Embedded Domains Specific Languages in Idris
Lecture 1: Fundamentals of Idris

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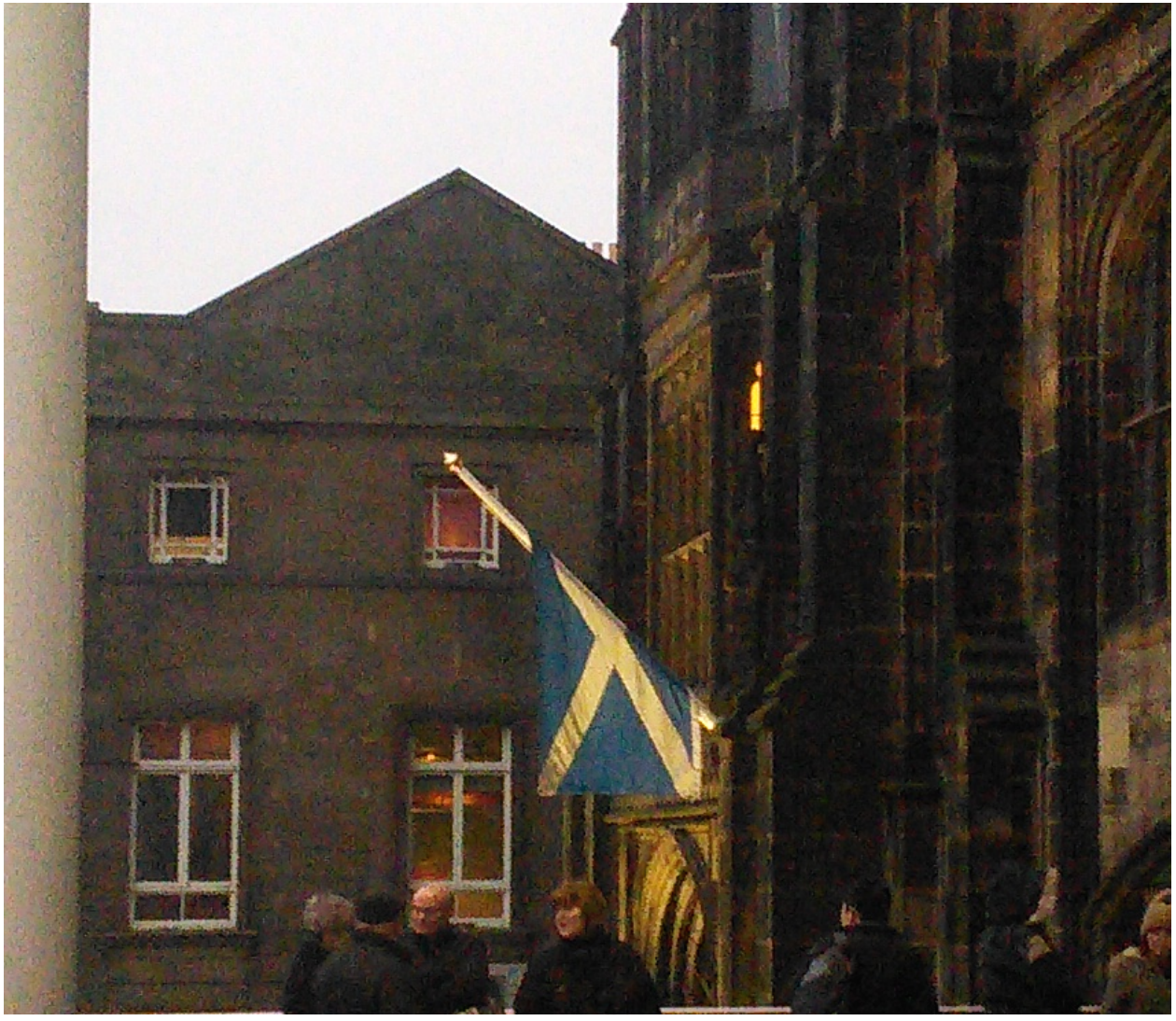
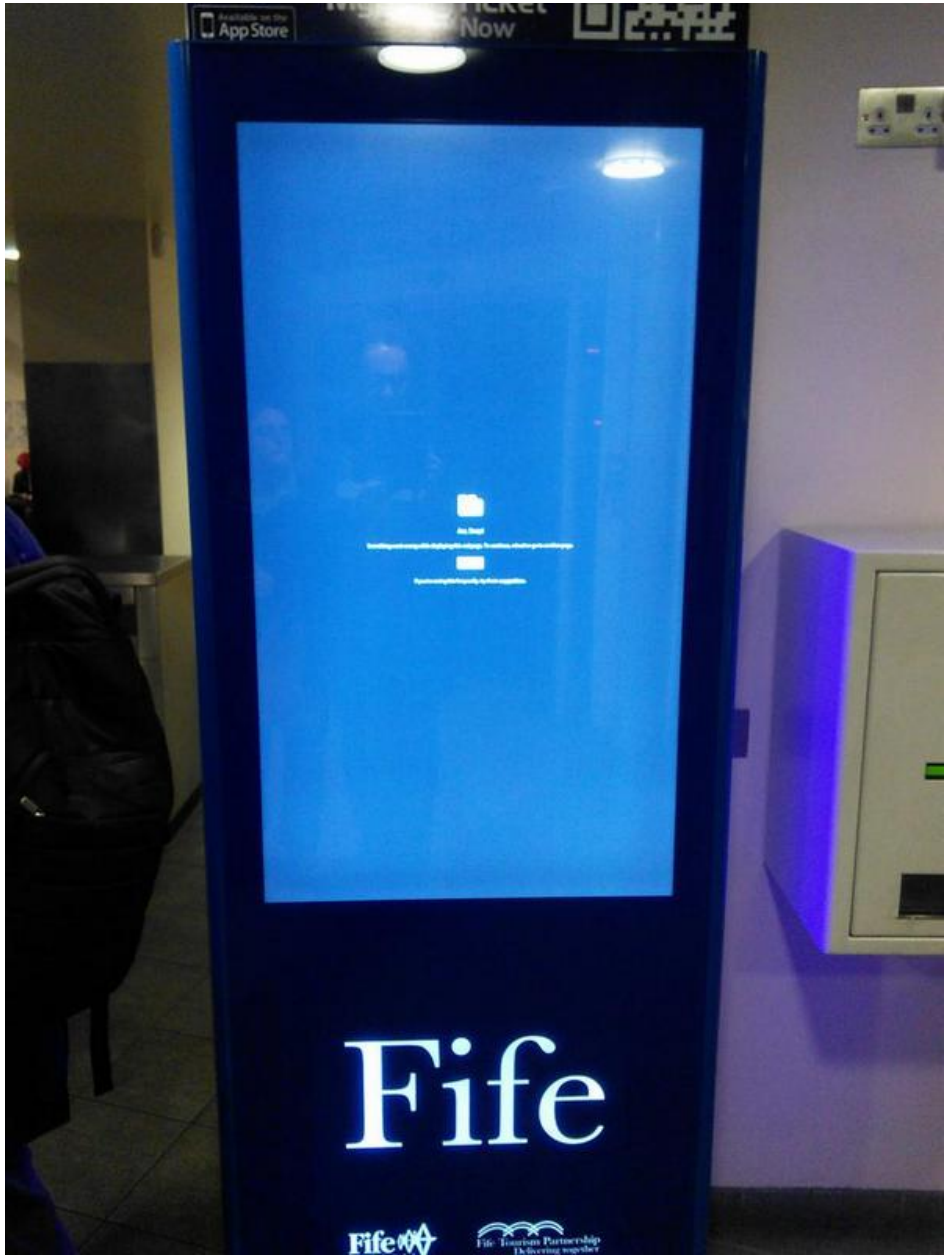
sicsa*

Scotland



Welcome to Fife



Security Error!

IDRIS is a *Pac-man Complete* functional programming language with *dependent types*

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- `http://idris-lang.org/download`
- `http://idris-lang.org/SSGEP/`

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This course is in three parts:

- *Today:* Fundamentals: A tour of Idris
- *Tomorrow:* Writing Domain Specific Languages in Idris
- *Thursday:* Managing *side-effects* and *resources*

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Why types?

We can use *type systems* for:

- *Checking* a program has the intended properties
- *Guiding* a programmer towards a correct program
- Building *expressive* and *generic* libraries

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Dependent Types allow types to be predicated on *values*

- More precise specification of properties
- More help from the compiler
- Types as a *first class* language construct

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- Foreign functions, system interaction