

Trying out template metaprogramming

Marc-Olivier Andrez
Senior Software Engineer at AMIA-Systems

“Modern Template Metaprogramming - A Compendium”

Walter E. Brown, CppCon 2014

Part I: <https://www.youtube.com/watch?v=Am2is2QCvxY>

Part II: <https://www.youtube.com/watch?v=a0FliKwcwXE>

Slides: <https://github.com/CppCon/CppCon2014/tree/master/Presentations/Modern%20Template%20Metaprogramming%20-%20A%20Compendium>

Learn You a Haskell for Great Good!

`filter :: (a -> Bool) -> [a] -> [a]`

`filter _ [] = []`

`filter p (x:xs)`

`| p x = x : filter p xs`

`| otherwise = filter p xs`

<http://learnyouahaskell.com/higher-order-functions#maps-and-filters>

Agenda

1. Join vectors of strings
2. Join elements of containers
3. Join elements of containers of pointers
4. Wrapper function `getId` for several classes

Member detector idiom

- https://en.wikibooks.org/wiki/More_C%2B%2B_Idioms/Member_Detector
 - => Do not use it!
- `void_t` (http://en.cppreference.com/w/cpp/types/void_t)

Thank you!