x43fe958>, gcplItems=[], sqlitePath=<QString at remote 0x43e6460>,
settings=<AutoGcpSettings(sqliteChoice=0, markerIconType=0, selected...(truncated),
    throwflag=<value optimized out>) at ../Python/ceval.c:3750
#3912 [[PyEval]]_EvalFrameEx (f=
    Frame 0x408b230, for file /home/timlinux/.qgis/python/plugins/autogcp/guiibase.py, line 1235, in matchGcps
(self=<Ui_MainWindow(dockWidgetContents_2=<QWidget at remote 0x43fb490>, dockWidgetContents_3=<QWidget at remote 0x43fbaf0>,
rawMapCanvas=<QgsMapCanvas at remote 0x43fbd10>, actionTest1=<QAction at remote 0x43fe160>, menuSettings=<QMenu at remote
```

```

0x43f67c0>, actionTest2=<QAction at remote 0x43fe270>, actionAbout=<QAction at remote 0x43fd7c0>, menubar=<QMenuBar at remote
0x43f65a0>, menuHelp=<QMenu at remote 0x43f6628>, actionZoomInAll=<QAction at remote 0x43fec88>, actionDetectGCP=<QAction at
remote 0x43fd380>, actionZoomOutAll=<QAction at remote 0x43fed10>, bandCount=<QString at remote 0x43e68d8>,
refLayer=<QgsRasterLayer at remote 0x43feaf0>, actionZoomOut2=<QAction at remote 0x43fe518>, rawScaleText=<QLineEdit at remote
0x43fd050>, actionShowRefImage=<QAction at remote 0x43fe958>, gcplItems=[], sqlitePath=<QString at remote 0x43e6460>,
settings=<AutoGcpSettings(sqliteChoice=0, markerIconType=0, selected...(truncated),
throwflag=<value optimized out>) at ../Python/ceval.c:2412
#3913 0x00007fffd67e2d60 in [[PyEval]]_EvalCodeEx (co=0x247a558, globals=<value optimized out>, locals=<value optimized out>, args=0x1,
argcount=<value optimized out>, kws=<value optimized out>, kwcount=0, defs=0x0, defcount=0, closure=0x0) at ../Python/ceval.c:3000
#10 0x00007fffd6768d60 in function_call (func=<function at remote 0x252ccf8>, arg=
(<Ui_MainWindow(dockWidgetContents_2=<QWidget at remote 0x43fb490>, dockWidgetContents_3=<QWidget at remote 0x43fbaf0>,
rawMapCanvas=<QgsMapCanvas at remote 0x43fbd10>, actionTest1=<QAction at remote 0x43fe160>, menuSettings=<QMenu at remote
0x43f67c0>, actionTest2=<QAction at remote 0x43fe270>, actionAbout=<QAction at remote 0x43fd7c0>, menubar=<QMenuBar at remote
0x43f65a0>, menuHelp=<QMenu at remote 0x43f6628>, actionZoomInAll=<QAction at remote 0x43fec88>, actionDetectGCP=<QAction at
remote 0x43fd380>, actionZoomOutAll=<QAction at remote 0x43fed10>, bandCount=<QString at remote 0x43e68d8>,
refLayer=<QgsRasterLayer at remote 0x43feaf0>, actionZoomOut2=<QAction at remote 0x43fe518>, rawScaleText=<QLineEdit at remote
0x43fd050>, actionShowRefImage=<QAction at remote 0x43fe958>, gcplItems=[], sqlitePath=<QString at remote 0x43e6460>,
settings=<AutoGcpSettings(sqliteChoice=0, markerIconType=0, selectedIconColor=0, postgresHost=<QString at remote 0x44021f0>,
chipHeight=32, databaseSelection=1, postgresName=<QStr...(truncated), kw=0x0) at ../Objects/funcobject.c:524
#3914 0x00007fffd673b2e3 in [[PyObject]]_Call (func=<function at remote 0x252ccf8>, arg=Traceback (most recent call last):
File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 1054, in to_string
pyop = [[PyObjectPtr]].from_pyobject_ptr(self.gdbval)
File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 343, in from_pyobject_ptr
cls = cls.subclass_from_type(p.type())
File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 288, in subclass_from_type
tp_name = t.field('tp_name').string()
File "/usr/lib/python2.6/encodings/utf_8.py", line 16, in decode
return codecs.utf_8_decode(input, errors, True)
[[UnicodeDecodeError]]: 'utf8' codec can't decode bytes in position 0-2: invalid data
, kw=Traceback (most recent call last):
File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 1054, in to_string
pyop = [[PyObjectPtr]].from_pyobject_ptr(self.gdbval)
File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 343, in from_pyobject_ptr
cls = cls.subclass_from_type(p.type())
File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 288, in subclass_from_type
tp_name = t.field('tp_name').string()
File "/usr/lib/python2.6/encodings/utf_8.py", line 16, in decode
return codecs.utf_8_decode(input, errors, True)
[[UnicodeDecodeError]]: 'utf8' codec can't decode bytes in position 0-2: invalid data
) at ../Objects/abstract.c:2492
#3915 0x00007fffd674cccf in instancemethod_call (func=<function at remote 0x252ccf8>, arg=
(<Ui_MainWindow(dockWidgetContents_2=<QWidget at remote 0x43fb490>, dockWidgetContents_3=<QWidget at remote 0x43fbaf0>,
rawMapCanvas=<QgsMapCanvas at remote 0x43fbd10>, actionTest1=<QAction at remote 0x43fe160>, menuSettings=<QMenu at remote
0x43f67c0>, actionTest2=<QAction at remote 0x43fe270>, actionAbout=<QAction at remote 0x43fd7c0>, menubar=<QMenuBar at remote
0x43f65a0>, menuHelp=<QMenu at remote 0x43f6628>, actionZoomInAll=<QAction at remote 0x43fec88>, actionDetectGCP=<QAction at
remote 0x43fd380>, actionZoomOutAll=<QAction at remote 0x43fed10>, bandCount=<QString at remote 0x43e68d8>,
refLayer=<QgsRasterLayer at remote 0x43feaf0>, actionZoomOut2=<QAction at remote 0x43fe518>, rawScaleText=<QLineEdit at remote
0x43fd050>, actionShowRefImage=<QAction at remote 0x43fe958>, gcplItems=[], sqlitePath=<QString at remote 0x43e6460>,
settings=<AutoGcpSettings(sqliteChoice=0, markerIconType=0, selectedIconColor=0, postgresHost=<QString at remote 0x44021f0>,
chipHeight=32, databaseSelection=1, postgresName=<QStr...(truncated), kw=
0x0) at ../Objects/classobject.c:2579
#3916 0x00007fffd673b2e3 in [[PyObject]]_Call (func=<instancemethod at remote 0x1d8cf50>, arg=Traceback (most recent call last):
File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 1054, in to_string

```

```

pyop = [[PyObjectPtr]].from_pyobject_ptr(self.gdbval)
File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 343, in from_pyobject_ptr
    cls = cls.subclass_from_type(p.type())
File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 288, in subclass_from_type
    tp_name = t.field('tp_name').string()
File "/usr/lib/python2.6/encodings/utf_8.py", line 16, in decode
    return codecs.utf_8_decode(input, errors, True)
[[UnicodeDecodeError]]: 'utf8' codec can't decode bytes in position 0-2: invalid data
) at ../Python/ceval.c:3619
#3918 0x00007ffffd64e2a38 in sip_api_invoke_slot () from /usr/lib/pymodules/python2.6/sip.so
#3919 0x00007ffffd621f016 in ?? () from /usr/lib/pymodules/python2.6/PyQt4/QtCore.so
#3920 0x00007ffffd621f138 in ?? () from /usr/lib/pymodules/python2.6/PyQt4/QtCore.so
#3921 0x00007ffffd621f1f2 in ?? () from /usr/lib/pymodules/python2.6/PyQt4/QtCore.so
#3922 0x00007ffff6554e3f in QMetaObject::activate(QObject*, QMetaObject const*, int, void**) () from /usr/lib/libQtCore.so.4
#3923 0x00007ffff58f5032 in QAction::triggered(bool) () from /usr/lib/libQtGui.so.4
#3924 0x00007ffff58f70ab in QAction::activate(QAction::ActionEvent) () from /usr/lib/libQtGui.so.4
#3925 0x00007ffff5cb16ca in ?? () from /usr/lib/libQtGui.so.4
#3926 0x00007ffff5cb197c in QAbstractButton::mouseReleaseEvent(QMouseEvent*) () from /usr/lib/libQtGui.so.4
#3927 0x00007ffff5d7d8ca in QToolButton::mouseReleaseEvent(QMouseEvent*) () from /usr/lib/libQtGui.so.4
#3928 0x00007ffff5951582 in QWidget::event(QEvent*) () from /usr/lib/libQtGui.so.4
#3929 0x00007ffff58fb22c in QApplicationPrivate::notify_helper(QObject*, QEvent*) () from /usr/lib/libQtGui.so.4
#3930 0x00007ffff5901ecb in QApplication::notify(QObject*, QEvent*) () from /usr/lib/libQtGui.so.4
#3931 0x00007ffff759d8e5 in [[QgsApplication]]::notify (this=0x7fffffded0, receiver=0x44b1f80, event=0x7fffffd0a0)
    at /home/timlinux/dev/cpp/qgis/src/core/qgsapplication.cpp:88
#3932 0x00007ffff654206c in QCoreApplication::notifyInternal(QObject*, QEvent*) () from /usr/lib/libQtCore.so.4
#3933 0x00007ffff59010ae in QApplicationPrivate::sendMouseEvent(QWidget*, QMouseEvent*, QWidget*, QWidget*, QWidget**,
QPointer<QWidget>&, bool) ()
    from /usr/lib/libQtGui.so.4
#3934 0x00007ffff5980f65 in ?? () from /usr/lib/libQtGui.so.4
#3935 0x00007ffff597f8ac in QApplication::x11ProcessEvent(_XEvent*) () from /usr/lib/libQtGui.so.4
#3936 0x00007ffff59ab882 in ?? () from /usr/lib/libQtGui.so.4
#3937 0x00007ffff19af8c2 in g_main_context_dispatch () from /lib/libglib-2.0.so.0
#3938 0x00007ffff19b3748 in ?? () from /lib/libglib-2.0.so.0
#36 0x00007ffff19b38fc in g_main_context_iteration () from /lib/libglib-2.0.so.0
#37 0x00007ffff656b513 in QEventDispatcherGlib::processEvents(QFlags<QEventLoop::ProcessEventsFlag>) () from /usr/lib/libQtCore.so.4
#38 0x00007ffff59ab46e in ?? () from /usr/lib/libQtGui.so.4
#39 0x00007ffff6540992 in QEventLoop::processEvents(QFlags<QEventLoop::ProcessEventsFlag>) () from /usr/lib/libQtCore.so.4
#40 0x00007ffff6540d6c in QEventLoop::exec(QFlags<QEventLoop::ProcessEventsFlag>) () from /usr/lib/libQtCore.so.4
#41 0x00007ffff6544aab in QCoreApplication::exec() () from /usr/lib/libQtCore.so.4
#42 0x0000000000523ff5 in main (argc=1, argv=0x7fffffe5d8) at /home/timlinux/dev/cpp/qgis/src/app/main.cpp:802

```

Regards

Tim

#11 - 2010-10-18 01:22 AM - jamesm6162 -

Hi Tim

Thanks for the feedback. We are working on getting all the crashes fixed and we'll get to all your recommended features as soon as possible.

One question from my side though.

What would be the best resource to start looking at if we want to implement the Georeferencing with GDAL?

Thanks

James

Replying to [comment:11 timlinux]:

Hi

I upgraded both the lib parts and the plugin parts. A couple of new comments:

- it would be nice to persist the last used dir for reference and raw images separately since these will often be in separate directories.*
- It would be nice to have an option to simply georeference the image (as opposed to orthorectify it) for those that dont have a dem handy.*
- I still get a crash when trying to gather GCP's between two images. The data is not publically shareable, so I will mail you a copy offlist.*
- It would still be nice to have a 'zoom to image' tool on the toolbars.*
- Thanks for updating to use the built in CRS selector from QGIS - much better usability.*

```
> Debug: qgsautogcpmanager.cpp: (QgsAutoGCPManager::extractControlPoints()) Starting Control Point Extraction
> Debug: Analyzer Starting GCP extraction
> Debug: Levels: 5
> Debug: Chip Cache Size = 5 of 256 elements
>
> Debug: Wavelet Iterations: 296 x 352
>
> Debug: Dividing image into 7 X 7 grids
> Debug: Extracting GCP Chips
> Debug: GCP Extraction Complete
> Debug: ++++++11
> Debug: Analyzer Starting GCP extraction
> Debug: Levels: 5
> Debug: Chip Cache Size = 5 of 256 elements
>
> Debug: Wavelet Iterations: 221 x 260
>
> Debug: Dividing image into 56 X 56 grids
> Debug: Extracting GCP Chips
> Debug: GCP Extraction Complete
>
> Program received signal SIGSEGV, Segmentation fault.
> 0x00007fffd34c9254 in QList<QgsGcp*>::detach (this=0x86333e0) at /usr/include/qt4/QtCore/qlist.h:122
> 122     inline void detach() { if (d->ref != 1) detach_helper(); }
```

backtrace:

```

> #0 0x00007fffd34c9254 in QList<QgsGcp*>::detach (this=0x86333e0) at /usr/include/qt4/QtCore/qlist.h:122
> #3905 0x00007fffd34c8d99 in QList<QgsGcp*>::append (this=0x86333e0, t=@0x69109b8) at /usr/include/qt4/QtCore/qlist.h:468
> #3906 0x00007fffd327a9cf in QList<QgsGcp*>::push_back (this=0x86333e0, t=@0x69109b8) at /usr/include/qt4/QtCore/qlist.h:277
> #3907 0x00007fffd3279e2e in [[QgsImageAnalyzer]]::QgsGrid::fillGrid (this=0x49121c0, gcpSet=0x61f9f30)
> at /home/timlinux/dev/cpp/qgis/src/autogcp/qgsimageanalyzer.cpp:521
> #3908 0x00007fffd327821d in [[QgsImageAnalyzer]]::matchGcps (this=0x4091630, gcpSet=0x5f58180)
> at /home/timlinux/dev/cpp/qgis/src/autogcp/qgsimageanalyzer.cpp:127
> #3909 0x00007fffd3270b9e in [[QgsAutoGCPManager]]::matchControlPoints (this=0x44fa290) at
/home/timlinux/dev/cpp/qgis/src/autogcp/qgsautogcpmanager.cpp:138
> #3910 0x00007fffd34ddd3f in meth_QgsAutoGCPManager_matchControlPoints (sipSelf=<QgsAutoGCPManager at remote 0x43ff7c0>,
sipArgs=())
> at sipautogcppart3.cpp:1361
> #3911 0x00007fffd67e1030 in call_function (f=
> Frame 0x408b230, for file /home/timlinux/.qgis/python/plugins/autogcp/guibase.py, line 1235, in matchGcps
(self=<Ui_MainWindow(dockWidgetContents_2=<QWidget at remote 0x43fb490>, dockWidgetContents_3=<QWidget at remote 0x43fbaf0>,
rawMapCanvas=<QgsMapCanvas at remote 0x43fbd10>, actionTest1=<QAction at remote 0x43fe160>, menuSettings=<QMenu at remote
0x43f67c0>, actionTest2=<QAction at remote 0x43fe270>, actionAbout=<QAction at remote 0x43fd7c0>, menubar=<QMenuBar at remote
0x43f65a0>, menuHelp=<QMenu at remote 0x43f6628>, actionZoomInAll=<QAction at remote 0x43fec88>, actionDetectGCP=<QAction at
remote 0x43fd380>, actionZoomOutAll=<QAction at remote 0x43fed10>, bandCount=<QString at remote 0x43e68d8>,
refLayer=<QgsRasterLayer at remote 0x43feaf0>, actionZoomOut2=<QAction at remote 0x43fe518>, rawScaleText=<QLineEdit at remote
0x43fd050>, actionShowRefImage=<QAction at remote 0x43fe958>, gcplItems=[], sqlitePath=<QString at remote 0x43e6460>,
settings=<AutoGcpSettings(sqliteChoice=0, markerIconType=0, selected...(truncated),
> throwflag=<value optimized out>) at ../Python/ceval.c:3750
> #3912 [[PyEval]]_EvalFrameEx (f=
> Frame 0x408b230, for file /home/timlinux/.qgis/python/plugins/autogcp/guibase.py, line 1235, in matchGcps
(self=<Ui_MainWindow(dockWidgetContents_2=<QWidget at remote 0x43fb490>, dockWidgetContents_3=<QWidget at remote 0x43fbaf0>,
rawMapCanvas=<QgsMapCanvas at remote 0x43fbd10>, actionTest1=<QAction at remote 0x43fe160>, menuSettings=<QMenu at remote
0x43f67c0>, actionTest2=<QAction at remote 0x43fe270>, actionAbout=<QAction at remote 0x43fd7c0>, menubar=<QMenuBar at remote
0x43f65a0>, menuHelp=<QMenu at remote 0x43f6628>, actionZoomInAll=<QAction at remote 0x43fec88>, actionDetectGCP=<QAction at
remote 0x43fd380>, actionZoomOutAll=<QAction at remote 0x43fed10>, bandCount=<QString at remote 0x43e68d8>,
refLayer=<QgsRasterLayer at remote 0x43feaf0>, actionZoomOut2=<QAction at remote 0x43fe518>, rawScaleText=<QLineEdit at remote
0x43fd050>, actionShowRefImage=<QAction at remote 0x43fe958>, gcplItems=[], sqlitePath=<QString at remote 0x43e6460>,
settings=<AutoGcpSettings(sqliteChoice=0, markerIconType=0, selected...(truncated),
> throwflag=<value optimized out>) at ../Python/ceval.c:2412
> #3913 0x00007fffd67e2d60 in [[PyEval]]_EvalCodeEx (co=0x247a558, globals=<value optimized out>, locals=<value optimized out>,
args=0x1,
> argcount=<value optimized out>, kws=<value optimized out>, kwcount=0, defs=0x0, defcount=0, closure=0x0) at ../Python/ceval.c:3000
> #10 0x00007fffd6768d60 in function_call (func=<function at remote 0x252ccf8>, arg=
> (<Ui_MainWindow(dockWidgetContents_2=<QWidget at remote 0x43fb490>, dockWidgetContents_3=<QWidget at remote 0x43fbaf0>,
rawMapCanvas=<QgsMapCanvas at remote 0x43fbd10>, actionTest1=<QAction at remote 0x43fe160>, menuSettings=<QMenu at remote
0x43f67c0>, actionTest2=<QAction at remote 0x43fe270>, actionAbout=<QAction at remote 0x43fd7c0>, menubar=<QMenuBar at remote
0x43f65a0>, menuHelp=<QMenu at remote 0x43f6628>, actionZoomInAll=<QAction at remote 0x43fec88>, actionDetectGCP=<QAction at
remote 0x43fd380>, actionZoomOutAll=<QAction at remote 0x43fed10>, bandCount=<QString at remote 0x43e68d8>,
refLayer=<QgsRasterLayer at remote 0x43feaf0>, actionZoomOut2=<QAction at remote 0x43fe518>, rawScaleText=<QLineEdit at remote
0x43fd050>, actionShowRefImage=<QAction at remote 0x43fe958>, gcplItems=[], sqlitePath=<QString at remote 0x43e6460>,
settings=<AutoGcpSettings(sqliteChoice=0, markerIconType=0, selectedIconColor=0, postgresHost=<QString at remote 0x44021f0>,
chipHeight=32, databaseSelection=1, postgresName=<QStr...(truncated), kw=0x0) at ../Objects/funcobject.c:524
> #3914 0x00007fffd673b2e3 in [[PyObject]]_Call (func=<function at remote 0x252ccf8>, arg=Traceback (most recent call last):
> File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 1054, in to_string
> pyop = [[PyObjectPtr]].from_pyobject_ptr(self.gdbval)
> File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 343, in from_pyobject_ptr
> cls = cls.subclass_from_type(p.type())
> File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 288, in subclass_from_type

```

```

> tp_name = t.field('tp_name').string()
> File "/usr/lib/python2.6/encodings/utf_8.py", line 16, in decode
> return codecs.utf_8_decode(input, errors, True)
> [[UnicodeDecodeError]: 'utf8' codec can't decode bytes in position 0-2: invalid data
> , kw=Traceback (most recent call last):
> File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 1054, in to_string
> pyop = [[PyObjectPtr]].from_pyobject_ptr(self.gdbval)
> File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 343, in from_pyobject_ptr
> cls = cls.subclass_from_type(p.type())
> File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 288, in subclass_from_type
> tp_name = t.field('tp_name').string()
> File "/usr/lib/python2.6/encodings/utf_8.py", line 16, in decode
> return codecs.utf_8_decode(input, errors, True)
> [[UnicodeDecodeError]: 'utf8' codec can't decode bytes in position 0-2: invalid data
> ) at ../Objects/abstract.c:2492
> #3915 0x00007fffd674cce9 in instancemethod_call (func=<function at remote 0x252ccf8>, arg=
> (<Ui_MainWindow(dockWidgetContents_2=<QWidget at remote 0x43fb490>, dockWidgetContents_3=<QWidget at remote 0x43fbaf0>,
rawMapCanvas=<QgsMapCanvas at remote 0x43fbd10>, actionTest1=<QAction at remote 0x43fe160>, menuSettings=<QMenu at remote
0x43f67c0>, actionTest2=<QAction at remote 0x43fe270>, actionAbout=<QAction at remote 0x43fd7c0>, menubar=<QMenuBar at remote
0x43f65a0>, menuHelp=<QMenu at remote 0x43f6628>, actionZoomInAll=<QAction at remote 0x43fec88>, actionDetectGCP=<QAction at
remote 0x43fd380>, actionZoomOutAll=<QAction at remote 0x43fed10>, bandCount=<QString at remote 0x43e68d8>,
refLayer=<QgsRasterLayer at remote 0x43feaf0>, actionZoomOut2=<QAction at remote 0x43fe518>, rawScaleText=<QLineEdit at remote
0x43fd050>, actionShowRefImage=<QAction at remote 0x43fe958>, gcplItems=[], sqlitePath=<QString at remote 0x43e6460>,
settings=<AutoGcpSettings(sqliteChoice=0, markerIconType=0, selectedIconColor=0, postgresHost=<QString at remote 0x44021f0>,
chipHeight=32, databaseSelection=1, postgresName=<QStr...(truncated)>, kw=
> 0x0) at ../Objects/classobject.c:2579
> #3916 0x00007fffd673b2e3 in [[PyObject]]_Call (func=<instancemethod at remote 0x1d8cf50>, arg=Traceback (most recent call last):
> File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 1054, in to_string
> pyop = [[PyObjectPtr]].from_pyobject_ptr(self.gdbval)
> File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 343, in from_pyobject_ptr
> cls = cls.subclass_from_type(p.type())
> File "/usr/lib/debug/usr/lib/libpython2.6.so.1.0-gdb.py", line 288, in subclass_from_type
> tp_name = t.field('tp_name').string()
> File "/usr/lib/python2.6/encodings/utf_8.py", line 16, in decode
> return codecs.utf_8_decode(input, errors, True)
> [[UnicodeDecodeError]: 'utf8' codec can't decode bytes in position 0-2: invalid data
> ) at ../Python/ceval.c:3619
> #3918 0x00007fffd64e2a38 in sip_api_invoke_slot () from /usr/lib/pymodules/python2.6/sip.so
> #3919 0x00007fffd621f016 in ?? () from /usr/lib/pymodules/python2.6/PyQt4/QtCore.so
> #3920 0x00007fffd621f138 in ?? () from /usr/lib/pymodules/python2.6/PyQt4/QtCore.so
> #3921 0x00007fffd621f1f2 in ?? () from /usr/lib/pymodules/python2.6/PyQt4/QtCore.so
> #3922 0x00007ffff6554e3f in QMetaObject::activate(QObject*, QMetaObject const*, int, void**) () from /usr/lib/libQtCore.so.4
> #3923 0x00007ffff58f5032 in QAction::triggered(bool) () from /usr/lib/libQtGui.so.4
> #3924 0x00007ffff58f70ab in QAction::activate(QAction::ActionEvent) () from /usr/lib/libQtGui.so.4
> #3925 0x00007ffff5cb16ca in ?? () from /usr/lib/libQtGui.so.4
> #3926 0x00007ffff5cb197c in QAbstractButton::mouseReleaseEvent(QMouseEvent*) () from /usr/lib/libQtGui.so.4
> #3927 0x00007ffff5d7d8ca in QToolButton::mouseReleaseEvent(QMouseEvent*) () from /usr/lib/libQtGui.so.4
> #3928 0x00007ffff5951582 in QWidget::event(QEvent*) () from /usr/lib/libQtGui.so.4
> #3929 0x00007ffff58fb22c in QApplicationPrivate::notify_helper(QObject*, QEvent*) () from /usr/lib/libQtGui.so.4
> #3930 0x00007ffff5901ecb in QApplication::notify(QObject*, QEvent*) () from /usr/lib/libQtGui.so.4
> #3931 0x00007ffff59d8e5 in [[QgsApplication]]::notify (this=0x7fffffded0, receiver=0x44b1f80, event=0x7fffffd0a0)
> at /home/timlinux/dev/cpp/qgis/src/core/qgsapplication.cpp:88
> #3932 0x00007ffff654206c in QCoreApplication::notifyInternal(QObject*, QEvent*) () from /usr/lib/libQtCore.so.4

```

```
> #3933 0x00007ffff59010ae in QApplicationPrivate::sendMouseEvent(QWidget*, QMouseEvent*, QWidget*, QWidget*, QWidget**,
QPointer<QWidget>&, bool) ()
> from /usr/lib/libQtGui.so.4
> #3934 0x00007ffff5980f65 in ?? () from /usr/lib/libQtGui.so.4
> #3935 0x00007ffff597f8ac in QApplication::x11ProcessEvent(_XEvent*) () from /usr/lib/libQtGui.so.4
> #3936 0x00007ffff59ab882 in ?? () from /usr/lib/libQtGui.so.4
> #3937 0x00007ffff19af8c2 in g_main_context_dispatch () from /lib/libglib-2.0.so.0
> #3938 0x00007ffff19b3748 in ?? () from /lib/libglib-2.0.so.0
> #36 0x00007ffff19b38fc in g_main_context_iteration () from /lib/libglib-2.0.so.0
> #37 0x00007ffff656b513 in QEventDispatcherGlib::processEvents(QFlags<QEventLoop::ProcessEventsFlag>) () from /usr/lib/libQtCore.so.4
> #38 0x00007ffff59ab46e in ?? () from /usr/lib/libQtGui.so.4
> #39 0x00007ffff6540992 in QEventLoop::processEvents(QFlags<QEventLoop::ProcessEventsFlag>) () from /usr/lib/libQtCore.so.4
> #40 0x00007ffff6540d6c in QEventLoop::exec(QFlags<QEventLoop::ProcessEventsFlag>) () from /usr/lib/libQtCore.so.4
> #41 0x00007ffff6544aab in QCoreApplication::exec() () from /usr/lib/libQtCore.so.4
> #42 0x0000000000523ff5 in main (argc=1, argv=0x7fffffe5d8) at /home/timlinux/dev/cpp/qgis/src/app/main.cpp:802
>
```

Regards

Tim

#12 - 2010-10-18 02:04 AM - goocreations -

The version from the repository and the about dialog are now in sync. Sorry about that.

#13 - 2010-10-18 02:08 AM - goocreations -

Regarding the error received from georeferencing the images, I will have a look into this. As far as I can see now, the error may be caused because no GCPs were detected.

Currently our workflow is as follows:

Open ref/raw image -> detect GCPs -> georeferencing images -> orthorectify image (optional)

When the detection step is skipped, QGis crashes. I will fix this asap.

#14 - 2010-10-18 02:21 AM - Tim Sutton

Replying to [comment:12 jamesm6162]:

Hi Tim

Thanks for the feedback. We are working on getting all the crashes fixed and we'll get to all your recommended features as soon as possible.

One question from my side though.

What would be the best resource to start looking at if we want to implement the Georeferencing with GDAL?

Thanks

James

Using gdal_translate either via the python api (I've never tried so you will need to check their docs) or by doing a shell call from python. Below is an example from some code of mine:

```
myString = "gdal_translate -a_srs 'EPSG:4326' -gcp 0 0 %s %s -gcp %s 0 %s %s -gcp %s %s %s %s -gcp 0 %s %s %s -of GTIFF -co  
COMPRESS=DEFLATE -co TILED=YES %s %s" % (\  
    myTLr0, myTLr1, \  
    myImageXDim, myTRr0, myTRr1, \  
    myImageXDim, myImageYDim, myBRr0, myBRr1, \  
    myImageYDim, myBLr0, myBLr1, \  
    myPath, \  
    myOutputPath )  
print myString  
os.system( myString )
```

You can add as many -gcp parameters as you like. My example above simply georeferences the corners hence the hard coded 0's. You can verify your GCPs in the output file by calling gdaoinfo on it.

Hope that helps!

Regards

Tim

#15 - 2010-10-18 02:25 AM - goocreations -

Just to clarify, I meant cross-referencing and not georeferencing in my previous reply. Sorry

#16 - 2010-11-10 10:45 PM - riaanvddool -

James, please contact Riaan as SAC. Sorry, I dont have your email address...

#17 - 2010-11-12 12:53 AM - jamesm6162 -

Hi

I have uploaded the latest patch for the [[AutoGCP]] (v0.5) library. The latest plugin can also be downloaded from <http://pyqgis.org/repo/contributed>.

This patch as well as the complete source code is also available from <http://www.foxhat.org/code.html>

Regards

James

#18 - 2011-08-02 08:33 PM - Alister Hood

- Pull Request or Patch supplied set to No

Hmmm. Not sure what happened to the development of this.

For the record, there are a bunch of mostly pretty minor looking errors when trying to build on Windows (MSVC):

```
@2>..\..\..\qgis.git\src\analysis\autogcp\qgsgcprtransform.cpp(112) : error C2440: '=' : cannot convert from 'int (__cdecl *)(double,const char *,void *)' to
'GDALProgressFunc'
2> This conversion requires a reinterpret_cast, a C-style cast or function-style cast
2>qgsimagechip.cpp
3>Build log was saved at "file://c:\OSGeo4W\building\git.building\python\compile_python_files.dir\RelWithDebInfo\BuildLog.htm"
3>compile_python_files - 0 error(s), 0 warning(s)
2>..\..\..\qgis.git\src\analysis\autogcp\qgsimagechip.cpp(73) : warning C4101: 'message' : unreferenced local variable
2>qgswavelettransform.cpp
2>..\..\..\qgis.git\src\analysis\autogcp\qgswavelettransform.cpp(56) : error C2668: 'pow' : ambiguous call to overloaded function
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(575): could be 'long double pow(long double,int)'
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(527): or 'float pow(float,int)'
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(489): or 'double pow(double,int)'
2> while trying to match the argument list '(int, int)'
2>..\..\..\qgis.git\src\analysis\autogcp\qgswavelettransform.cpp(67) : error C2668: 'pow' : ambiguous call to overloaded function
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(575): could be 'long double pow(long double,int)'
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(527): or 'float pow(float,int)'
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(489): or 'double pow(double,int)'
2> while trying to match the argument list '(int, int)'
2>..\..\..\qgis.git\src\analysis\autogcp\qgswavelettransform.cpp(278) : warning C4018: '>=' : signed/unsigned mismatch
2>..\..\..\qgis.git\src\analysis\autogcp\qgswavelettransform.cpp(279) : warning C4018: '>=' : signed/unsigned mismatch
2>..\..\..\qgis.git\src\analysis\autogcp\qgswavelettransform.cpp(475) : error C2668: 'sqrt' : ambiguous call to overloaded function
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(581): could be 'long double sqrt(long double)'
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(533): or 'float sqrt(float)'
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(128): or 'double sqrt(double)'
2> while trying to match the argument list '(int)'
2>qgsgeoreferencer.cpp
2>..\..\..\qgis.git\src\analysis\autogcp\qgsgeoreferencer.cpp(165) : error C2664: 'GDALDriver::CreateCopy' : cannot convert parameter 5 from 'int (
__cdecl *)(double,const char *,void *)' to 'GDALProgressFunc'
2> None of the functions with this name in scope match the target type
2>qgsmatrix.cpp
2>..\..\..\qgis.git\src\analysis\autogcp\qgsmatrix.cpp(197) : warning C4390: ';' : empty controlled statement found; is this the intent?
2>qgsimagefilter.cpp
2>c:\osgeo4w\building\qgis.git\src\analysis\autogcp\qgsimageanalyzer.h(156) : error C2864: 'QgsImageAnalyzer::WAVELET_PART' : only static
const integral data members can be initialized within a class
2>qgsimageanalyzer.cpp
2>c:\osgeo4w\building\qgis.git\src\analysis\autogcp\qgsimageanalyzer.h(156) : error C2864: 'QgsImageAnalyzer::WAVELET_PART' : only static
const integral data members can be initialized within a class
2>..\..\..\qgis.git\src\analysis\autogcp\qgsimageanalyzer.cpp(61) : error C2440: 'initializing' : cannot convert from 'overloaded-function' to
'QgsProgressFunction'
2> None of the functions with this name in scope match the target type
2>..\..\..\qgis.git\src\analysis\autogcp\qgsimageanalyzer.cpp(602) : error C2668: 'floor' : ambiguous call to overloaded function
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(559): could be 'long double floor(long double)'
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(511): or 'float floor(float)'
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(137): or 'double floor(double)'
2> while trying to match the argument list '(int)'
2>..\..\..\qgis.git\src\analysis\autogcp\qgsimageanalyzer.cpp(603) : error C2668: 'floor' : ambiguous call to overloaded function
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(559): could be 'long double floor(long double)'
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(511): or 'float floor(float)'
2> C:\Program Files\Microsoft Visual Studio 9.0\VC\include\math.h(137): or 'double floor(double)'
```

```

2> while trying to match the argument list '(int)'
2>qgsautogcpmanager.cpp
2>c:\osgeo4w\building\qgis.git\src\analysis\autogcp\qgsimageanalyzer.h(156) : error C2864: 'QgsImageAnalyzer::WAVELET_PART' : only static
const integral data members can be initialized within a class
2>qgsrasterdataset.cpp
2>..\..\qgis.git\src\analysis\autogcp\qgsrasterdataset.cpp(156) : warning C4189: 'eType' : local variable is initialized but not referenced
2>..\..\qgis.git\src\analysis\autogcp\qgsrasterdataset.cpp(155) : warning C4189: 'nBands' : local variable is initialized but not referenced
2>..\..\qgis.git\src\analysis\autogcp\qgsrasterdataset.cpp(154) : warning C4189: 'nysize' : local variable is initialized but not referenced
2>..\..\qgis.git\src\analysis\autogcp\qgsrasterdataset.cpp(153) : warning C4189: 'nXSize' : local variable is initialized but not referenced
2>..\..\qgis.git\src\analysis\autogcp\qgsrasterdataset.cpp(369) : warning C4189: 'blocksToRead' : local variable is initialized but not referenced
2>..\..\qgis.git\src\analysis\autogcp\qgsrasterdataset.cpp(381) : warning C4101: 'start' : unreferenced local variable
2>..\..\qgis.git\src\analysis\autogcp\qgsrasterdataset.cpp(370) : warning C4189: 'yBlock' : local variable is initialized but not referenced
2>..\..\qgis.git\src\analysis\autogcp\qgsrasterdataset.cpp(382) : warning C4101: 'result' : unreferenced local variable
2>..\..\qgis.git\src\analysis\autogcp\qgsrasterdataset.cpp(523) : error C3861: 'round': identifier not found
2>..\..\qgis.git\src\analysis\autogcp\qgsrasterdataset.cpp(524) : error C3861: 'round': identifier not found
2>qgsgcp.cpp
2>Generating Code...
2>c:\osgeo4w\building\qgis.git\src\analysis\autogcp\qgsgcp.cpp(60) : error C4716: 'QgsGcp::operator=' : must return a value
2>c:\osgeo4w\building\qgis.git\src\analysis\autogcp\qgsmatrix.cpp(447) : warning C4715: 'QgsMatrix::solveLowerTriangular' : not all control paths
return a value
2>c:\osgeo4w\building\qgis.git\src\analysis\autogcp\qgsmatrix.cpp(482) : warning C4715: 'QgsMatrix::solveUpperTriangular' : not all control paths
return a value
2>c:\osgeo4w\building\qgis.git\src\analysis\autogcp\qgsmatrix.cpp(556) : error C4716: 'QgsMatrix::operator=' : must return a value
2>c:\osgeo4w\building\qgis.git\src\analysis\autogcp\qgsimagechip.cpp(35) : error C4716: 'QgsImageChip::operator=' : must return a value
2>Build log was saved at "file://c:\OSGeo4W\building\git.building\src\analysis\qgis_analysis.dir\RelWithDebInfo\BuildLog.htm"
2>qgis_analysis - 16 error(s), 14 warning(s)
4>----- Build started: Project: python_module_qgis_analysis, Configuration: RelWithDebInfo Win32 -----
4>Compiling...
4>sipanalysispart1.cpp
4>c:\osgeo4w\include\cpl_config.h(16) : warning C4005: 'HAVE_SNPRINTF' : macro redefinition
4> c:\osgeo4w\apps\python25\include\pyerrors.h(320) : see previous definition of 'HAVE_SNPRINTF'
4>c:\osgeo4w\include\cpl_config.h(60) : warning C4005: 'HAVE_DIRECT_H' : macro redefinition
4> c:\osgeo4w\apps\python25\include\pyconfig.h(383) : see previous definition of 'HAVE_DIRECT_H'
4>C:\OSGeo4W\building\qgis.git\src\analysis\autogcp\qgsimageanalyzer.h(156) : error C2864: 'QgsImageAnalyzer::WAVELET_PART' : only static
const integral data members can be initialized within a class
4>sipanalysispart0.cpp
4>c:\osgeo4w\include\cpl_config.h(16) : warning C4005: 'HAVE_SNPRINTF' : macro redefinition
4> c:\osgeo4w\apps\python25\include\pyerrors.h(320) : see previous definition of 'HAVE_SNPRINTF'
4>c:\osgeo4w\include\cpl_config.h(60) : warning C4005: 'HAVE_DIRECT_H' : macro redefinition
4> c:\osgeo4w\apps\python25\include\pyconfig.h(383) : see previous definition of 'HAVE_DIRECT_H'
4>C:\OSGeo4W\building\qgis.git\src\analysis\autogcp\qgsimageanalyzer.h(156) : error C2864: 'QgsImageAnalyzer::WAVELET_PART' : only static
const integral data members can be initialized within a class

```

#19 - 2011-08-09 02:41 PM - Tim Sutton

Hi Alister

The latest GCP collection code can be found in my 'sansa branch' at

<https://github.com/timlinux/Quantum-GIS/tree/sansa-branch>

I am still uncertain if it is ready for incorporation into the mainstream QGIS.

Regards

Tim

#20 - 2011-08-09 10:38 PM - Alister Hood

Ah, thanks. That looks more promising.

I see there was a bit of a write up about the project at

<http://eepublishers.co.za/article/university-of-pretoria-089.html>

#21 - 2011-08-11 05:26 PM - Alister Hood

Tim Sutton wrote:

| *I am still uncertain if it is ready for incorporation into the mainstream QGIS.*

I would have said "what harm can it do? - get people testing it", but my testing didn't get very far... it crashes QGIS as soon as I start trying to detect GCP points :)

Have you had a windows build working?

#22 - 2011-08-16 03:54 PM - Alister Hood

Note that the plugin does not properly unload when disabled in the plugin manager.

See #4177

#23 - 2011-08-18 03:27 AM - Tim Sutton

I have emailed Christoph Stallman (current maintainer) to see how we can move forward with this.

Thanks

Tim

#24 - 2011-12-16 01:55 PM - Giovanni Manghi

- Target version changed from Version 1.7.0 to Version 1.7.4

#25 - 2012-04-15 10:12 AM - Giovanni Manghi

- Target version changed from Version 1.7.4 to Version 2.0.0

#26 - 2012-10-06 02:34 AM - Pirmin Kalberer

- Target version changed from Version 2.0.0 to Future Release - Nice to have

#27 - 2014-06-29 11:32 AM - Jürgen Fischer

- Category changed from C++ Plugins to C++ plugins/Georeferencer

#28 - 2015-11-18 07:32 AM - Médéric RIBREUX

- Status changed from In Progress to Feedback

Hello, bug triage...

it seems that the AutoGCP doesn't exist anymore. I think (but I am not sure) that some work from AutoGCP has been integrated in QGIS georeferencer plugin (tell me if I am wrong).

Could we close this feature request ?

#29 - 2015-12-22 05:11 AM - Médéric RIBREUX

- Resolution set to worksforme

- Status changed from Feedback to Closed

Hello, bug triage...

I am closing this feature request for lack of feedback and because it seems that AutoGCP has been integrated in QGIS Georeferencer.

#30 - 2015-12-22 12:16 PM - Alister Hood

Médéric RIBREUX wrote:

Hello, bug triage...

I am closing this feature request for lack of feedback and because it seems that AutoGCP has been integrated in QGIS Georeferencer.

Really? Where is it?

Files

autogcp.patch	219 KB	2010-09-07	jamesm6162 -
autogcp.12.10.10.patch.tar.gz	74.2 KB	2010-10-11	jamesm6162 -
autogcp_patch_0.5.tar.gz	91.1 KB	2010-11-11	jamesm6162 -