

CODE COVERAGE IN PYTHON

MAKING SURE YOU REALLY EXERCISE YOUR CODE

INTRODUCTION

- THIS TALK WILL PRESENT
 - AN INTRODUCTION TO CODE COVERAGE
 - A LIVE DEMO

WHAT

- A TECHNIQUE TO MEASURE STATEMENT COVERAGE FOR PYTHON
- IS A “LINE” OF CODE EXECUTED OR NOT ?
- PRESENTING COVERAGE.PY MODULE BY NED BATCHELDER

WHY

- FINDING BUG / ROBUSTNESS
 - FIND OUT UNTESTED CODE
 - THE 100% EFFECT
- OPTIMIZATION / FIND OUT DEAD CODE
 - SMALLER, FASTER (RESOURCES, 80/20 RULE) ?
 - EASIER TO MAINTAIN / DEVELOP

LIMITATIONS

- **COVERAGE.PY IS STATEMENT COVERAGE**
- **AND IF ELSE CONSTRUCT WITH ONE STATEMENT PER BRANCH IS A SINGLE STATEMENT**

HOW

- **COMMAND LINE**
- **INTEGRATED WITH TEST RUNNER**
- **WRITE YOUR OWN ...**
- **BETTER TOOLS (NOSE)**

COMMAND LINE

■ +++

■ EXPLORING (GUI CODE)

■ EASY, NO TEST SUITE REQUIRED

■ ---

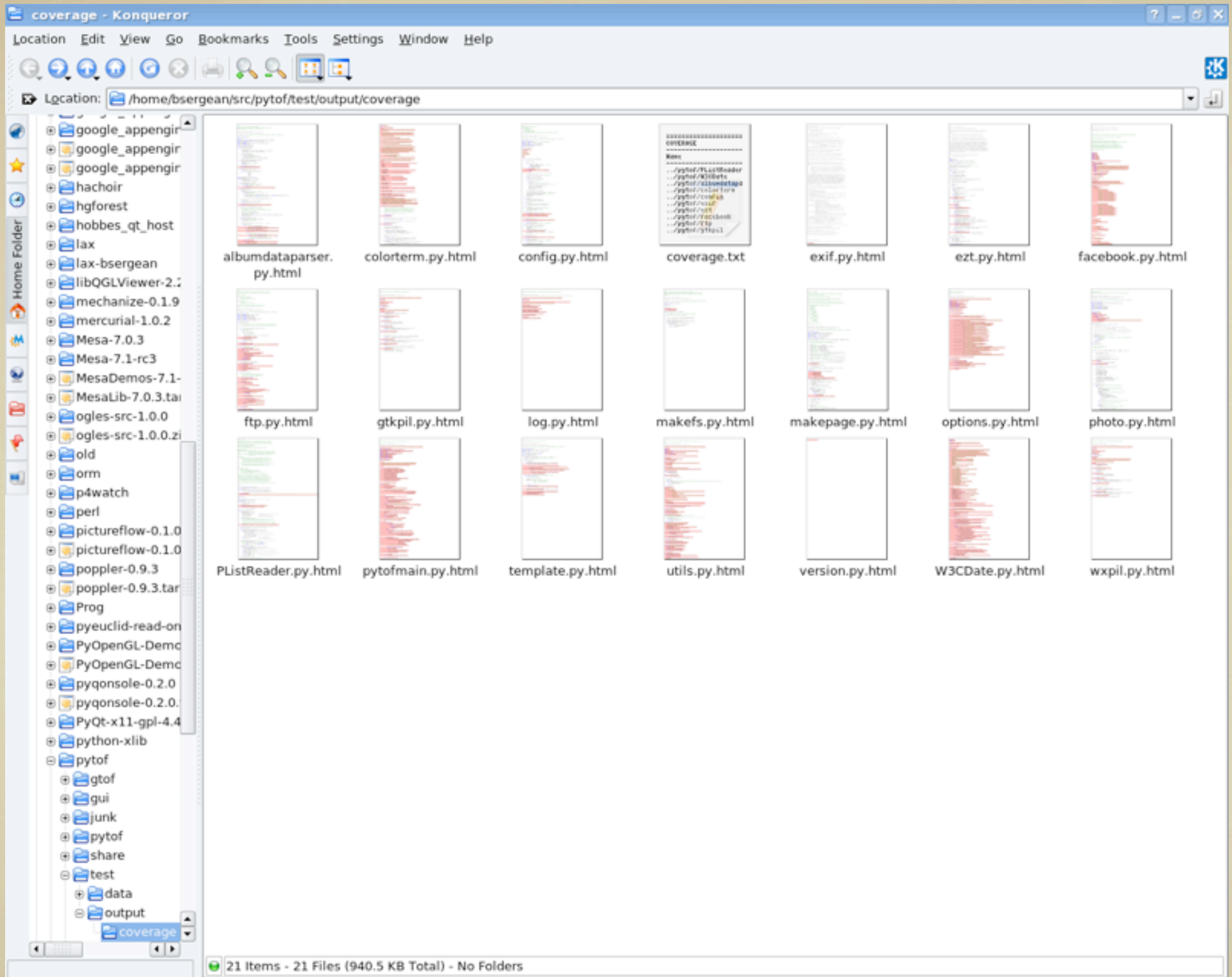
■ PER MODULE

■ DEFAULT REPORTING IS JUST METRICS

```
[benjadrine@ravioli pyview]$ python test/coverage.py -r scene.py
=====
COVERAGE
-----
Name      Stmts  Exec  Cover
-----
scene      693    416   60%
```


TEST SUITE

- LIKE BACKUP: YOU'LL NEVER DO IT IF NOT AUTOMATED
- ADD A “-C” SWITCH TO YOUR TEST RUNNER
 - AUTOMATICALLY CALL COVERAGE FOR EACH MODULE
 - TEAM-UP WITH COLORIZE.PY FOR RELEVANT HTML OUTPUT



code coverage of makepage.py - Konqueror

Location Edit View Go Bookmarks Tools Settings Window Help

Location: /home/bsergean/src/pytof/test/output/coverage/makepage.py.html

```
dico['exit_infos'] = photo.exit_infos
dico['preview'] = '/'.join(['preview',
                           'pv_' + photo.id + photo.getFileType()])
dico['preview_filename'] = basename(dico['preview'])
dico['prev'] = prev.id + '.html'
dico['prev_thumb'] = '/'.join(['thumbs',
                              'th_' + prev.id + prev.getFileType()])

dico['next'] = next.id + '.html'
dico['next_thumb'] = '/'.join(['thumbs',
                              'th_' + next.id + next.getFileType()])

original = ('/').join(['photos', photo.id + photo.getFileType()])
if strip_originals:
    original = ''
dico['original'] = original

pt = pytofTemplate()
pt.write('photo', dico, join(topDir, photo.id) + '.html', style)

class Thumb:
    def __init__(self, page, image, album=None):
        self.page = page
        self.image = image
        self.album = None
        if album != None:
            self.album = album

def main(albumName, topDir, xmlData, strip_originals,
        style, fromDir, progress=None):
    logger.info('strip_originals = %s' % strip_originals)
    if progress == None:
        progress = ProgressMsg(0, sys.stderr)
    data = xmlData
    if fromDir:
        data = AlbumDataFromDir(fromDir)

    leafDirs = ['photos', 'preview', 'thumbs']
    dirs = []
    for leafDir in leafDirs:
        Dir = join(topDir, leafDir)
        dirs.append(Dir)
        if not os.path.exists(Dir):
            try:
                os.makedirs(Dir)
```

Page loaded.

DEMO TIME ...

- DEMO EFFECT TIME ... ?

THE END ...

- THANK YOU !

- RESOURCES

- [HTTP://NEDBATCHELDER.COM/CODE/MODULES/COVERAGE.HTML](http://nedbatchelder.com/code/modules/coverage.html)

- BSERGEAN@GMAIL.COM (I CAN HAVE TARBALL)