UML class diagram (hand-drawn).

pt.tecnico.uilib
- Display
- Dialog
- «interface» InteractionDriver
- AutoCloseable

pt.tecnico.uilib.forms
- «abstract» Field
- FieldBoolean (Type → Boolean)
- FieldInteger (Type → Integer)
- FieldName (Type → Model)
- FieldOption (Type → String)
- FieldReal (Type → Double)
- FieldString (Type → String)
- Form
- FormException
- «throws»

- Exception
- RuntimeException

pt.tecnico.uilib.menus
- Menu
- «abstract» Command (Receiver: class)
- «abstract» CommandException «throws»
- DoSomeMenu (Receiver → Menu)

pt.tecnico.uilib.text
- CompositePrintStream
- RuntimeEOFException
- TextInteraction
- PrintStream
- «throws»

Associations/labels: #_display, _ui, +UI, _backend, _fields, _form, _streams, _out, _log

Display

```
- _ui : Dialog
- _title : String
- _text : StringBuilder
```
```
+ add(toAdd: Object): Display
+ addAll (items: Collection <?>): Display
+ addLine (toAdd: Object): Display
+ addLineIftrue (toAdd: Object, force: boolean): Display
+ <<final>> display(): void
+ <<final>> displayText(): void
+ popup (toPop: Object): void
+ popup (toPop: Collection <?>): void
+ clear(): void
```

<<interface>> InteractionDriver

```
~ open(menu: Menu): void
~ fill(form: Form): void
~ render(title: String, text: String): void
~ close(): void
```

<> Field <Type: Class>

```
- _prompt: String
- _clear: boolean
# _value: Type
```
```
+ prompt(): String
+ set(value: Type): void
+ value(): Type
+ clear(): void
# dirty(): void
+ cleared(): boolean
+ isReadOnly(): boolean
+ <<abstract>> parse(in: String): boolean
```

Dialog

```
- <<final>> ACTION_CHANNEL : String
- <<final>> CHANNEL_SWING : String
- <<final>> CHANNEL_NEW_SWING: String
- <<final>> CHANNEL_TEXT : String
- UI : Dialog
- _backend : InteractionDriver
```
```
+ open(menu: Menu): void
+ fill( form: Form): void
+ render (title: String, text: String): void
+ close(): void
```

FieldBoolean

```
- <<final>> BOOLEAN_WORD_YES: String
- <<final>> BOOLEAN_WORD_NO: String
- <<final>> BOOLEAN_CHAR_YES: char
- <<final>> BOOLEAN_CHAR_NO: char
```
```
+ parse (in: String): boolean
```

FieldInteger

```
+ parse(in: String): boolean
```

FieldClone

```
+ parse (in: String): boolean
+ isReadOnly(): boolean
```

FieldOption

```
- _options: String[]
```
```
+ parse (in: String): boolean
```

FieldReal

```
+ parse (in: String): boolean
```

FieldString

```
+ parse(in: String): boolean
```

FormException

```
- <<final>> serialVersionUID: long
```

DoCjonMenu

```
# <<final>> execute(): void
```

<> CommandException

```
- <<final>> serialVersionUID: long
```

RuntimeEOFException

```
~ <<final>> serialVersionUID: long
```

Menu

```
- _ui: Dialog
- _title: String
- _commands: Command <?>[]
```
```
+ title(): String
+ size(): int
+ entry (m: int): Command <?>
+ entries(): Command <?>
+ open(): void
```

TextInteraction

```
- in: BufferedReader
- out: PrintStream
- log: PrintStream
- writeInput: boolean
```
```
+ close(): void
+ open(menu: Menu): void
+ fill(form: Form): void
+ render(title: String, text: String): void
- readString (prompt: String): String
- readInteger(prompt: String)
```

```
┌─────────────────────────────────────────────────────────┐
│  Form                                                   │
├─────────────────────────────────────────────────────────┤
│  – _ui: Dialog                                          │
│  – _title: String                                       │
│  – _fields: Map<String, Field<?>>                       │
├─────────────────────────────────────────────────────────┤
│  + title(): String                                      │
│  + entries(): Collection<Field<?>>                      │
│  + field(key: String): Field<?>                         │
│  – add(key: String, im: Field<?>): void                 │
│  + addBooleanField(key: String, label: String): void    │
│  + addStringField(key: String, label: String): void     │
│  + addRealField(key: String, label: String): void       │
│  + addIntegerField(key: String, label: String): void    │
│  + addOptionField(key: String, label: String, options: String[]): void │
│  – get(key: String, type: String): Object              │
│  + booleanField(key: String): boolean                   │
│  + stringField(key: String): String                     │
│  + optionField(key: String): String                     │
│  + realField(key: String): Double                       │
│  + integerField(key: String): Integer                   │
│  + parse(): Form                                         │
│  + parse(clear: boolean): Form                          │
│  + clear(): void                                        │
│  + confirm(prompt: String): Boolean                     │
│  + requestInteger(prompt: String): Integer              │
│  + requestReal(prompt: String): Double                  │
│  + requestString(prompt: String): String                │
│  + requestOption(prompt: String, options: String[]): String │
└─────────────────────────────────────────────────────────┘


┌─────────────────────────────────────────────────────────┐
│  Composite Print Stream                                 │
├─────────────────────────────────────────────────────────┤
│  – _streams: Collection<Print Stream>                   │
│  – _error: boolean                                      │
├─────────────────────────────────────────────────────────┤
│  ~ <<final>> add(ps: Print Stream): void                │
└─────────────────────────────────────────────────────────┘
```

```
┌─────────────────────────────────────────┐
│ <<abstract>>  ┌─ Receiver: class ─┐      │
│ Command       └ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘      │
├─────────────────────────────────────────┤
│ - _last: boolean                         │
│ - _title: String                         │
│ # <<final>> _receiver: Receiver          │
│ # _valid: Predicate<Receiver>            │
│ - <<final>> _form: Form                  │
│ # <<final>> _display: Display            │
├─────────────────────────────────────────┤
│ + <<final>> title(): String              │
│ + isLast(): boolean                      │
│ + isValid(): boolean                     │
│ + addBooleanField(Key: String, prompt: String): void │
│ + addRealField(Key: String, prompt: String): void    │
│ + addIntegerField(Key: String, prompt: String): void │
│ + addStringField(Key: String, prompt: String): void  │
│ + addOptionField(Key: String, prompt: String, options: String[]): void │
│ + booleanField(Key: String): Boolean     │
│ + realField(Key: String): Double         │
│ + integerField(Key: String): Integer     │
│ + stringField(Key: String): String       │
│ + optionField(Key: String): String        │
│ + <<final>> performCommand(): void       │
│ # <<abstract>> execute(): void           │
└─────────────────────────────────────────┘
```

Declaro por minha honra que este diagrama foi realizado apenas pelos elementos que constituem o grupo do projeto. Miguel Horas

Declaro por minha honra que este diagrama foi realizado apenas pelos elementos que constituem o grupo do projeto. Madalena Mota