

ExamScan

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To get, install and start the ExamScan application under Python using Pip:

```
> python -m pip install examscan --user --upgrade
> python -m examscan.tag [options] exam.pdf
> python -m examscan.scan [options] scans.pdf
```

ExamScan is a python package for adding and analysing tags on exams. It can be run as a Python 2 or Python 3 module and has been tested on:

Windows 7	Windows 8.1	Ubuntu 14.04
Python 2.7.8		Python 2.7.8
Python 3.4.2	Python 3.4.2	Python 3.4.2

1 Getting ExamScan

ExamScan is available on the Python Package Index (PyPI). The preferred method for installing the latest stable release is to use Pip:

```
> python -m pip install examscan --user --upgrade
```

Pip can be installed using [get-pip.py](#) and is included in Python 2.7.9 and Python 3.4 by default.

1.1 Dependencies

ExamScan requires several pieces of software. On Ubuntu these can be installed using:

```
pdfimages apt-get install poppler-utils
pdftoppm apt-get install poppler-utils
zbar apt-get install libzbar-dev libffi-dev
```

1.2 ExamScan development version

Although the latest stable release of ExamScan is available through PyPI, you can get the latest development version of flipper from [Bitbucket](#) or straight from the Mercurial repository with the command:

```
> hg clone https://bitbucket.org/mark_bell/examscan
```

To compile ExamScan use the command:

```
> python setup.py install --user
```

2 Example

ExamScan includes an example exam to try tagging and some scans of completed exams. To copy these into a **demo** folder in the current directory use the command:

```
|| > python -m examscan.demo
```

In the following examples, we will assume that you have then moved within this folder by doing:

```
|| > cd ./demo
```

2.1 Tagging

To add tags to `exam.pdf` use the tag module of ExamScan:

```
|| > python -m examscan.tag exam.pdf
```

You will be asked for some basic information, namely the number of exams:

```
|| > Number of exams needed: 10
```

and the page scores:

```
|| > Enter points available per page as a comma separated list (or blank to cancel).  
|| > Expecting 9 page scores.  
|| > Unless you want to award points for completing the cover sheet, this should start  
|| with a 0: 0,5,6,7,5,5,4,7,6
```

ExamScan will now generate `output.pdf` containing 10 tagged copies of the exam.

Of course, you can pass this information in directly via flags:

```
|| > python -m examscan.tag exam.pdf --num=10 --scores=0,5,6,7,5,5,4,7,6
```

If you want to generate more exams or the exam in several pieces, use the `--start` flag to set a starting exam number:

```
|| > python -m examscan.tag exam.pdf --num=5 --start=11 --scores=0,5,6,7,5,5,4,7,6
```

Alternatively, this information can be specified by a configuration file:

```
|| > python -m examscan.tag exam.pdf --config=settings.conf
```

2.2 Advanced tagging

This also allows more advanced tagging of the exams by providing a rooms spreadsheet.

```
|| > python -m examscan.tag exam.pdf --config=settings.conf --rooms=rooms.xlsx
```

This Excel file contains sheets describing the room layouts and ExamScan can use these to also add seat names to each exam.

2.3 Analysis

To analyse the scanned pages of a tagged exam contained in `scans.pdf` use the scan module of ExamScan:

```
|| > python -m examscan.scan --roster=demo/roster.xlsx demo/scan.pdf
```

Pages can be scanned in several batches. Once all pages have been scanned, ExamScan will write all student data out to `results.csv`.

Additionally, reports for students can be generated by providing a template:

```
|| > python -m examscan.scam --roster=demo/roster.xlsx --template=demo/template.html
```

This html template will have its tags, denoted `{{tag_name}}`, replaced with data for each student. Temporary data is stored in `./tmp` and this should be deleted before starting analysing a new exam.

3 Known issues

The packages used by ExamScan require an updated version of the [six](#) package. Since this is included as an ‘Extra’ package in the included system Python on OS X, Mac users may need to:

- install Python manually,
- modify their PYTHONPATH environment variable, or
- install ExamScan within `virtualenv`

as described [here](#).