

Name: \_\_\_\_\_

UCID: \_\_\_\_\_

## Worksheet 0x03

### Q1: How systems fails

- (a) Pick a system – it might be social (like rules of etiquette), economic (your bank’s website), electronic (the lock on your car), physical (the lock on a door), governmental (a voting machine), bureaucratic (the process for getting a passport). Briefly describe your system in 1–3 sentences.

- (b) List three assumptions that the designers/implementers of your system from Q1a likely made that, if proven untrue, might cause the system of fail in interesting ways. Namely, write down each assumption and how the system might fail if that assumption is proven untrue.

1.

2.

3.

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**Q2: Flaw: Fault or failure?**

For each of the following, specify whether the given flaw is a fault and which is a failure (and briefly elaborate).

(a) A cookie recipe does not specify if units (e.g., cups, degrees) are specified in imperial or metric.

(b) The baker bakes her cookies at 375°C for 9 minutes.

(c) A C++ developer accidentally enters two semicolons in the following code snippet:

```
int foo = 42;;
```

(d) A C++ developer accidentally enters only a single equal sign in the following code snippet:

```
if (has_top_secret_clearance = true)
{
    divulge_state_secrets();
}
```

(e) Upon attempting to compile her CPSC 525 assignment, Alice encounters the message

```
baz.cpp:114:16: error: expected ')' before ']' token
```

```
if (foo > 1] { std::cout << "bar!"; }
```