MUDDLE

A language for writing MUDs.

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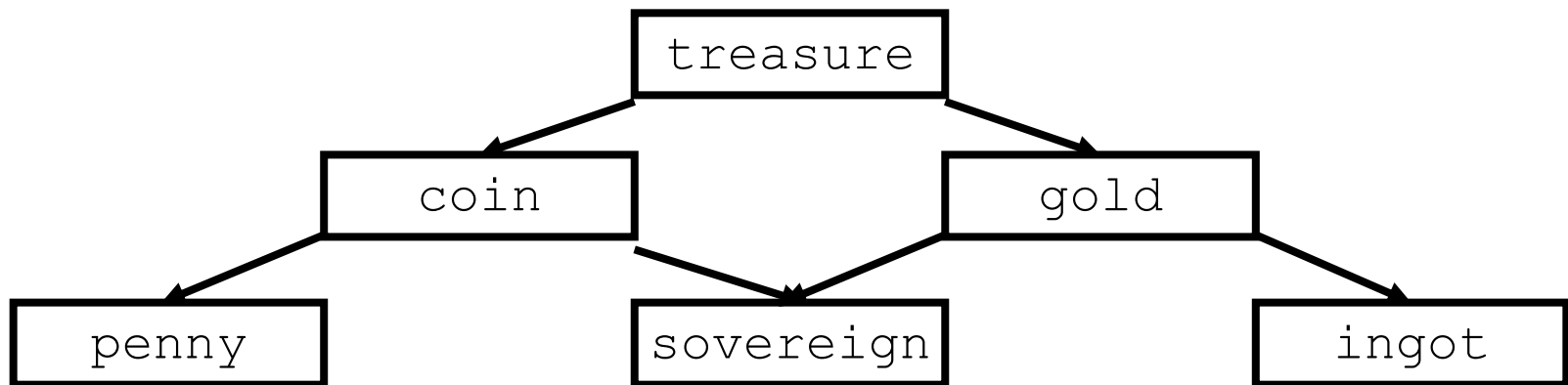University of Essex

Introduction

- I only have 7 minutes, so here goes...
- *MUD* is the **text-based** ancestor of pretty well **all** today's MMORPGs.
- I **co-wrote** it as a student in **1978** with a friend, Roy Trubshaw.
- It's been **rewritten** from **scratch three** times over the years.
- I'm going to describe the **final** version, known as ***MUD2***.
  - Even though it's version 4...

- The key question is how to create **content** for the virtual world.
- **Version 1** was a **technology** test.
  - Its (limited) content was **hard coded**.
- **Version 2** was **command-based**.
  - You added content by **entering** the world and typing **creation** commands.
- **Version 3** (*MUD1*) used **data files**.
  - You defined the world offline.
- **Version 4** (*MUD2*) was written in **MUDDLE**.
  - A **language** for writing MUDs.

- MUDDLE is a **pattern-matching** language.

- Central idea: a **multi-parent** object hierarchy.

```
                    ┌──────────┐
                    │ treasure │
                    └──────────┘
                   ↙            ↘
        ┌──────────┐            ┌──────────┐
        │   coin   │            │   gold   │
        └──────────┘            └──────────┘
           ↙         ↘        ↙         ↘
 ┌──────────┐   ┌────────────┐   ┌──────────┐
 │  penny   │   │ sovereign  │   │  ingot   │
 └──────────┘   └────────────┘   └──────────┘
```

- { get coin }
- { get gold }

- The ***diamond problem*** concerns **which** parent to **inherit** from.
- MUDDLE **doesn't care**!
- The meaning really **is** ambiguous.
- However, so long as you make the **same** choice **every** time, it **doesn't matter**.
- *MUD2*'s object hierarchy is **~30** levels deep and works **splendidly**.
- MUDDLE is **highly expressive**.
  - Even **actions** are objects!

- Here's some **sample** code so you can see it **is** a programming language.
- { blow feather }:

```
    holding(me, first) ->>
    $(        !! (theu%(first) + " flutters from your hand.*N")
              keeping(me) 'k' = [] |
                        (keeping(me):= [])
              drop(first)
              k=[] | (keeping(me):= k)
    $),
    !! (theu%(first) + " moves a little until you stop blowing.*N")
```

- It's **not** accessible to **non-programmers**.
- In total, there are around **100,000** lines of MUDDLE in *MUD2*.

- My 7 minutes probably **ran out** some time ago so I'll **stop** here.
- If you have any **long** questions on *MUD* or MUDDLE, **email** me at rabartle@essex.ac.uk .
- **Otherwise**, catch me here after we're done.
  - **Warning**: I can talk about this stuff for **days**.