

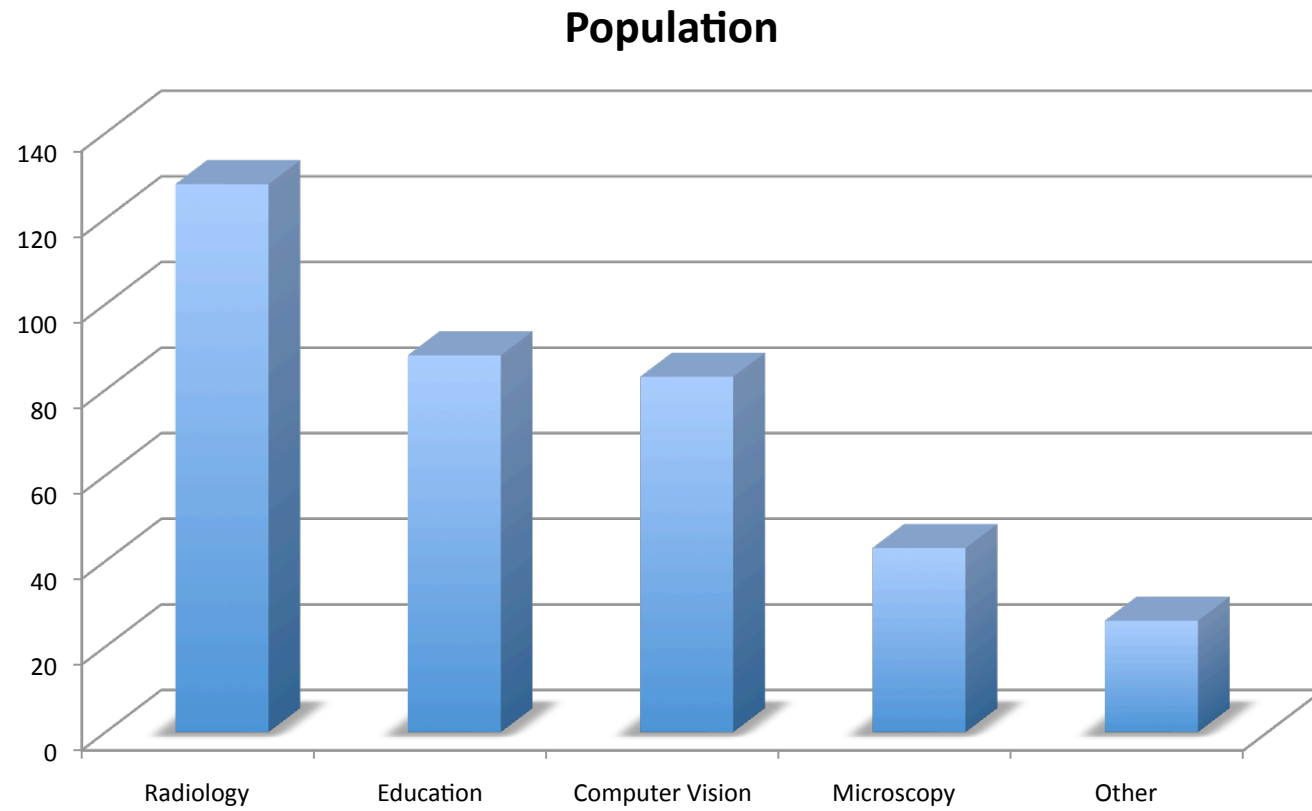
# SimpleITK Survey: Preliminary Results

# General Statistics

- 214\* participants
- Non-ITK users:
  - 13.55% (29 participants) have never used ITK
  - 185 have used ITK
  - 55% (16) of non-ITK users are C++ users
- Non-C++ users:
  - 15.88% (34 participants) have never used or don't feel comfortable using C++
    - Specific distribution: 4 + 30
  - 61% (21) of non-C++ users have used ITK
  - 13 have never used ITK

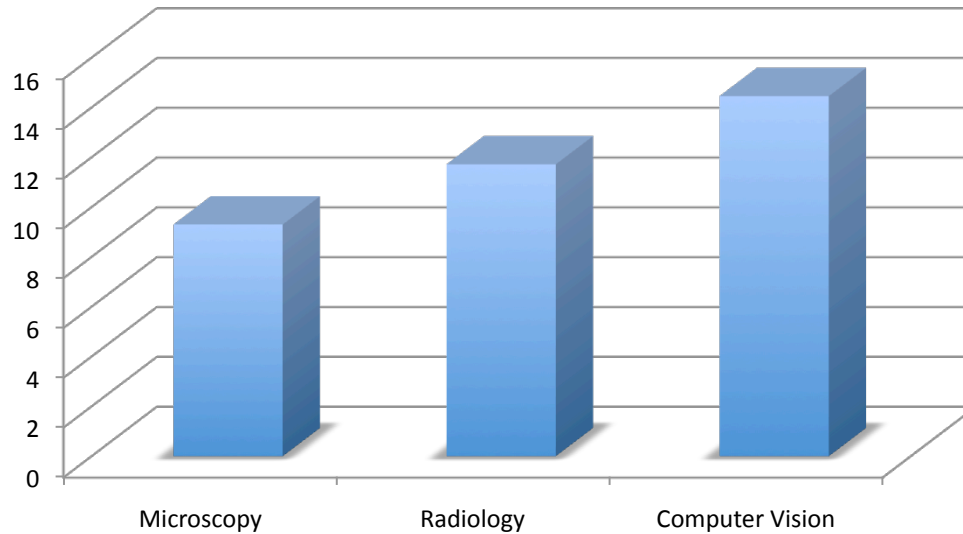
\*as of 10/29/10

# Population



# Population that don't use C++

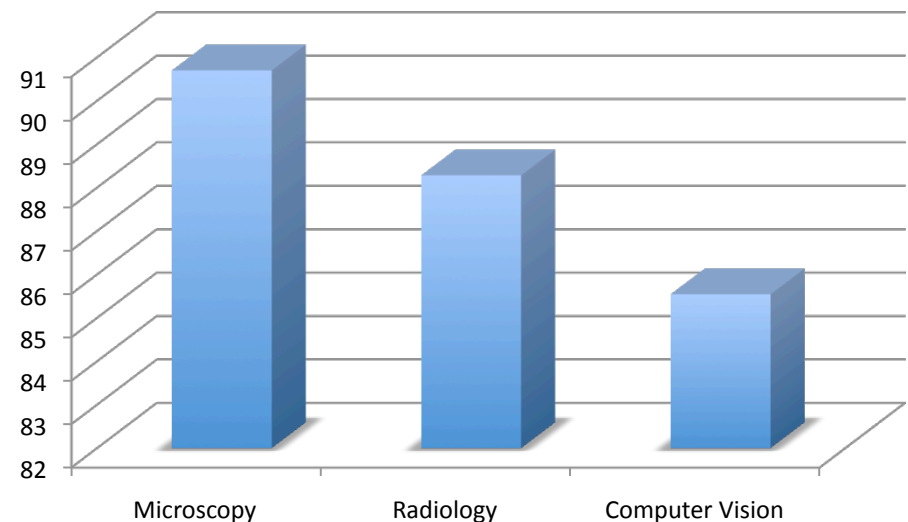
Percentage of Subjects that don't use C++



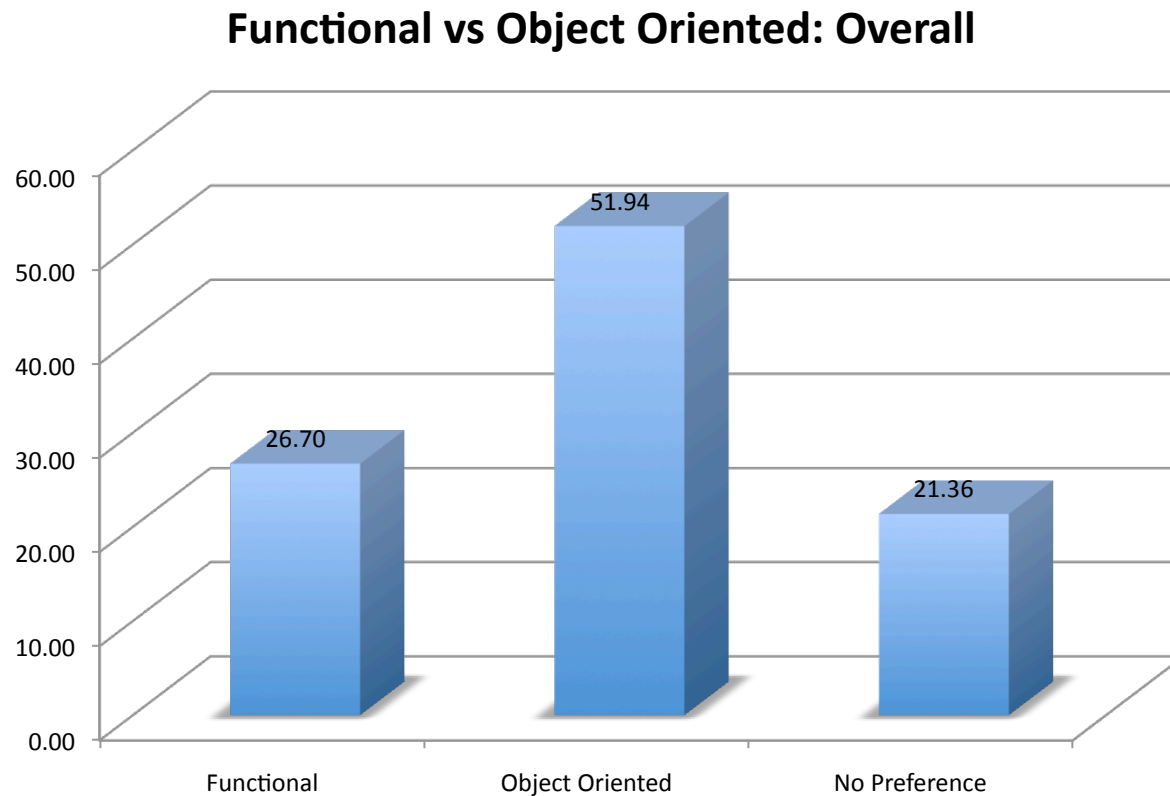
## Questions:

- Most people in microscopy use C++?
- More people in Radiology use C++ than in Computer Vision?

Percentage of Subjects expert in C++



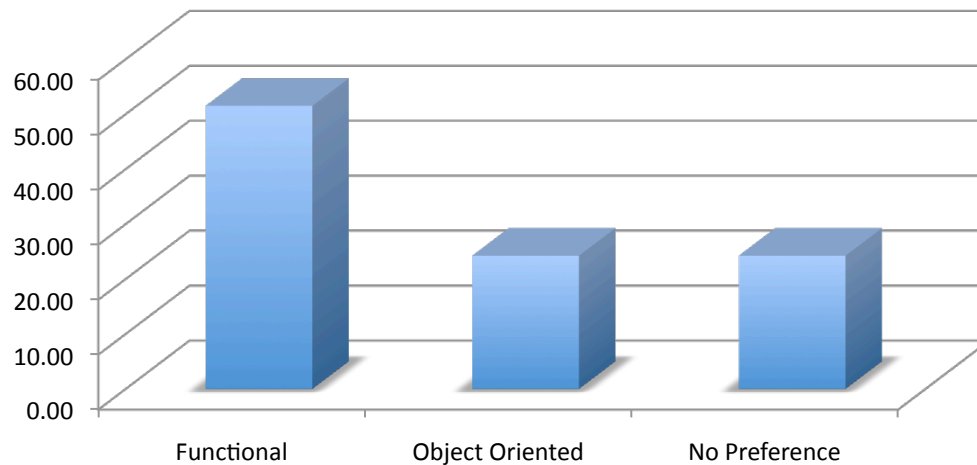
# Functional vs. Object Oriented



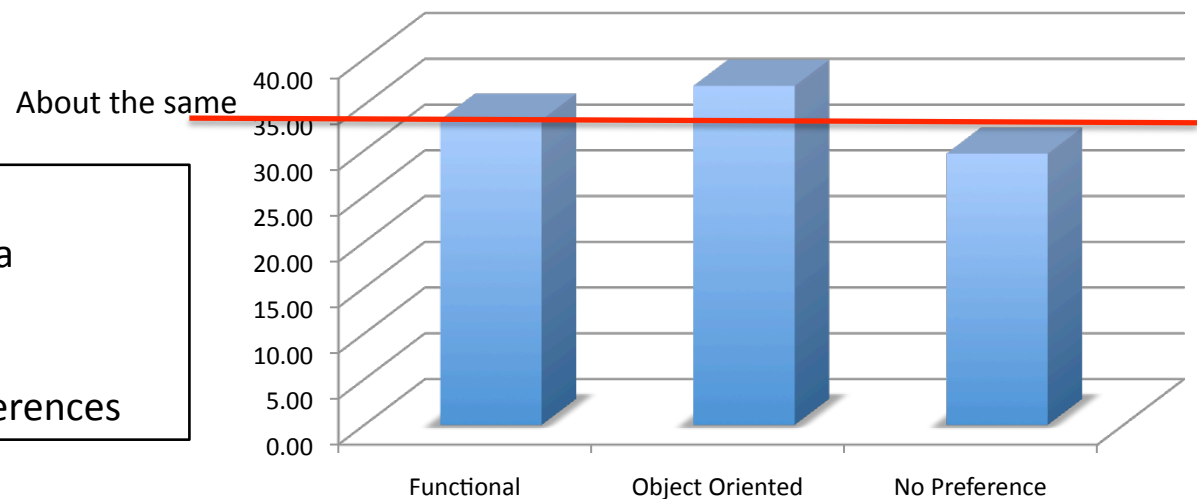
Overall, it seems that people prefer an *Object Oriented* programming style. However....

# Functional vs. Object Oriented

Preference Among Non-C++ Programmers



Preference Among Non-ITK Users

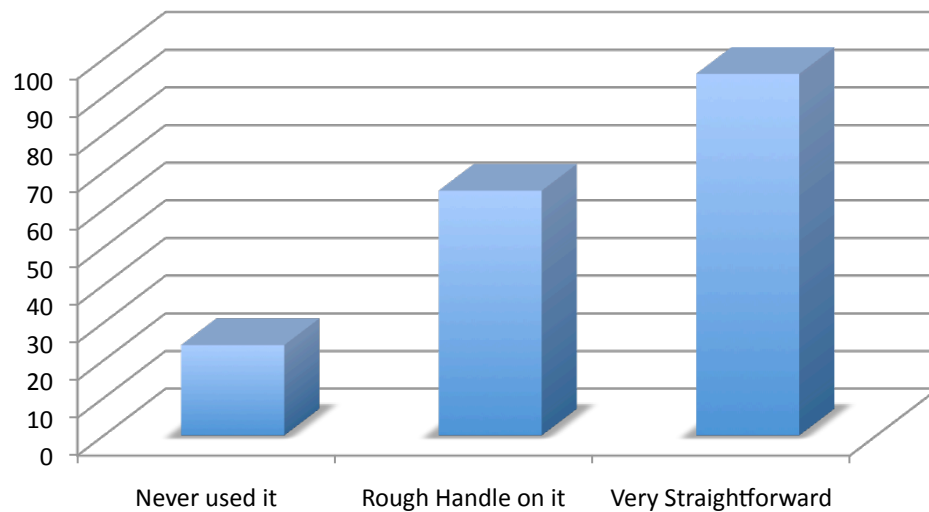


However:

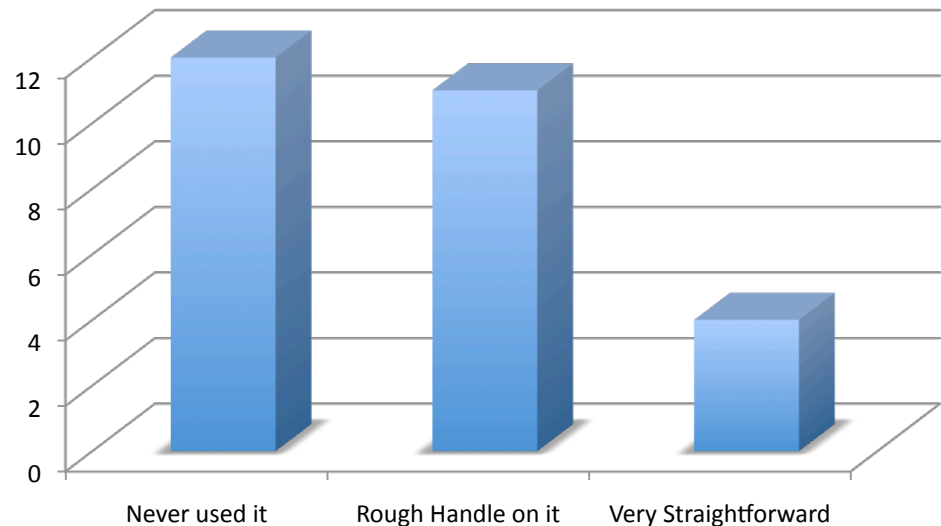
- Non-C++ programmers prefer a Functional style
- Non-ITK users don't have preferences

# How well do you understand the pipeline?

**Filter Pipeline: Overall**



**Filter Pipeline: Non-C++ Developers**

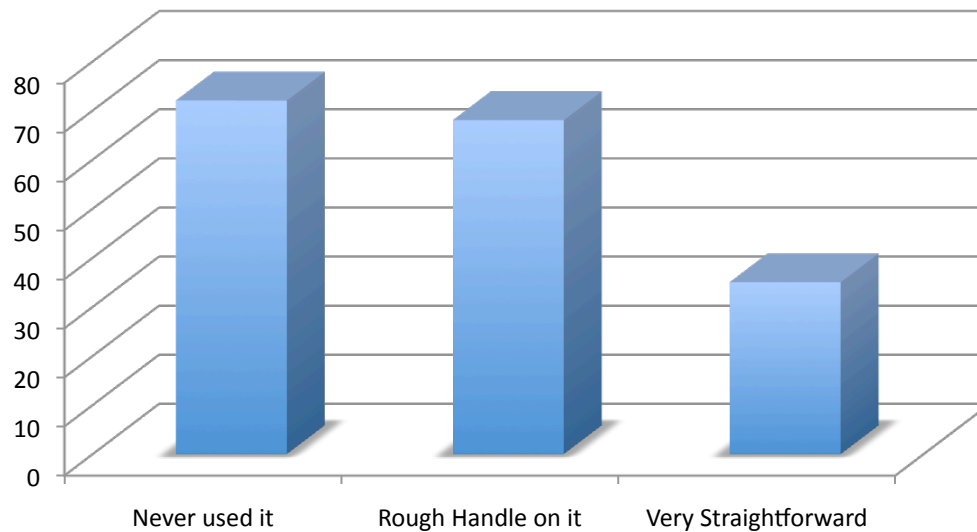


Note:

Non-C++ Users (including the 61% that have used ITK), don't understand the pipeline.

# How well do you understand streaming?

**Streaming: Overall**

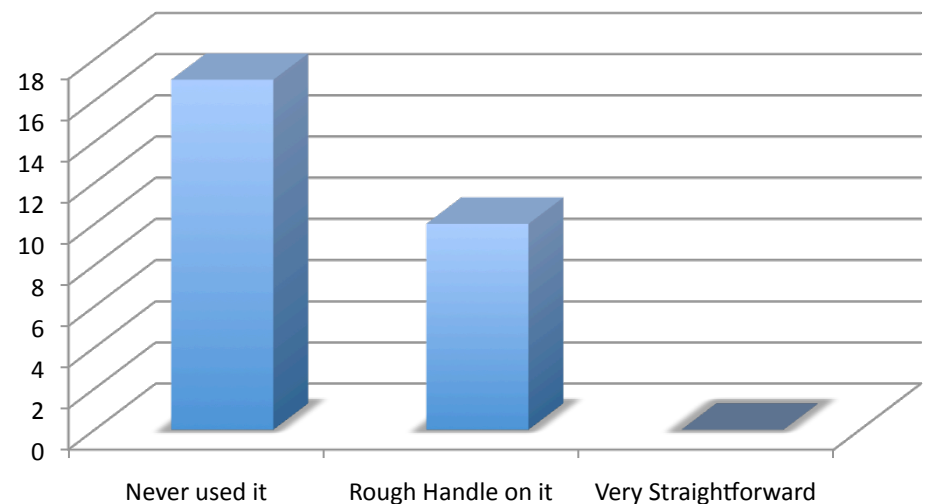


Note:

Most ITK, non-ITK, and C++ users don't have a clear understanding of streaming

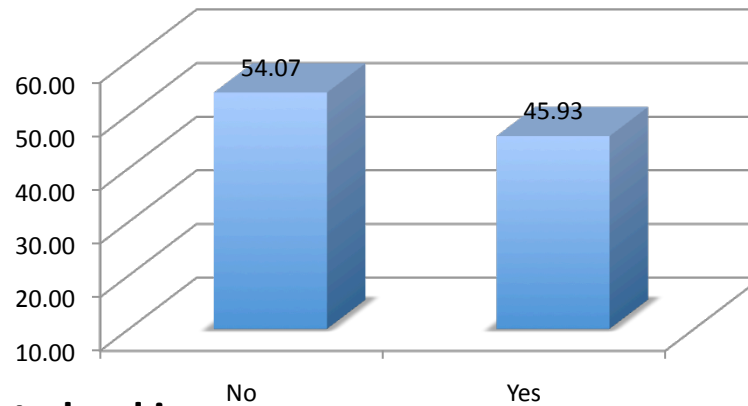
However....

**Streaming: Non-C++ Developers**

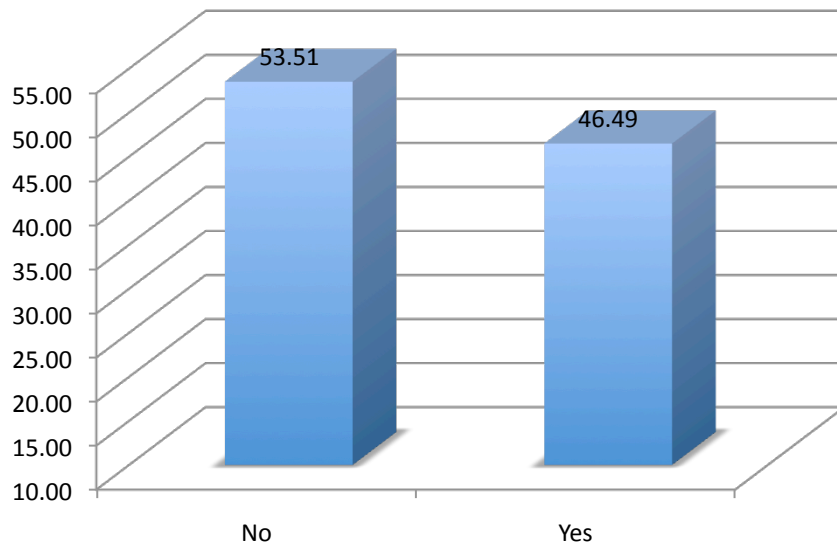


# Loading images larger than RAM?

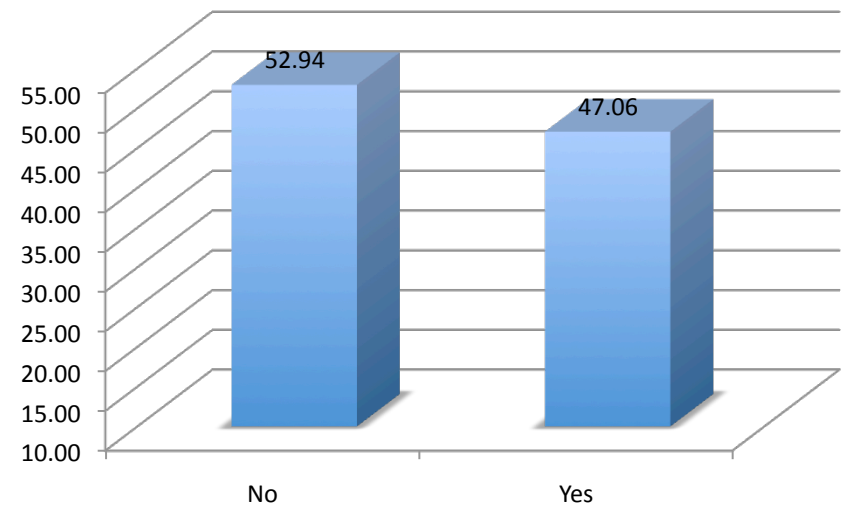
**Overall: Do you need to load images larger than local memory?**



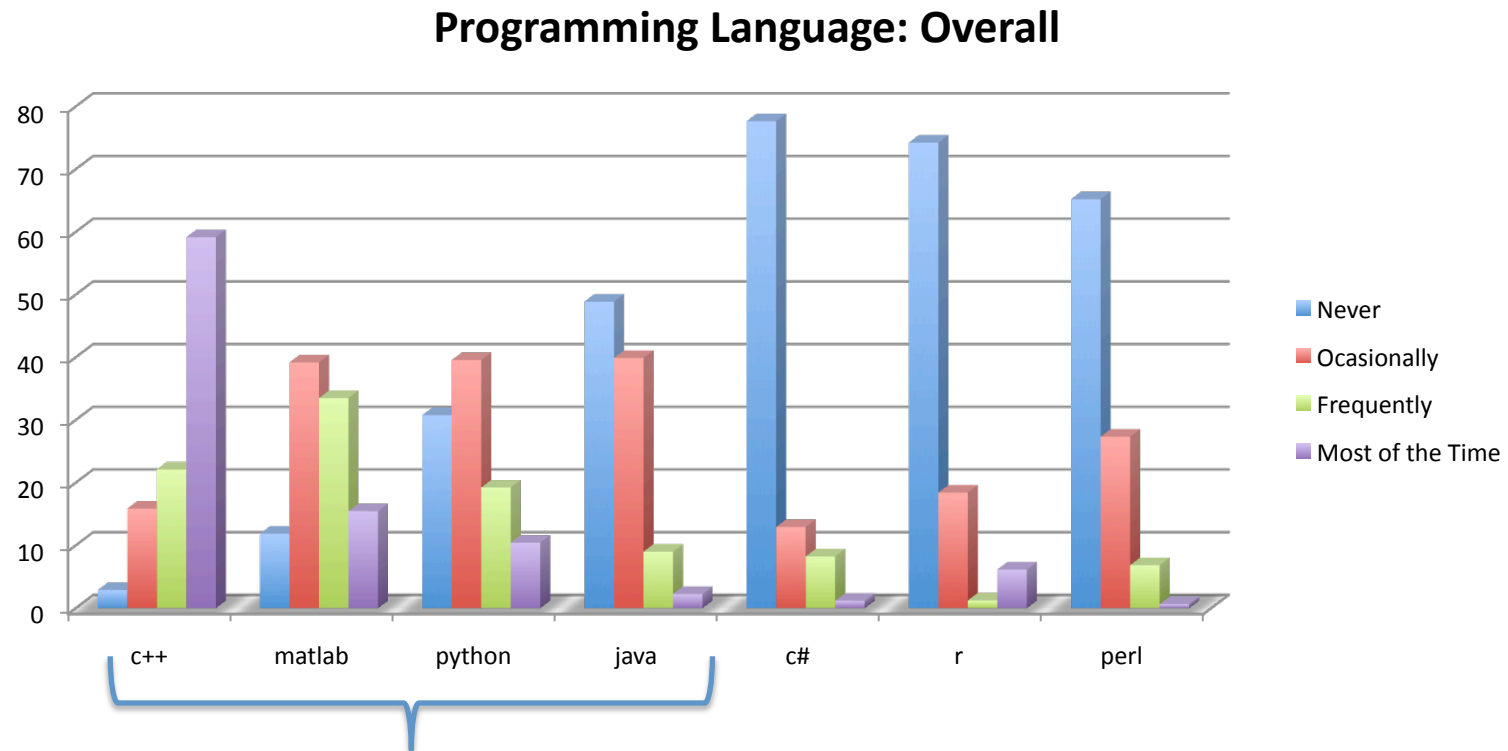
**ITK Users: Do you need to load images larger than local memory?**



**Non-C++ Users: Do you need to load images larger than local memory?**



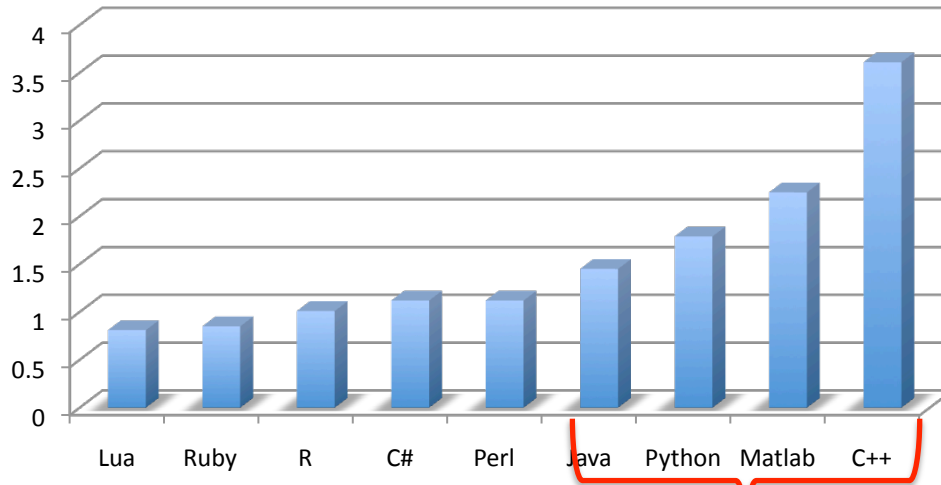
# Programming Languages



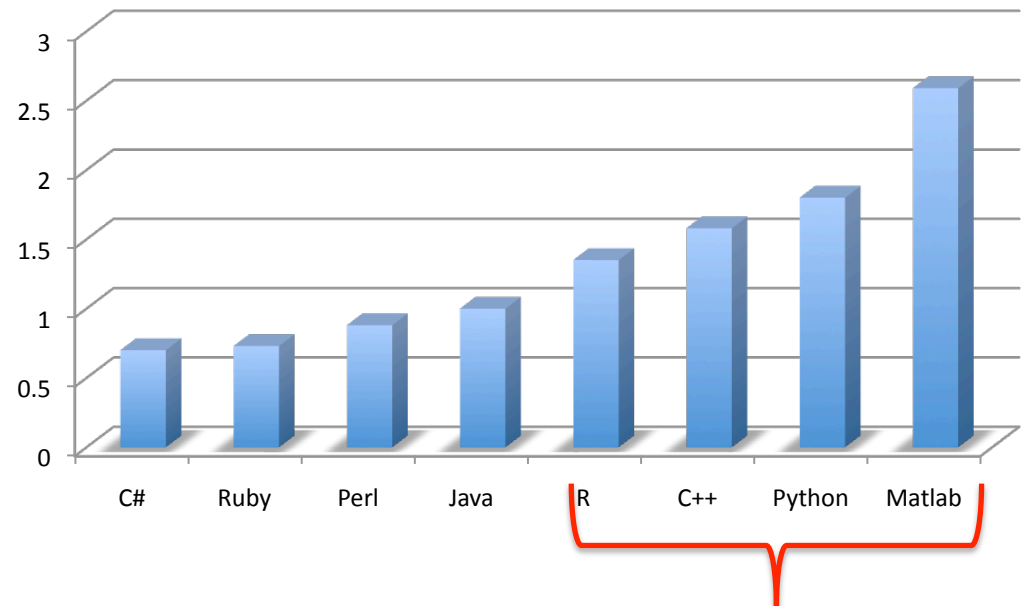
The most important  
programming languages?

# Programming Languages

Preferences: C++ Experts



Preferences: Non C++ Developers

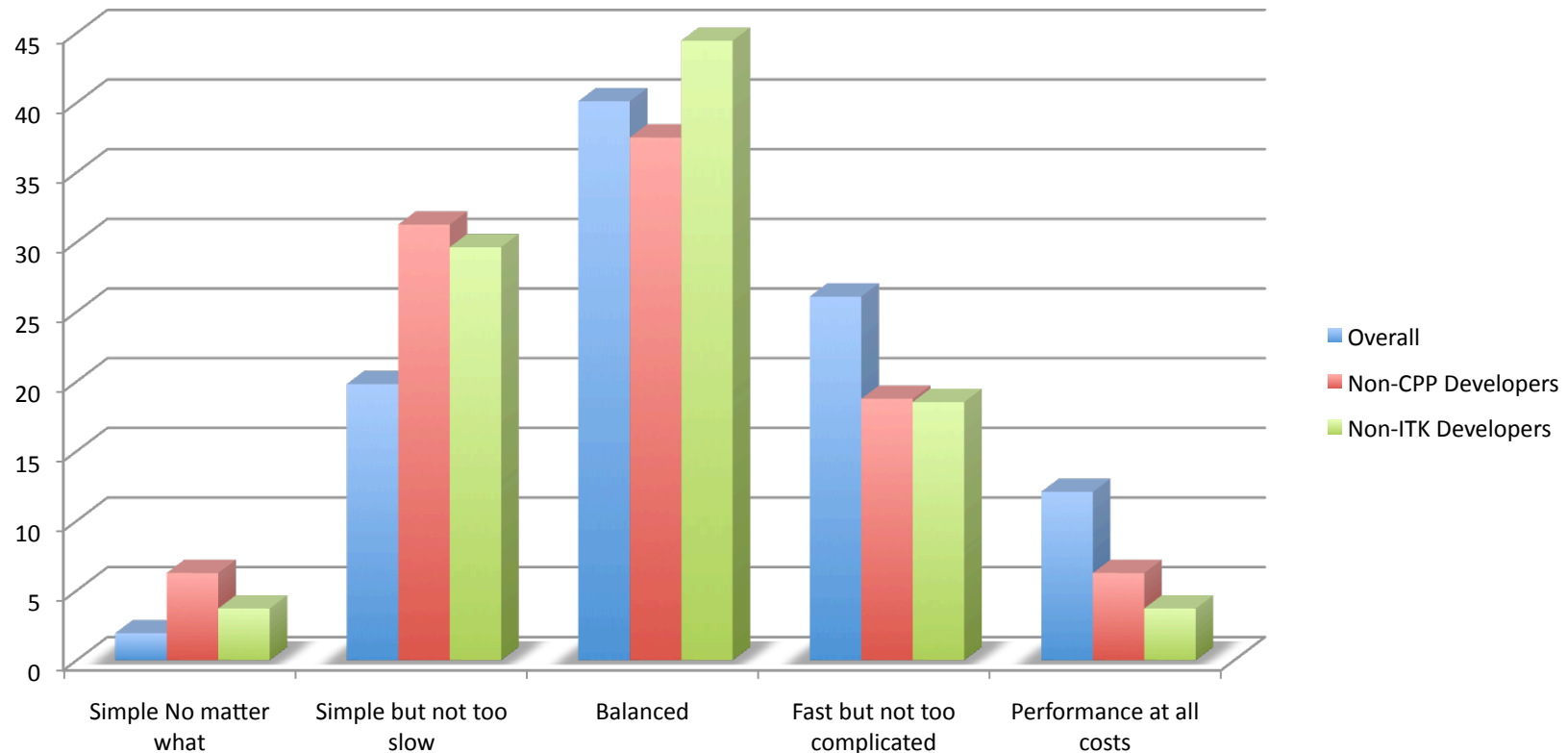


Q:

Can we say that Matlab, Python, C++, Java, and R are the most important programming languages?

# Simplicity vs. Performance

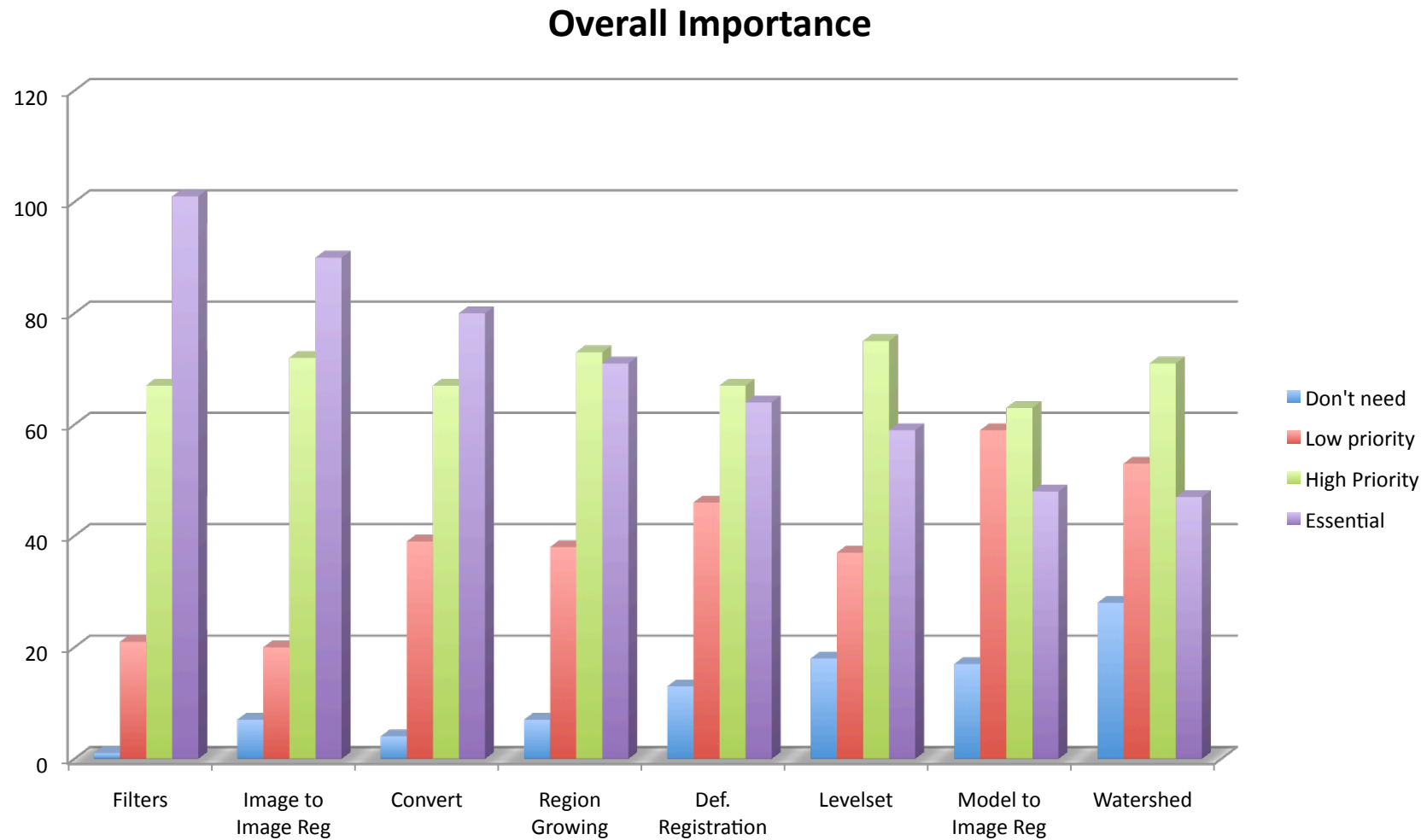
Performance Among Groups



Order: 4 2 1 3 5

It seems that for non-C++ and non-ITK developers simplicity is more important than performance.

# What ITK features are important?

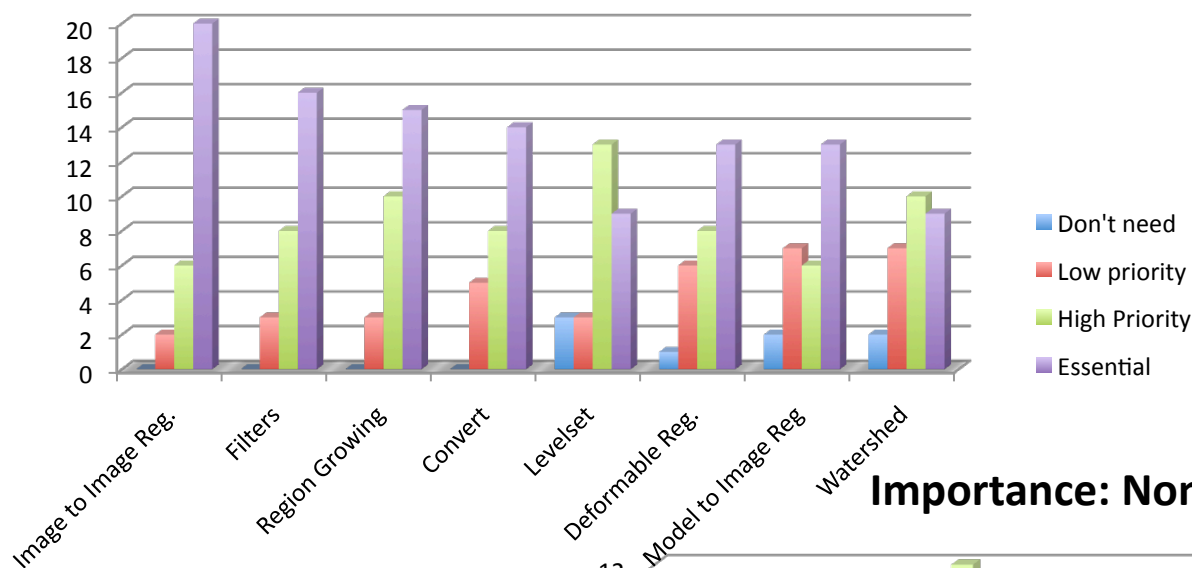


Note:

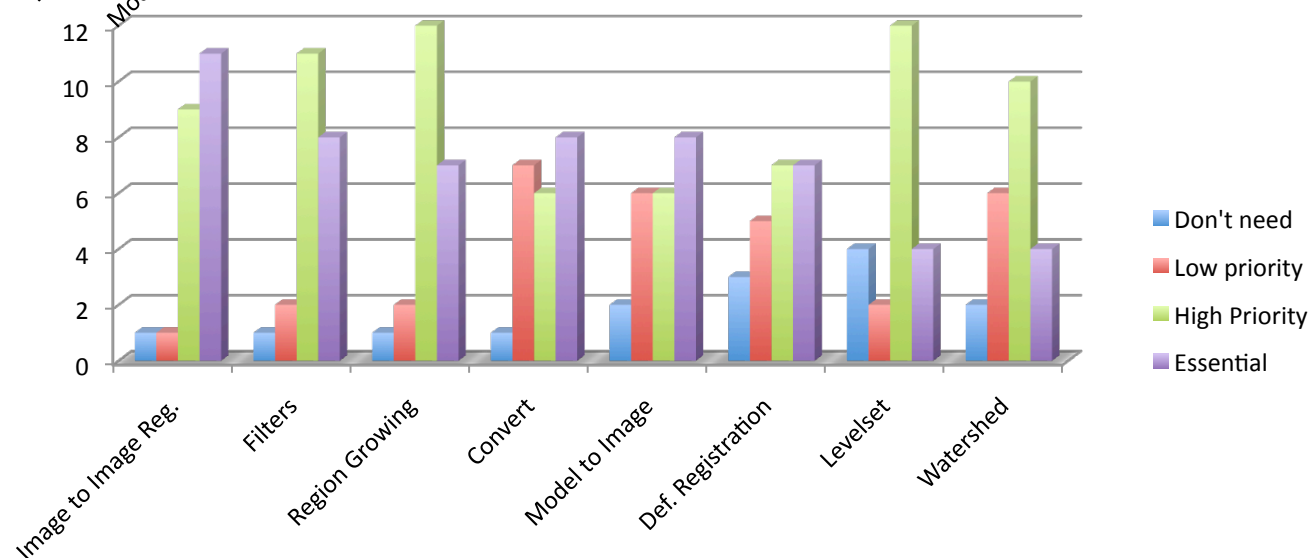
A good and simple segmentation technique is better than a complex and state-of-the-art approach?

# What ITK features are important?

Importance: Non C++ Developer



Importance: Non-ITK Developers



It seems that the most important features are:

1. Registration
2. Filters
3. Region Growing
4. Convert

