

# Android ART for RISC-V

夏立方

01

Android  
ART for  
RISC-V

02

What we  
does in  
XUANTIE

03

AOSP  
mainline

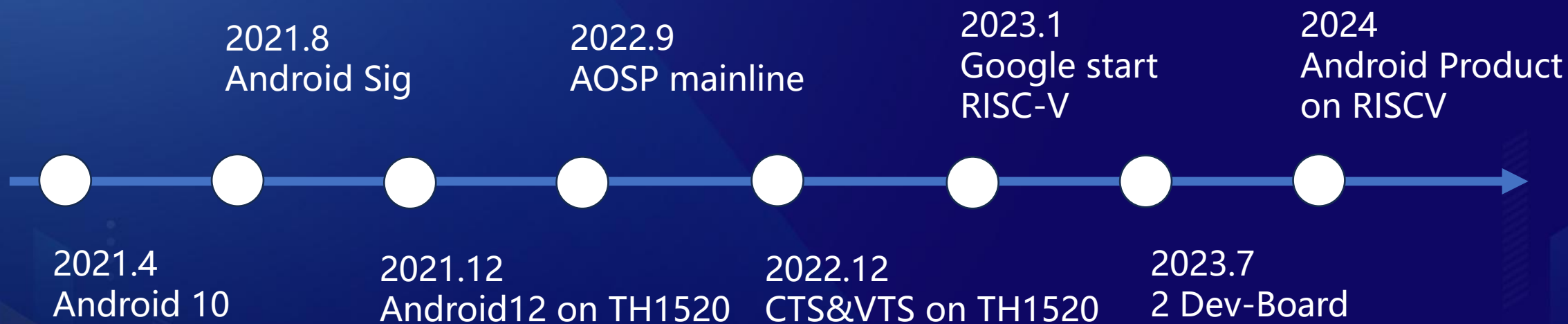
04

Future

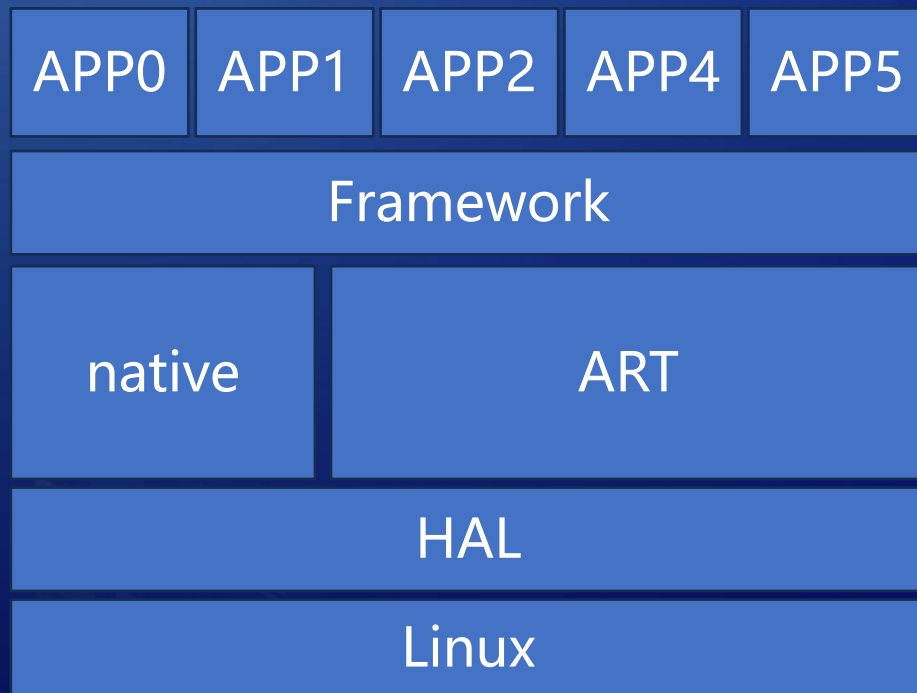
# Android ART For RISC-V

# Background

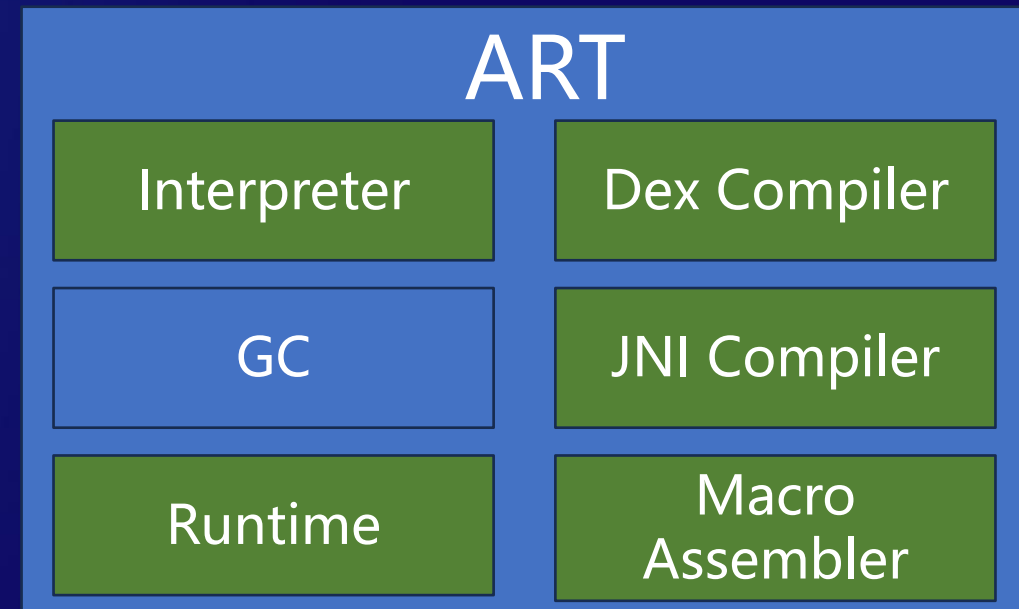
2023  
RISC-V 中国峰会



# ART for RISC-V

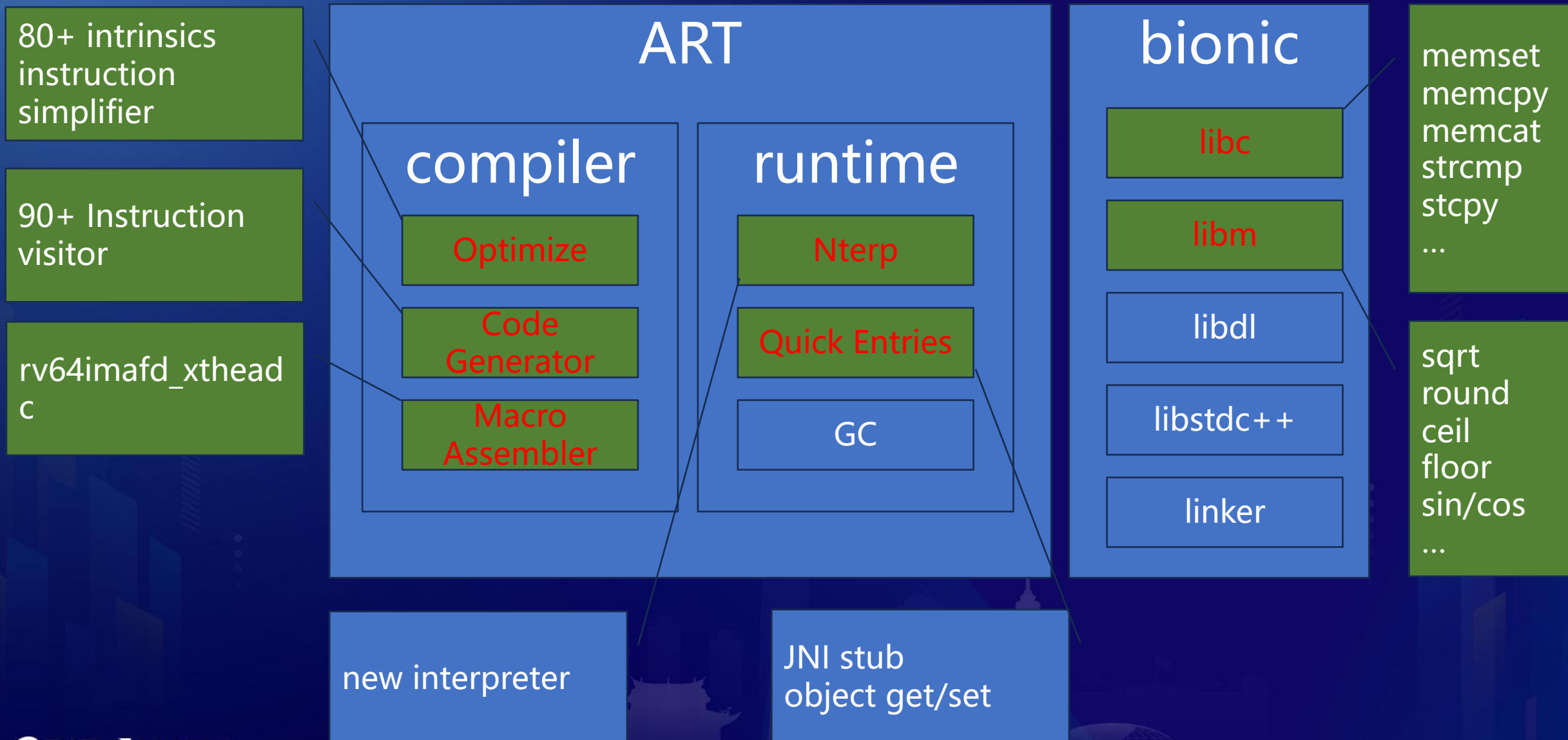


Android Overview



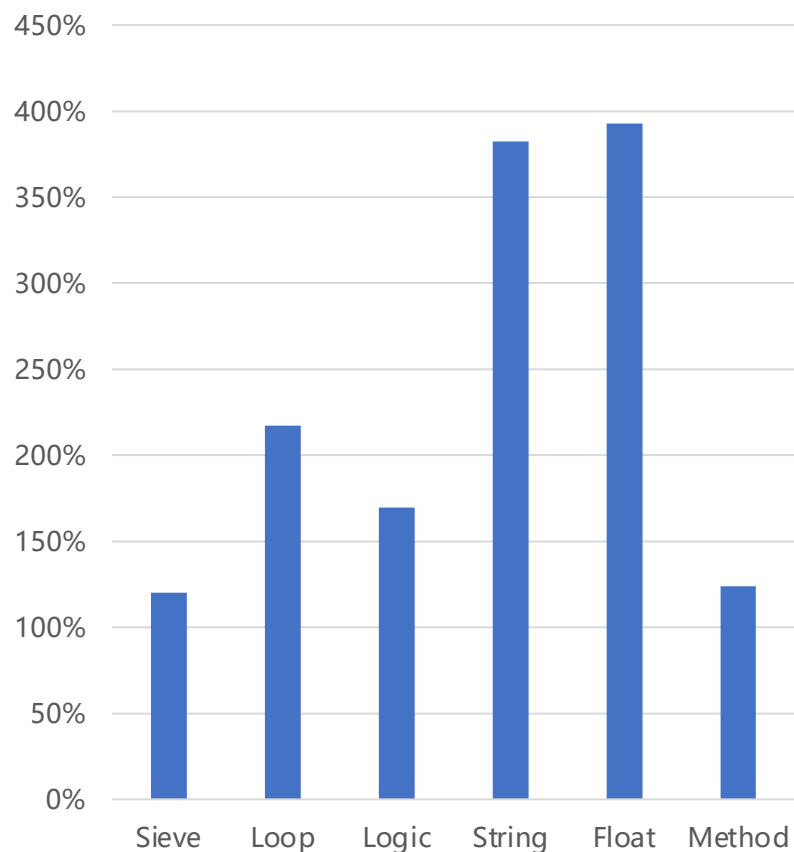
# Android ART Optimizing in Xuantie

# Optimizing in Xuantie

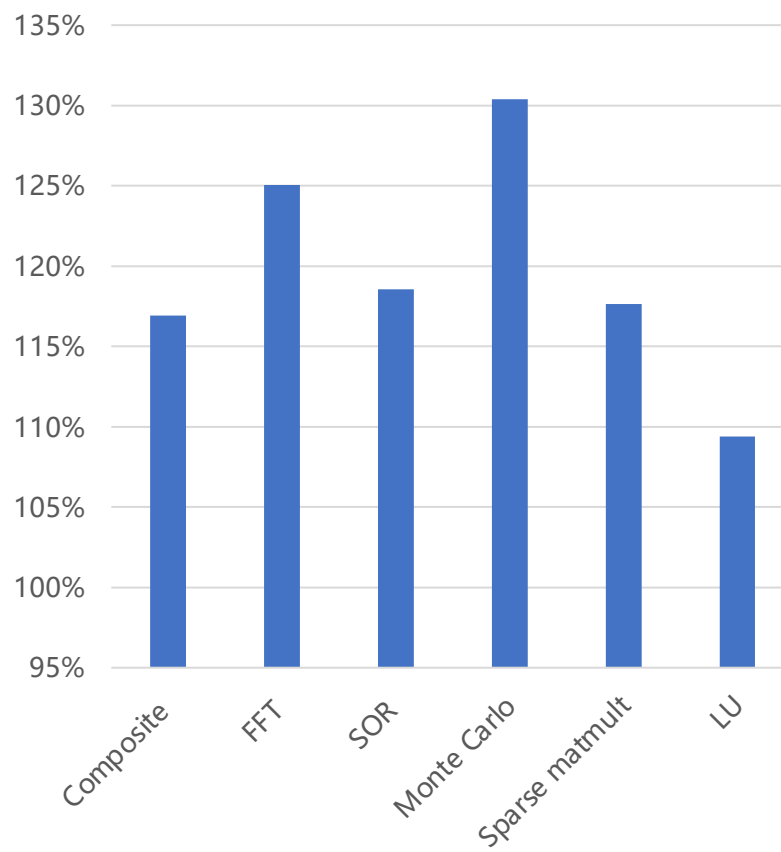


# Benchmarks After/Before Optimizing

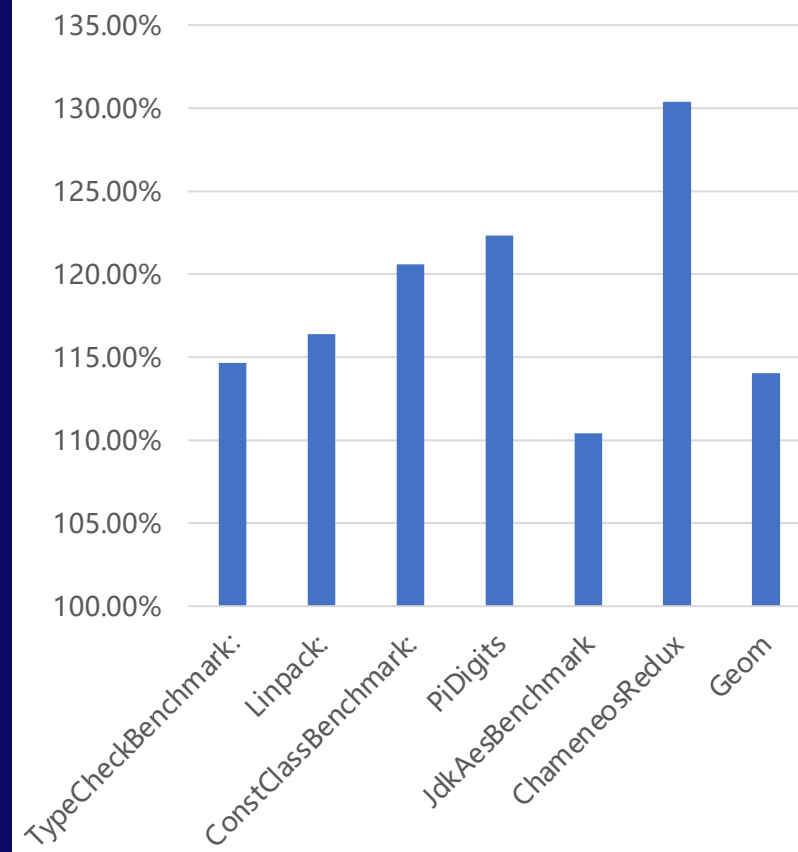
## Caffeinemark



## SCIMath2



## Others





# Android ART Mainline

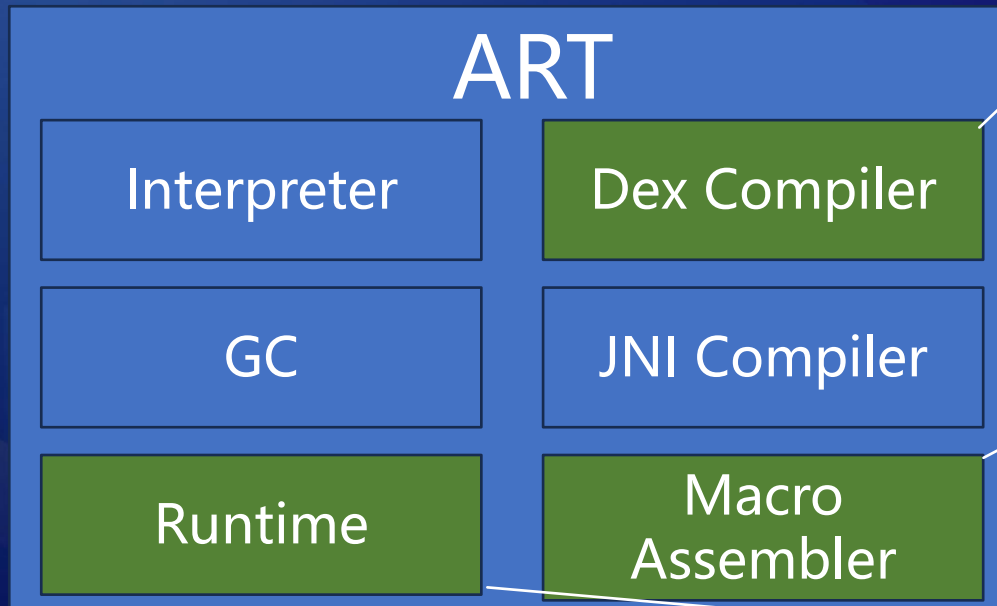


android-review.googlesource.com/q/ls:closed+(-ls:wip+OR+owner:self)+(owner:self+OR+reviewer:self+OR+cc:self),25

| Subject   | Owner          | Reviewers              | Repo         | Branch | Updated | Size | Status | CR | PV | L |
|---|----------------|------------------------|--------------|--------|---------|------|--------|----|----|---|
| ☆ RISC-V: [Codegen] Add GenerateImplicitNullCheck   | Lifang Xia     | Santiago, Ulya, +1     | platform/art | main   | Jul 25  | S    | Merged | ✓  | ✓  | ✓ |
| ☆ RISC-V: [Codegen] Add VisitCInitCheck             | Lifang Xia     | Santiago, Vladimir, +1 | platform/art | main   | Jul 25  | M    | Merged | ✓  | ✓  | ✓ |
| ☆ RISC-V: [Codegen] Add GenerateStaticOrDirectCall  | Lifang Xia     | Santiago, Vladimir, +1 | platform/art | main   | Jul 25  | M    | Merged | ✓  | ✓  | ✓ |
| ☆ RISC-V: [Codegen] Add LoadMethod                  | Lifang Xia     | Santiago, Vladimir, +1 | platform/art | main   | Jul 25  | L    | Merged | ✓  | ✓  | ✓ |
| ☆ RISC-V: [Codegen] Add VisitBoundsCheck            | Lifang Xia     | Santiago, Vladimir, +1 | platform/art | main   | Jul 24  | M    | Merged | ✓  | ✓  | ✓ |
| ☆ RISC-V: [Codegen] Add VisitCurrentMethod          | Lifang Xia     | Santiago, Vladimir, +1 | platform/art | main   | Jul 22  | S    | Merged | ✓  | ✓  | ✓ |
| ☆ RISC-V: [Codegen] Add VisitBoundType, Unreachable | Lifang Xia     | Santiago, Vladimir, +1 | platform/art | main   | Jul 20  | S    | Merged | ✓  | ✓  | ✓ |
| ☆ RISC-V: [Codegen] Add VisitArrayLength            | Lifang Xia     | Santiago, Vladimir, +1 | platform/art | main   | Jul 20  | S    | Merged | ✓  | ✓  | ✓ |
| ☆ RISC-V: [Codegen] Add VisitParallelMove           | Lifang Xia     | Santiago, Vladimir, +1 | platform/art | main   | Jul 19  | M    | Merged | ✓  | ✓  | ✓ |
| ☆ RISC-V: [Codegen] Add VisitIf                     | Lifang Xia     | Santiago, Vladimir, +1 | platform/art | main   | Jul 19  | L    | Merged | ✓  | ✓  | ✓ |
| ☆ riscv64: Improve GenerateFncCondition             | Vladimir Marko | Santiago               | platform/art | main   | Jul 18  | M    | Merged | ✓  | ✓  | ✓ |

Commit: 76+

# Android ART TODO



- CodeGen
- Disassembler
- Intrinsics

- Vector 1.0
- Zb\*

- QuickEntries



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