Making PT accessible

Implementing PT in TypeScript

Petter Sæther Moen



Thesis submitted for the degree of
Master in Informatics: Programming and System
Architecture
60 credits

Department of Informatics Faculty of mathematics and natural sciences

UNIVERSITY OF OSLO

Autumn 2020

Making PT accessible

Implementing PT in TypeScript

Petter Sæther Moen

© 2020 Petter Sæther Moen

Making PT accessible

http://www.duo.uio.no/

Printed: Reprosentralen, University of Oslo

Abstract

Acknowledgements

Contents

I	Intr	oducti	ion	1
1	Intro 1.1 1.2		on is PT? ose of implementing PT in TS	
2		k groun Packa TypeS	d ge Templates	5 . 5 . 5
II	Th	e proj	ect	7
3		Choos	TypeScript Compiler Plugin	. 9 . 9 . 9
III	C	onclus	ion	11
4	Res	ults		13

List of Figures

List of Tables

Preface

Part I Introduction

Introduction

- 1.1 What is PT?
- 1.2 Purpose of implementing PT in TS

Background

- 2.1 Package Templates
- 2.2 TypeScript

Part II The project

Planning the project

3.1 Choosing the right approach

Before jumping into a project of this size it is important to find out what approach to use. The end goal of this project is to extend TypeScript with the Package Templates language mechanism, this can be achieved as following:

- Making a fork of the TypeScript compiler
- Making a preprocessor for the TypeScript compiler
- Making a Babel plugin

To get a better understanding for which approach to use we will be implementing a small language feature with each of the approaches named above.

3.1.1 TypeScript Compiler Fork

Possible, however not as accessible as other alternatives and will make upkeep expensive.

3.1.2 Preprocessor for the TypeScript Compiler

3.1.3 TypeScript Compiler Plugin

Not possible at the time as the TypeScript compiler wiki specifies "Type-Script Language Service Plugins ("plugins") are for changing the editing experience only." [1]. This might be possible in the future...

3.1.4 Babel plugin

Babel isn't strictly for TypeScript, but for JavaScript as a whole. Will however make it very accessible as most web-projects use Babel, and the upkeep is cheap, as plugins are pretty independent from the core.

Part III Conclusion

Results

Bibliography

[1] Microsoft. *microsoft/TypeScript*. URL: https://github.com/microsoft/ TypeScript/wiki/Writing-a-Language-Service-Plugin.