Raising Exceptions in Python

To throw an exception from an operation implementation, you simply instantiate the exception, initialize it, and throw it. For example:

Python

```
class FileI(Filesystem.File):
    # ...

    def write(self, text, current=None):
        # Try to write the file contents here...
        # Assume we are out of space...
        if error:
            e = Filesystem.GenericError()
            e.reason = "file too large"
            raise e
```

The mapping for exceptions generates a constructor that accepts values for data members, so we can simplify this example by changing our `raise` statement to the following:

Python

```
class FileI(Filesystem.File):
    # ...

    def write(self, text, current=None):
        # Try to write the file contents here...
        # Assume we are out of space...
        if error:
            raise Filesystem.GenericError("file too large")
```

If you throw an arbitrary Python run-time exception, the Ice run time catches the exception and then returns an `UnknownException` to the client. Similarly, if you throw an "impossible" user exception (a user exception that is not listed in the exception specification of the operation), the client receives an `UnknownUserException`.

If you throw a run-time exception, such as `MemoryLimitException`, the client receives an `UnknownLocalException`. For that reason, you should never throw system exceptions from operation implementations. If you do, all the client will see is an `UnknownLocalException`, which does not tell the client anything useful.

Three run-time exceptions are treated specially and not changed to `UnknownLocalException` when returned to the client: `ObjectNotExistException`, `OperationNotExistException`, and `FacetNotExistException`.

See Also

- Run-Time Exceptions
- Server-Side Python Mapping for Interfaces
- Python Mapping for Exceptions
- Facets and Versioning