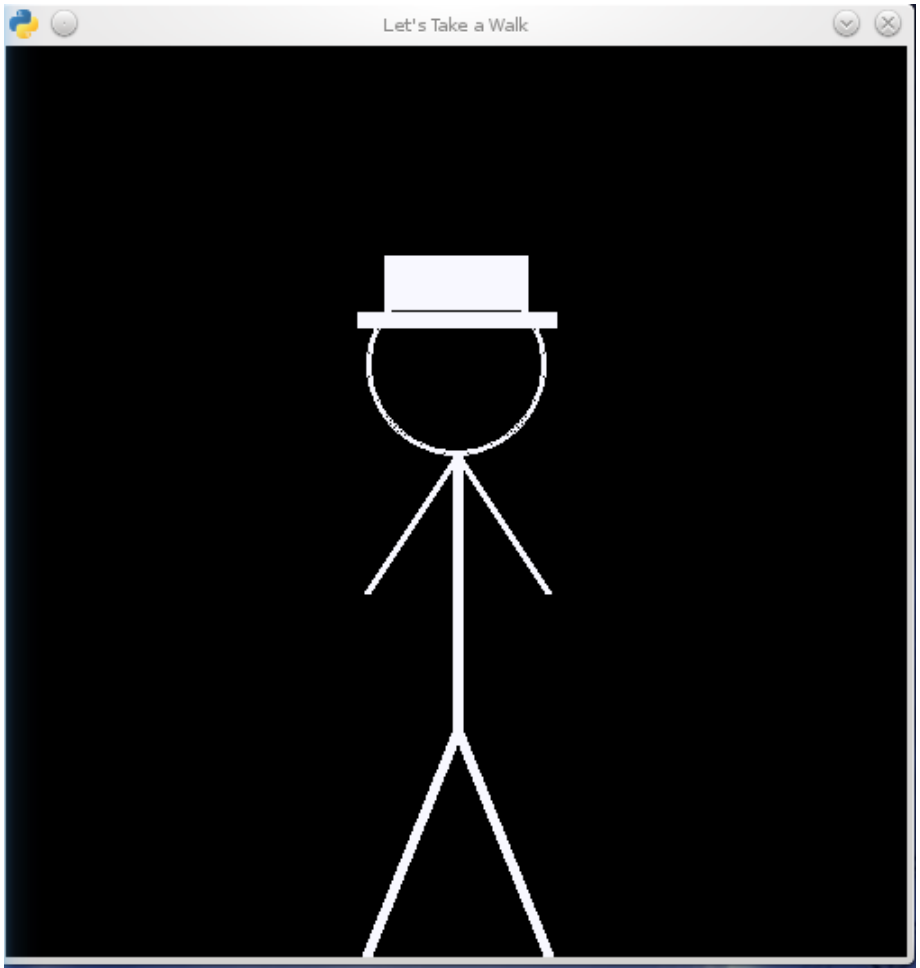
3110: Lec 5

Modules

Logistics

- First project is designed: make Charlie Dance.



Corrections

- Boolean api (let's go there now)
- Class scope the example that breaks is:

```
def Scope():
    a = 5
    b = filter(lambda x: x < a, range(10))
    print b
```

```
class A:
    a = 5
    b = filter(lambda x: x < a, range(10))

    def PrintMe(self):
        print self.b
```

- Yes, Haskell is still in use, including at Facebook, (scroll down to part 2):
- http://www.haskell.org/haskellwiki/Haskell_in_industry

Modules

- Module design is essential to large programming design.
  - Allows more coders
  - Better updating
  - Use of multiple languages, resources, etc

Making Modules Work

- Need a good interface – that may not necessarily be used by the people the modules
- For testing – need to be completely separated

- Have to work like nicely behaved black boxes!

terms

- Interface – well written documentation that allows a client to treat the module as a black box.

- Within that module the implementation is maintained and completely hidden from view.

Module Design for Security

3-way handshake:

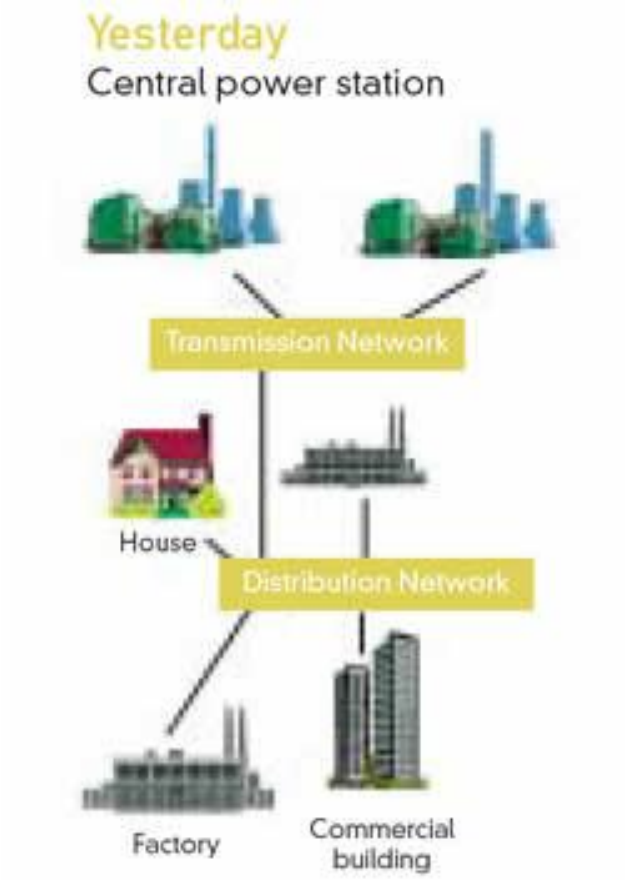
- Secure Chat client

Possible Modules

- (2 Modules): Client & Server
- (3 Modules): Encryption, Client, & Server
  - This is fine because rsa is no mystery

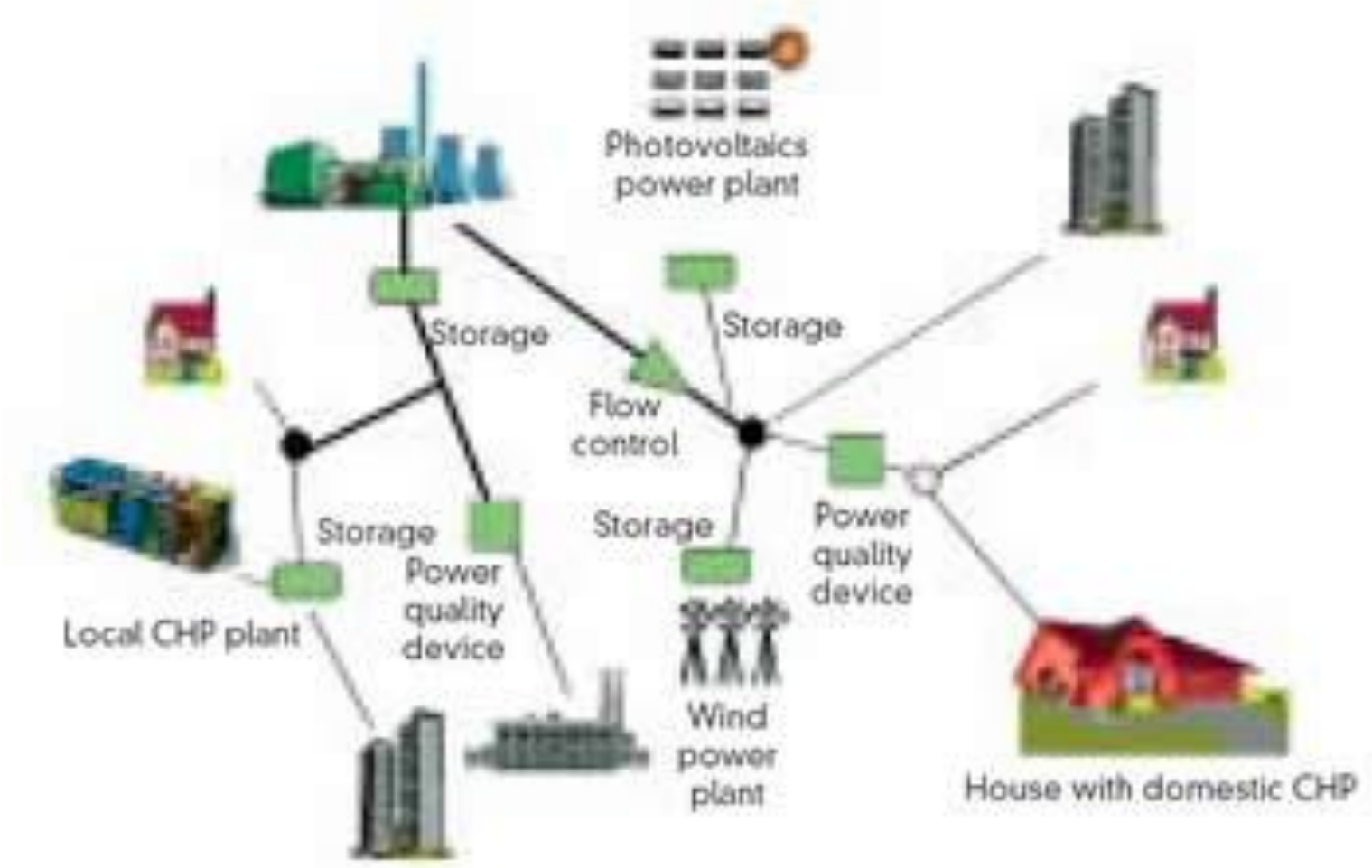
Module Design for Safety

- Power stations (cascading failures)



Tomorrow

distributed/on-site generation with fully integrated network management



- Hierarchical Modules?
- Local & Global Modules?

- Speed is an issue.