Tastydoc

A documentation tool for dotty using TASTy files

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What is Tastydoc ?

- Documentation tool for Dotty

What is Tastydoc ?

- Documentation tool for Dotty
- Uses TASTy files

What is Tastydoc ?

- Documentation tool for Dotty
- Uses TASTy files
- Outputs Markdown

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Accessible information

- Annotations, modifiers (including scope modifiers), parameters, type parameters, and return types

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- Members, parents, constructors, known subclasses and companion

Accessible information

- Annotations, modifiers (including scope modifiers), parameters, type parameters, and return types
- Members, parents, constructors, known subclasses and companion
- User documentation (Wiki-style & Markdown)

TASTy

- Extract information from them

TASTy

- Extract information from them
- Independent from the compiler

Linking

- To types

Linking

- To types
- Companion

Linking

- To types
- Companion
- Annotations

Linking

- To types
- Companion
- Annotations
- Scope modifiers

Linking

- To types
- Companion
- Annotations
- Scope modifiers
- Parents

Markdown

- Easy to edit by hand & preview

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- Easy to edit by hand & preview
- Easy to add own files

Markdown

- Easy to edit by hand & preview
- Easy to add own files
- Easy for the user to make links

Markdown

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- Git hosting service have built-in preview

Markdown

- Easy to edit by hand & preview
- Easy to add own files
- Easy for the user to make links
- Git hosting service have built-in preview
- Easy to convert to another format (HTML, PDF, etc.)

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Representation

- Contain information about an entity

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- Code is easy to maintain

Representation

- Contain information about an entity
- Easy to use, no knowledge of TASTy required
- Code is easy to maintain
- Similar to Dottydoc Entity $\rightarrow$can reuse Dottydoc code

Reference

- Contain information about types

Reference

- Contain information about types
- Necessary for linking

Reference

- Contain information about types
- Necessary for linking
- Inspired by Dottydoc

User documentation

- Access to all @ except `@usecase` and `@define`

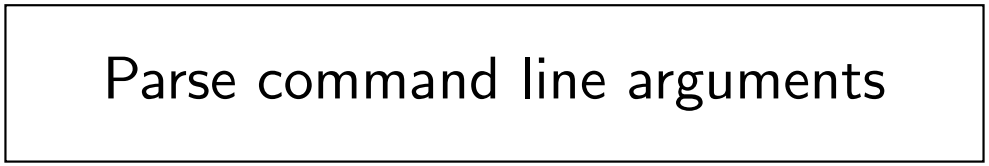
User documentation

- Access to all `@` except `@usecase` and `@define`
- Support Wiki-style and Markdown

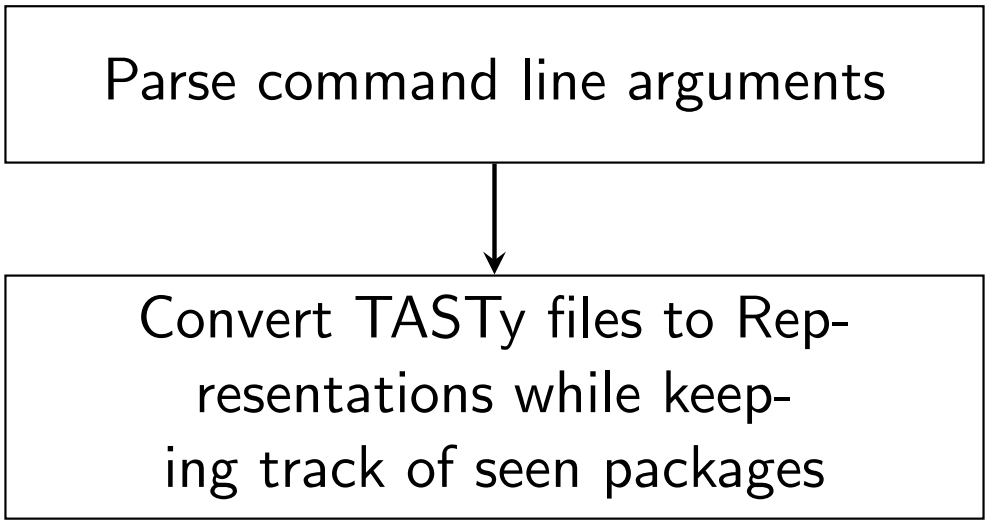
User documentation

- Access to all @ except `@usecase` and `@define`
- Support Wiki-style and Markdown
- Uses Dottydoc code modified for:
  - Markdown output
  - Small changes in structure

Workflow



Workflow


Parse command line arguments
Convert TASTy files to Representations while keeping track of seen packages

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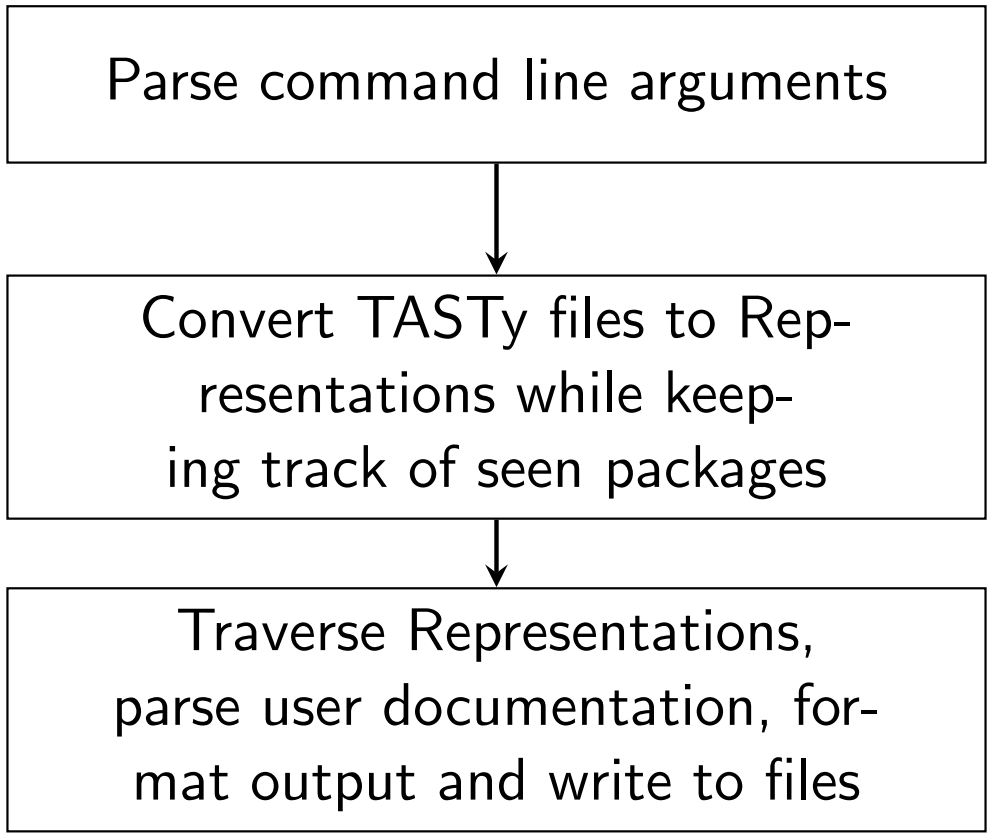
Parse command line arguments
Convert TASTy files to Representations while keeping track of seen packages
Traverse Representations, parse user documentation, format output and write to files

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General comparison

- Compiler internals

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- Markdown vs HTML/CSS

Extra features

- Scope modifiers

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Extra features

- Scope modifiers
- Known subclasses
- Refined types

Bugs fixed

- Buggy output

```
final val BITS_PER_LAZY_VAL : [31m2L[0m
```

Bugs fixed

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- Wrong parents

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- Wrong parents
- Annotations

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- Wrong parents
- Annotations
- Compiler artifacts

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- Buggy output

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final val BITS_PER_LAZY_VAL : [31m2L[0m
```

- Wrong parents
- Annotations
- Compiler artifacts
- potentially program breaking code

```
def parents: List[Entity] = this :: this.parents
```

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Problems

- Markdown escaping

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- Linking inside code blocks

Problems

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- Section

Problems

- Markdown escaping
- Linking inside code blocks
- Section
- IDs for linking

Further work

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- Type lambdas

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- Complex types

```
class Graph {
    type Node = Int
}
def linkingGraph(g: Graph): g.Node = ???
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class Graph {
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- Default values
- Extra user-documentation parsing
- HTML/CSS