

Switching of GUI framework: The case from Spec to Spec2

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Mustapha Derras

Summary

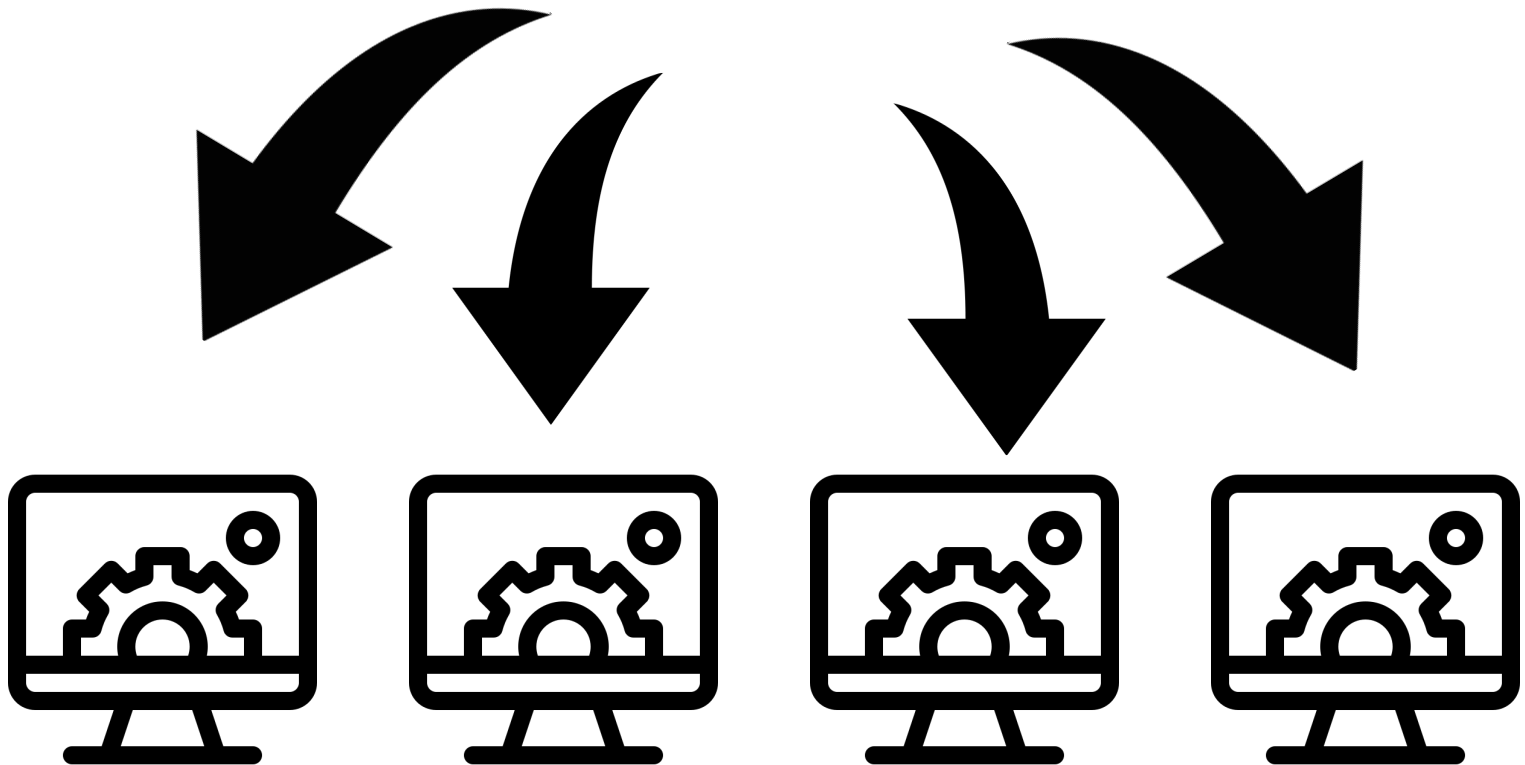
- Problem
- Approach
- GUI Meta-model
- Results
- Future Works

Problem



Problem

Spec



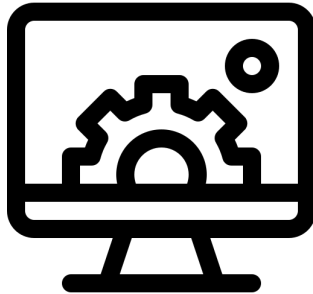
Problem

Spec



Spec 2

Spec evolves



How can we follow this evolution?

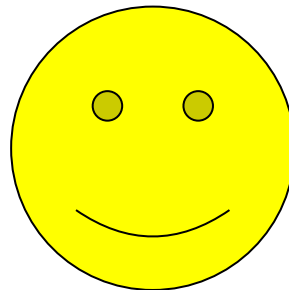
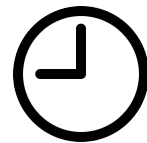


Migration



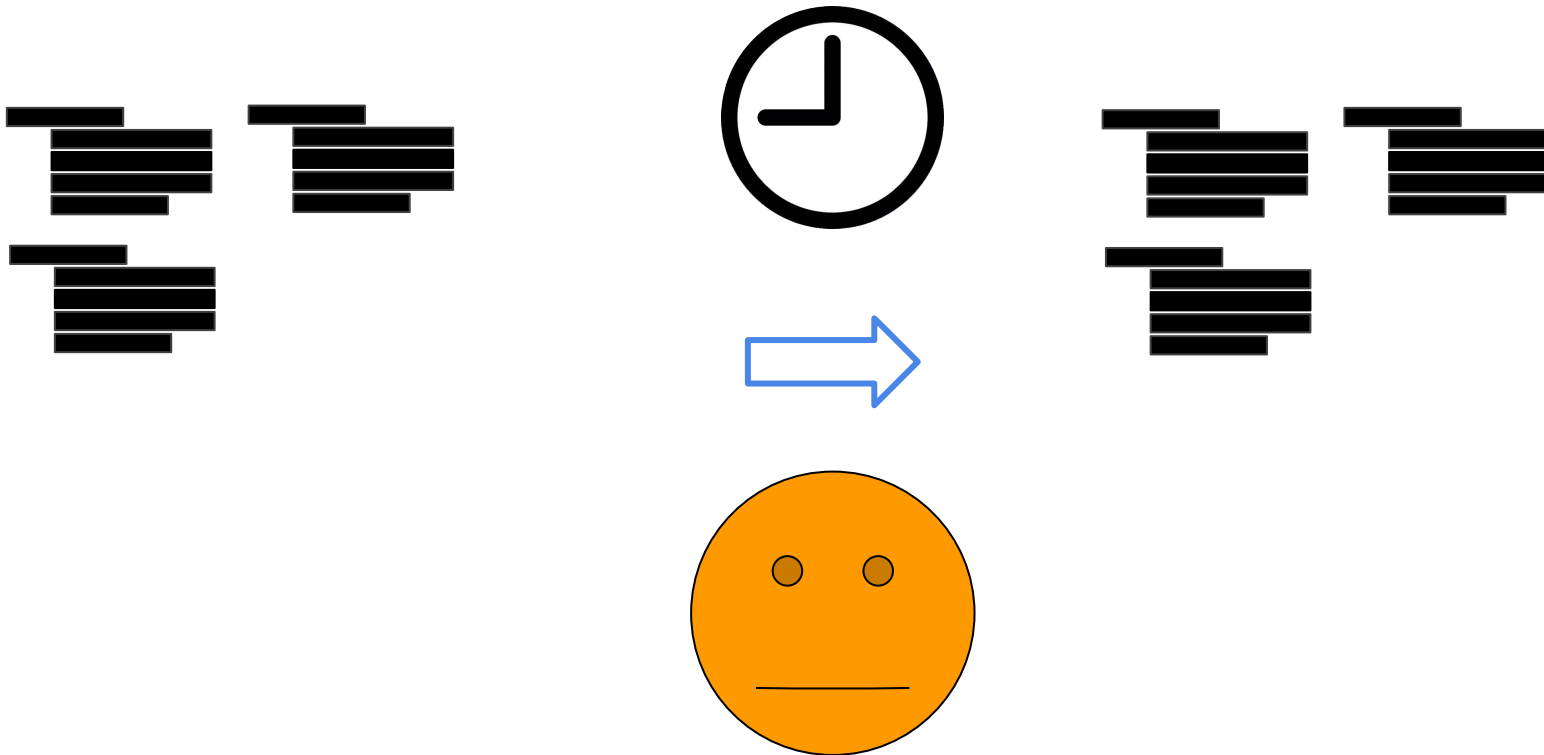
Problem

Migrating 1 UI from a framework → another Framework



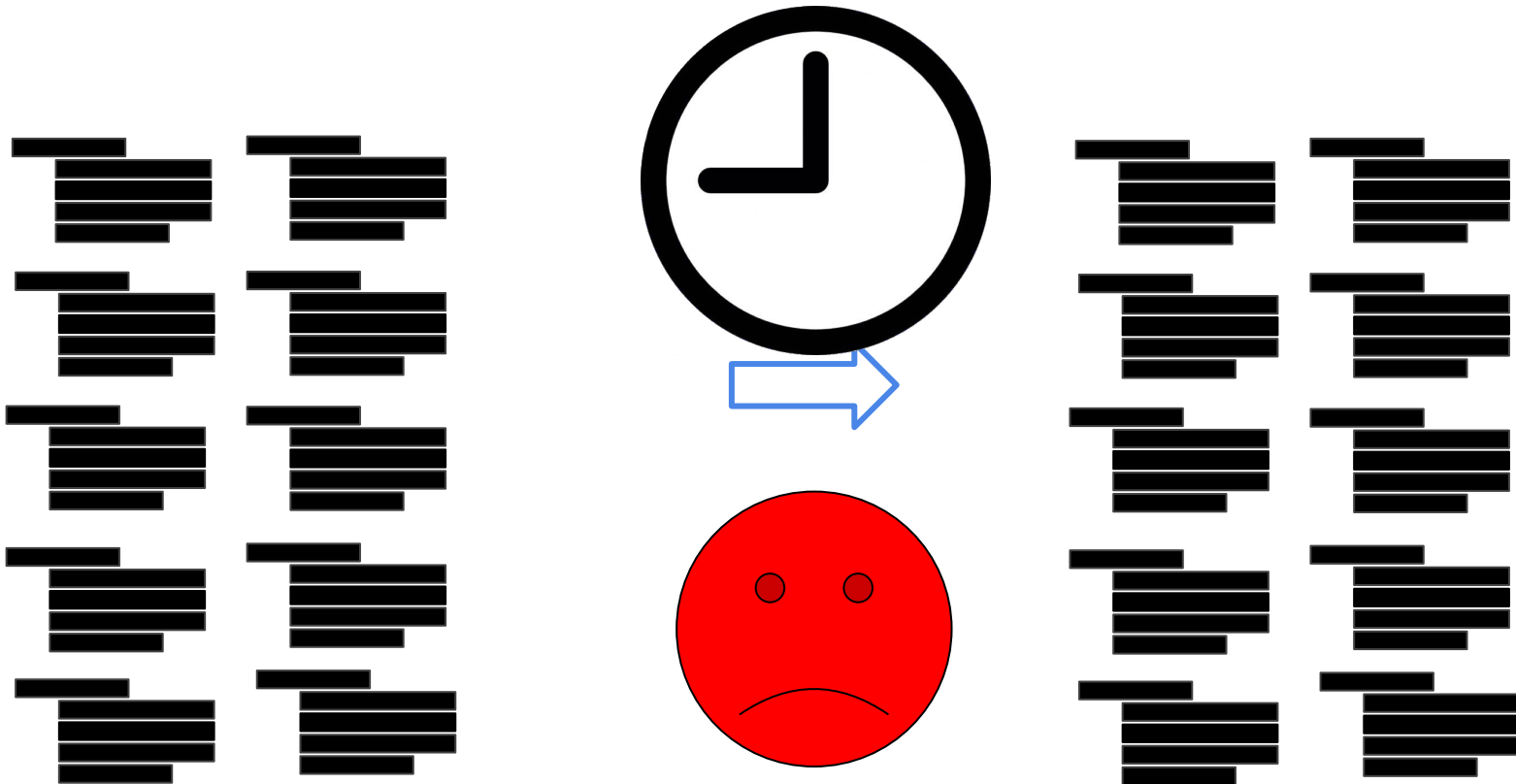
Problem

Migrating 10 UI from a framework → another Framework



Problem

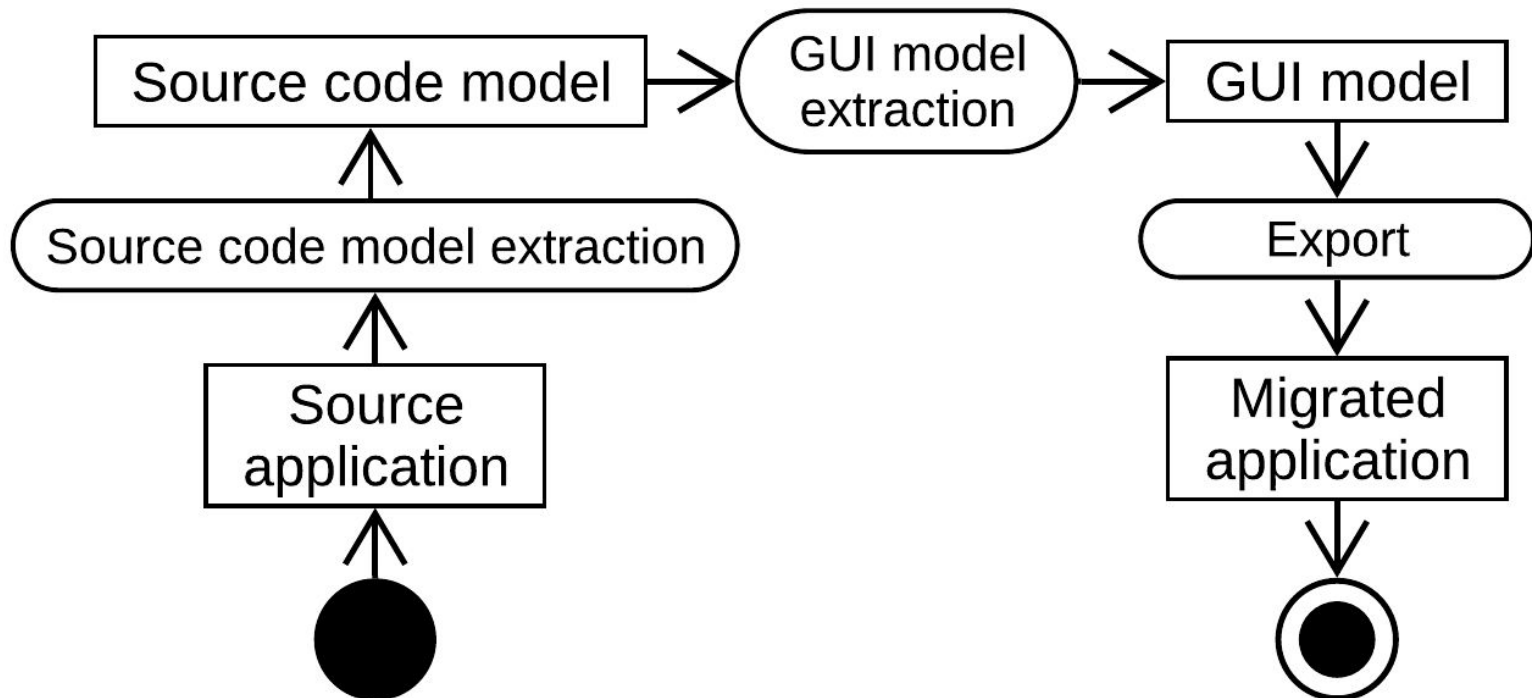
Migrating 500 UI from a framework → another Framework



Approach



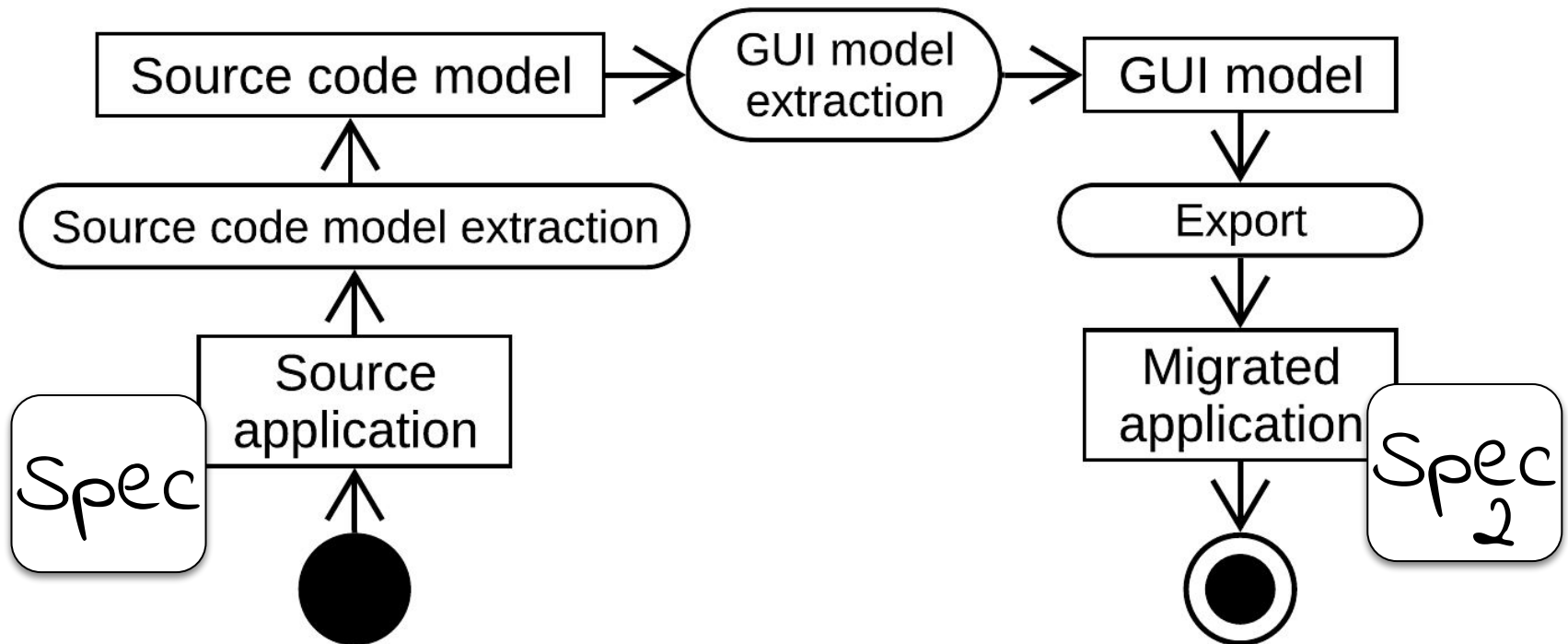
Approach



Approach

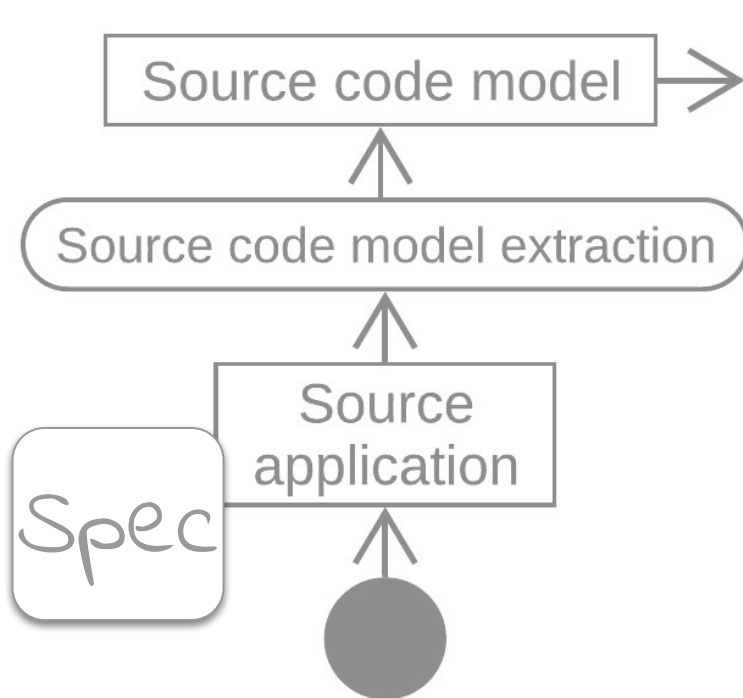
FamixStModel

GUIMetaModel

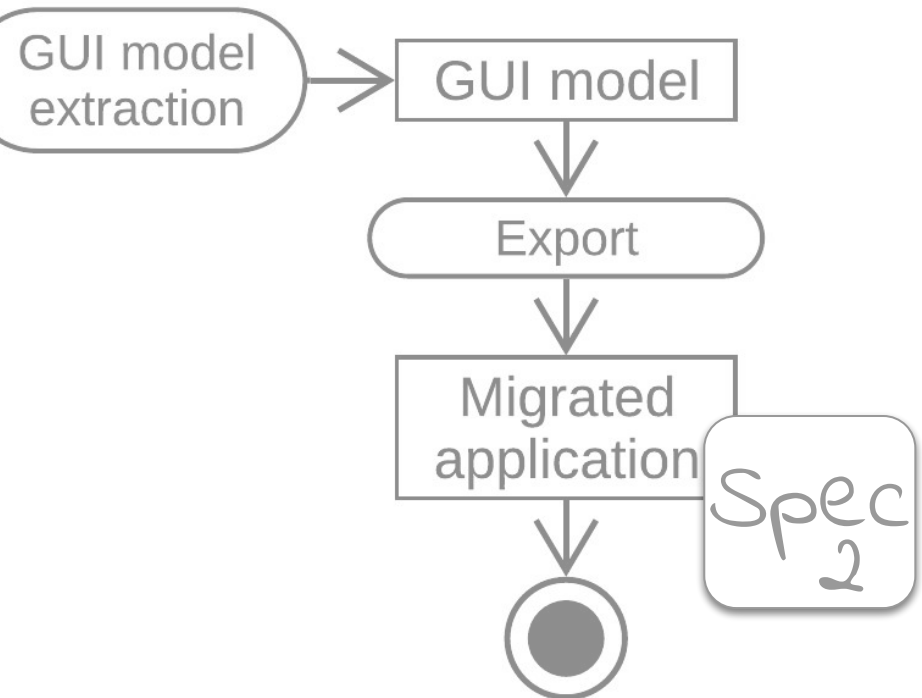


Approach

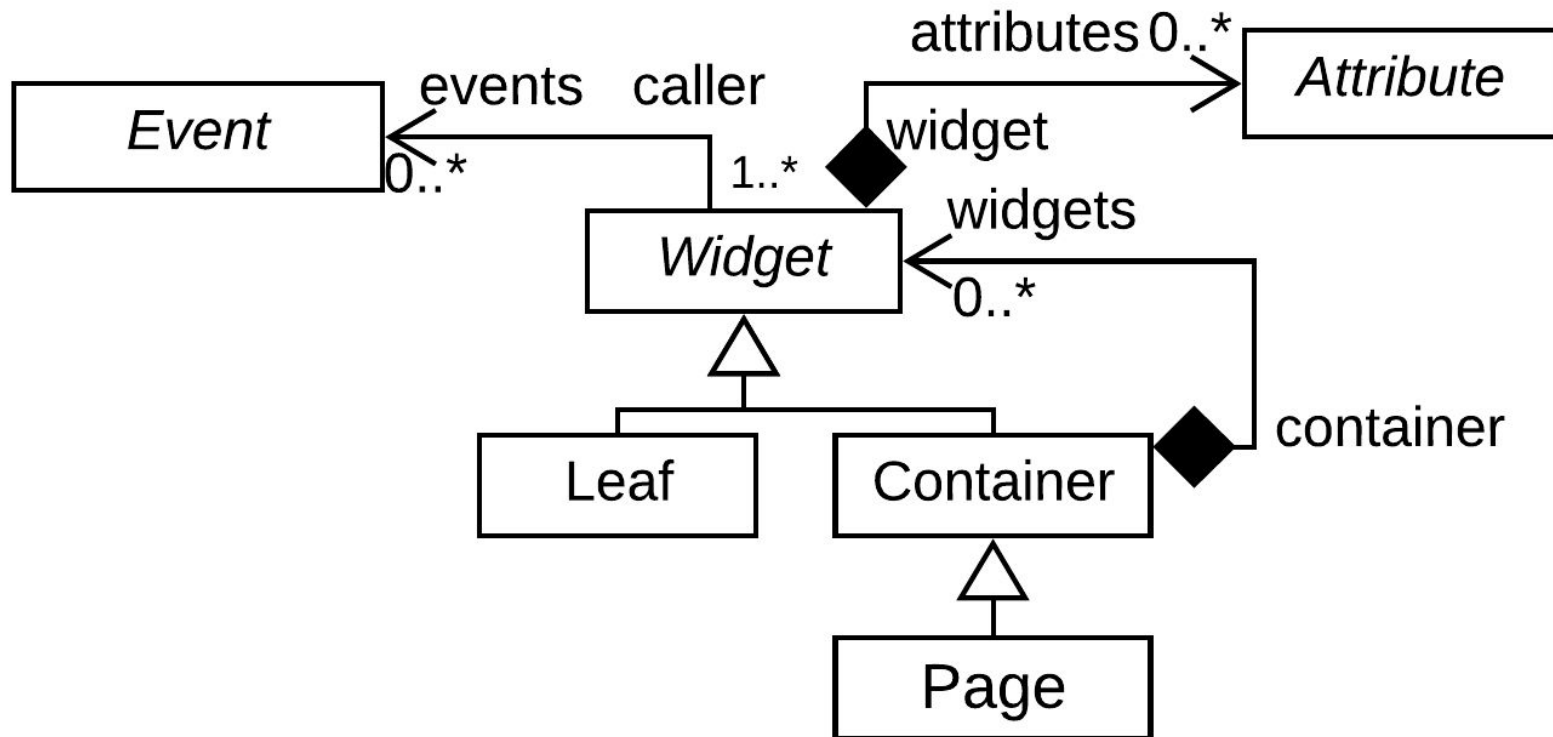
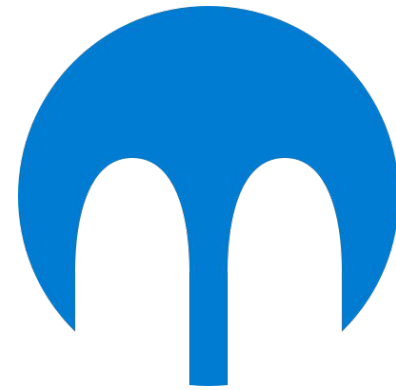
FamixStModel



GUIMetaModel



GUI Meta-model



Results



Experiment

- Refactoring
- Setting
- CriticToolbar
- DemoButton
- DemoForm
- DBManager - manage connection to DB from Pharo

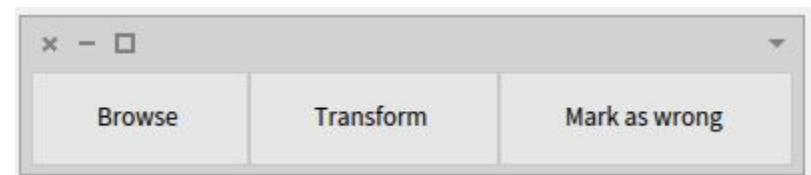
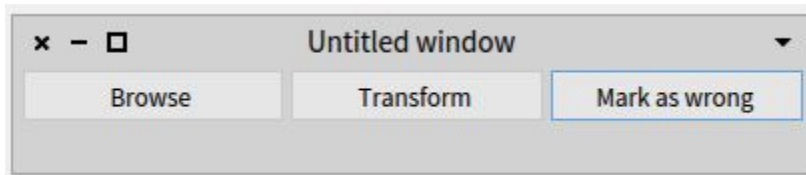
Import result

	Refactoring	Setting	CriticToolbar	DemoButton	DemoForm	DBManager
Widgets number	7	11	5	15	41	37
Widgets Imported	100%	100%	error	100%	100%	100%
Attributes number	8	8	5	19	20	29
Attributes imported	12.5%	25%	80%	74%	80%	89%

Export result

Spec

Spec₂



Export result

DB Connections Manager

New connection

Connection name: my_conn

Hostname: ip address/localhost/...

Port: Port number e.g. 5432

Database: my_database

User: DBMS username

Password: DBMS username's password

DBMS: PostgreSQL

No connections manager set

Test connection Cancel Ok

Spec



DB Connections Manager

New connection

Connection name: my_connection

Hostname: ip address/localhost/...

Port: Port number e.g. 5432

Database: my_database

User: DBMS username

Password: DBMS username's password

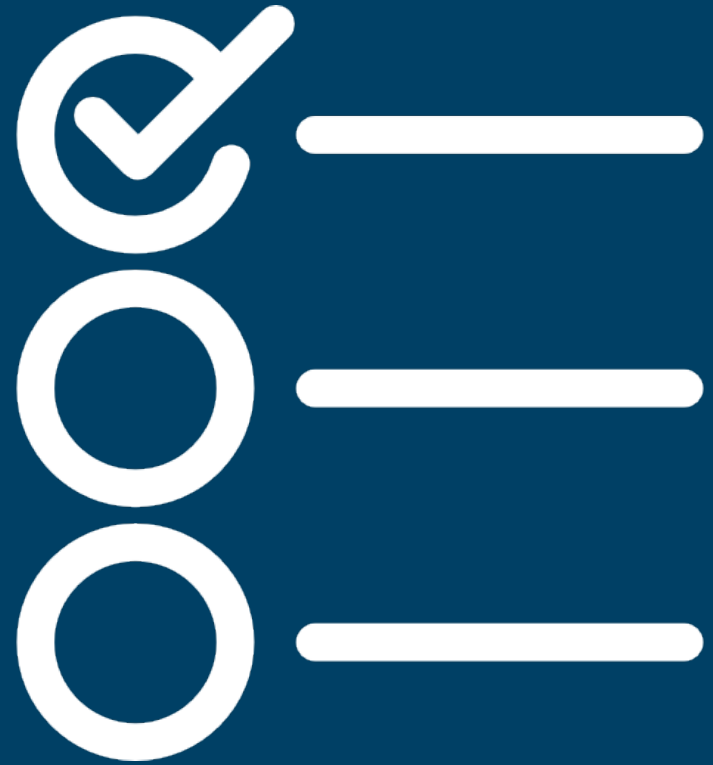
DBMS: PostgreSQL

No connections manager set

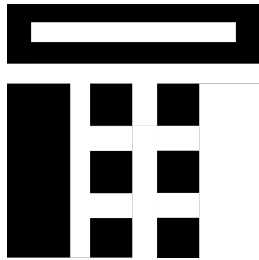
Test connection Cancel Ok

Spec 2

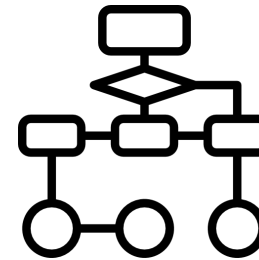
Future Works



Future Works



Visual preservation

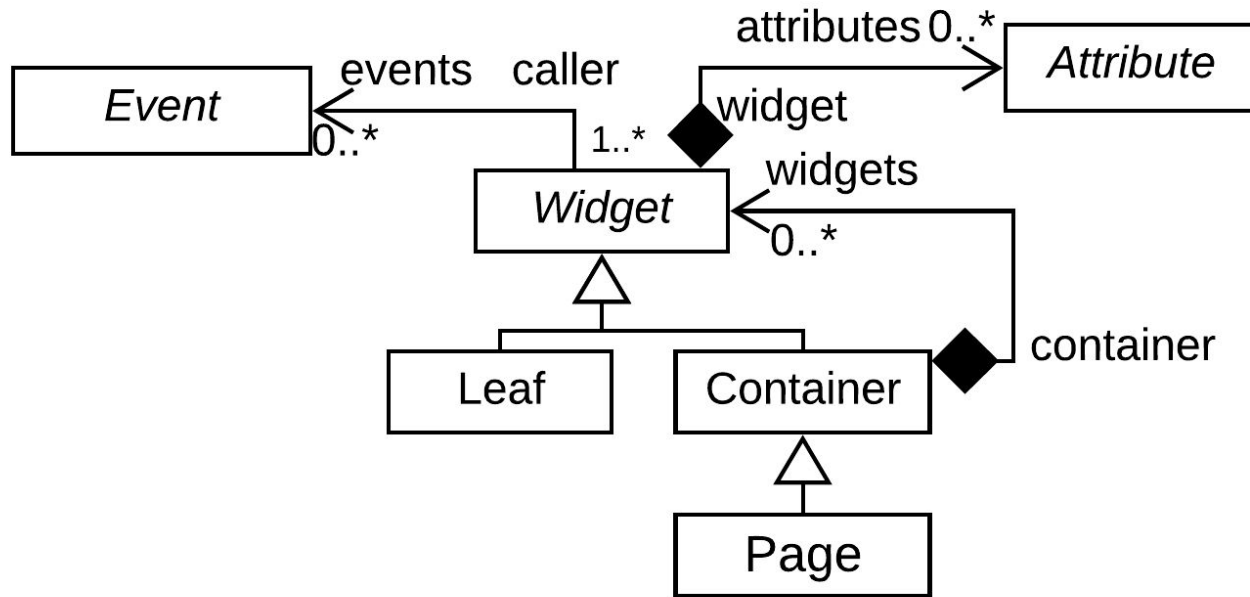


Behavioral code



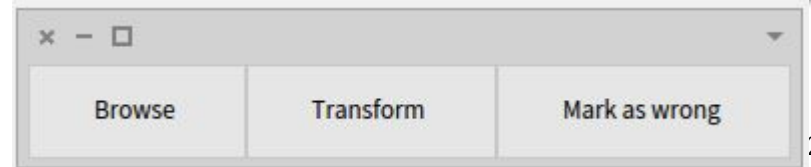
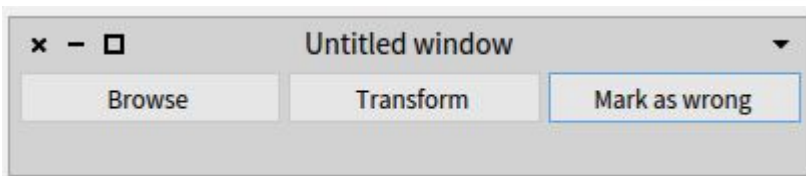
Evaluation

So ...



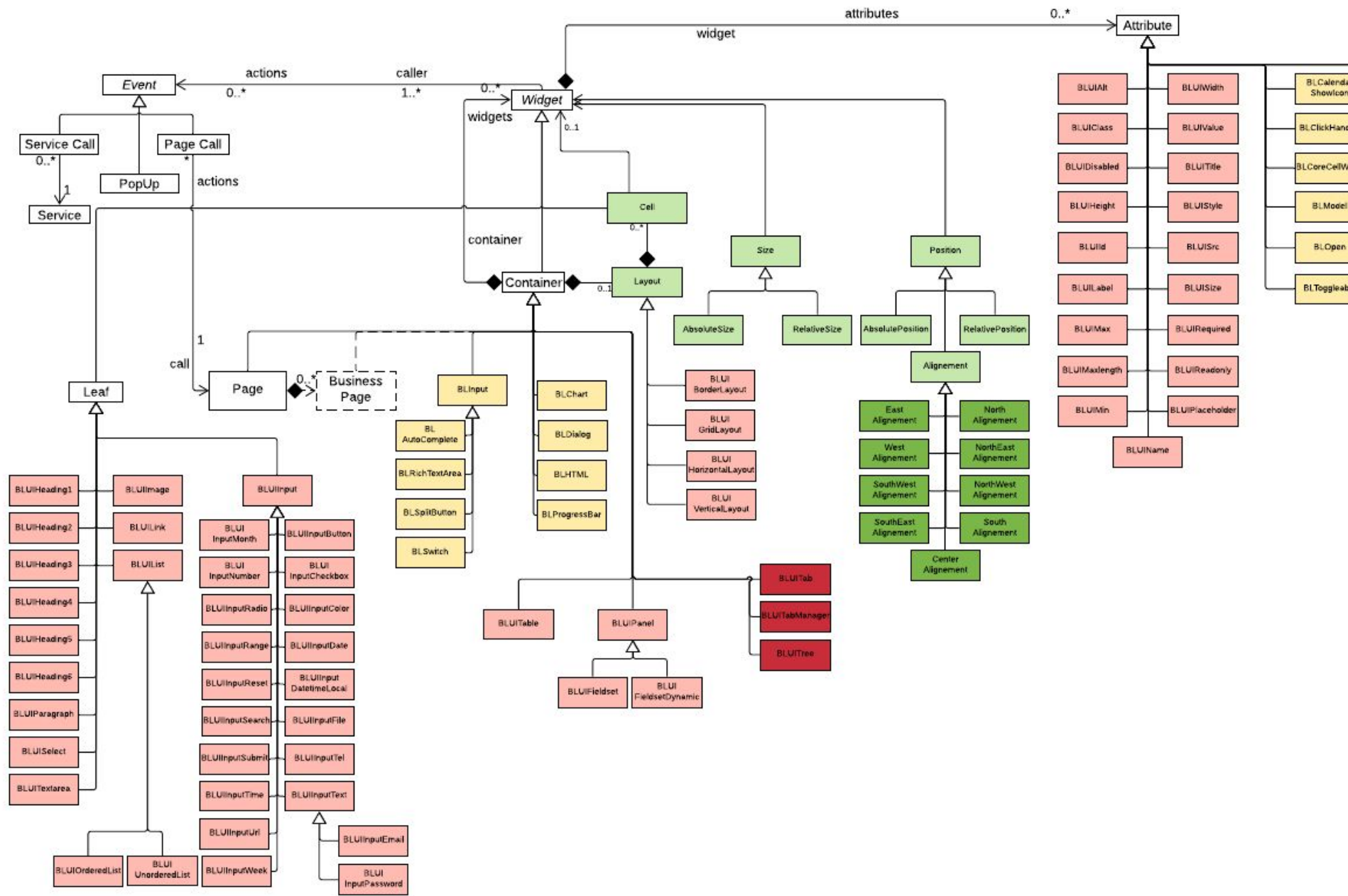
Spec

Spec₂

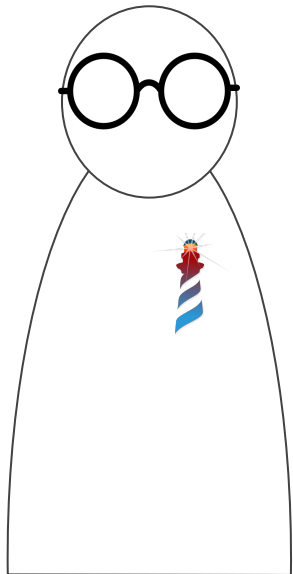




Bonus slides



About me



PHD student

