

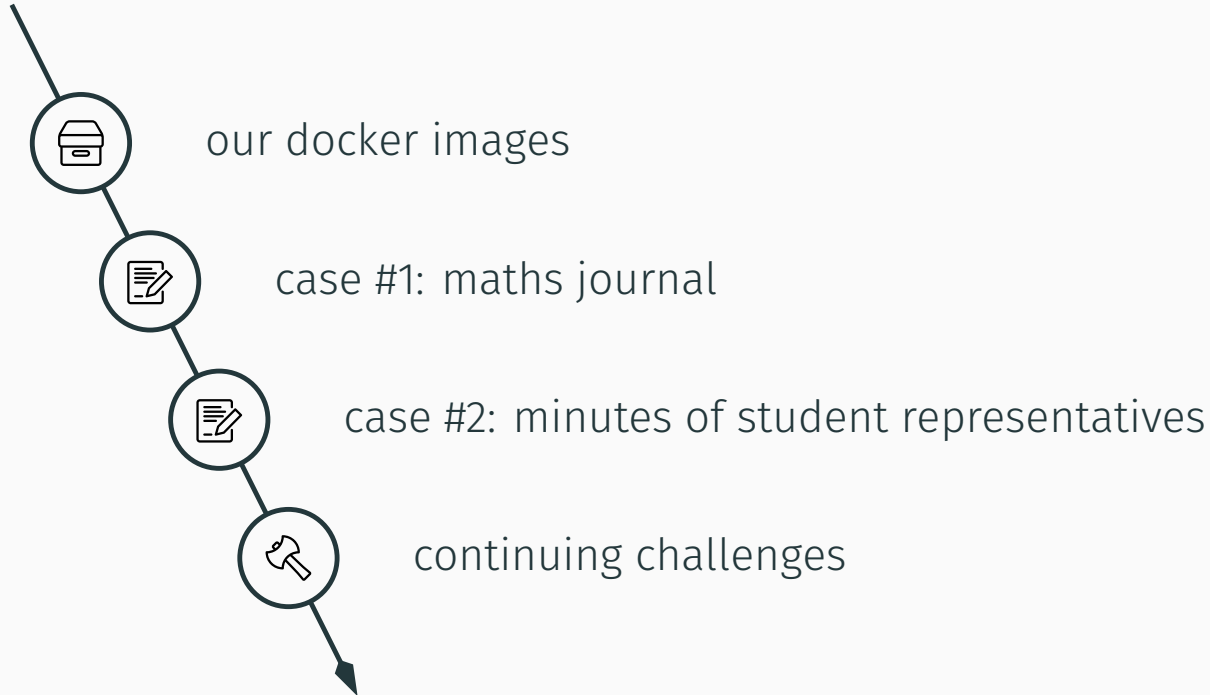
Living in containers

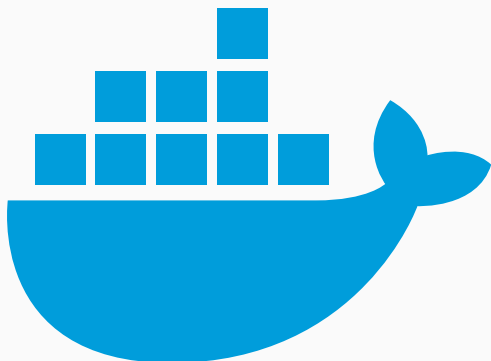
On T_EX Live (and ConT_EXt) in a Docker setting

Island of T_EX

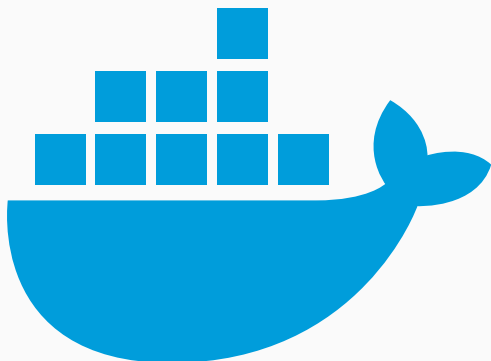
July 16, 2023

TUG 2023

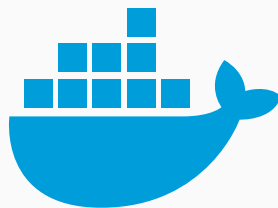




- TL releases from 2013 on
- ConT_EXt LMTX separately
- continuous integration + local runs



- TL releases from 2013 on
 - latest images split by schemes
 - weekly updates for latest
 - monthly updates for historic
 - doc and src tree optional
- ConT_EXt LMTX separately
- continuous integration + local runs



The island manages the Docker images at:



<https://hub.docker.com/r/textlive/textlive>



<https://hub.docker.com/r/contextgarden/context>

Case Study 1



Maths journal



TeX-based issues
dating back to 90's



issues from 2022 already
not compiling anymore



run
locally



currently establishing compatibility policy
(each year, switch to frozen TL from year before)



- images are easy to pull on demand:

```
docker pull texlive/texlive:TL2022-historic
```

- easy to free space:

```
docker image prune -a / docker system prune -a
```

- no PATH fiddling, run in any year:

```
docker run -i latex -v "$PWD":/opt/doc:z -w /opt/doc  
texlive/texlive:TL2018-historic arara -v issue.tex
```


Case Study 2



Minutes of
student representatives

Case Study 2: minutes of student representatives



university student
representatives from Jena



weekly meetings
with minutes



completely
CI-based setting



ConT_EXt because of
limited CI resources





GitLab CI job configuration

YAML

build:context:

image: registry.gitlab.com/islandoftex/images/context:lmtx

script:

```
- find -name "*.tex" -exec context "{}" \;
```

artifacts:

name: "\$CI_COMMIT_REF_NAME"

paths:

```
- ./**/*.pdf
```



GitLab CI job configuration

YAML

build:context:

image: registry.gitlab.com/islandoftex/images/context:lmtx

script:

```
- find -name "*.tex" -exec context "{}" \;
```

artifacts:

name: "\$CI_COMMIT_REF_NAME"

paths:

```
- ./**/*.pdf
```



GitLab CI job configuration

YAML

build:context:

image: registry.gitlab.com/islandoftex/images/context:lmtx

script:

- bash compile-only-needed.sh

artifacts:

name: "\$CI_COMMIT_REF_NAME"

paths:

- ./**/*.pdf



compile-only-needed.sh – case 1: full compilation

BASH

```
sha=$(echo "curl last commit from GL API" | grep -o -E -m1
↪ '"sha":"([^"]*)"' | head -1 | cut -c 8-47)
changed=$(git diff-tree --no-commit-id --name-only
↪ "$sha".."$CI_COMMIT_SHA")
compile_all=false
for file in $changed; do if [[ $file == environment/* ]]; then
    compile_all=true
fi; done

for file in $(find . -mindepth 2 -type f -name "*.tex"); do
    cd "$(dirname "$file)" && context "$(basename "$file)" && cd "$(git
↪ rev-parse --show-toplevel)"
done
```



compile-only-needed.sh – case 2: incremental compilation

BASH

```
sha=$(echo "curl last commit from GL API" | grep -o -E -m1
```

```
↪ '"sha":"([^\"]*)"' | head -1 | cut -c 8-47)
```

```
changed=$(git diff-tree --no-commit-id --name-only
```

```
↪ "$sha".."$CI_COMMIT_SHA")
```

```
for file in $changed; do
```

```
  cd "$(dirname "$file")" && context "$(basename "$file")" && cd "$(git
```

```
  ↪ rev-parse --show-toplevel)"
```

```
done
```



file type	# files	avg. full run	avg. incremental
ConT _E Xt files	193	9:43 min.	1 min.
ΛT _E X files	93	9:33 min.	3 min.

statistics dated 2023-05-28



stability of the infrastructure
(many thanks to Marei and Vít)



splitting historic
images by schemes



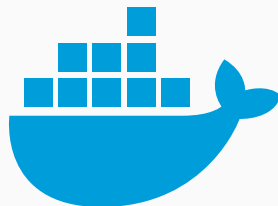
automate building
new historic images



multi-architecture images



layer-friendliness



Docker (or bash) experts are invited to join our quest to solve issues or extend the images!

Visas for the island
are free and easy to get!

The Island of T_EX is hosted at



<https://gitlab.com/islandoftex>

Join our community chat on Matrix at



[matrix] <https://matrix.to/#/#iot-community:matrix.org>

Cheerio!

