

GNU Chess 5.05

```
Transposition table: Entries=1K Size=40K
Pawn hash table: Entries=0K Size=32K
white (1) : e2
illegal move: e2
white (1) : e4
illegal move: e4
white (1) : e2
illegal move: e2
white (1) : e4
1. e4
```

```
black KQKq e
r n b q k b n r
p p p p p p p
. . . . .
. . . . .
. . . . .
p p p p p p p
R N B Q K B N
```

Thinking...

Looking for opponent...

Looking for opponent...

Looking for opponent...

No book found

Root = -82, Phase=3, Side=FL

Time = 5.00, Nodes=128, Hash=0

Ply Time

1+ 0.06

2+ 0.08

2+ 0.10

2+ 0.13

3+ 0.17

3+ 0.21

4+ 0.38

4+ 1.43

4+ 1.47

5+ 3.24

5+ 4.44

5+ 4.83

5+ 5.02

6+ 1.720

Time = 5.3, Mate=3681, Nodes=(28674/2503/31177), Hash=15472

Ext: Chk=730 Recap=102 Pawn=314 OneRep=13 Horz=9 Mate=0

Material: 13600/1600 : 4400/4400/1 Lazy=150/181 MaxPos=100

Hash: Success=22% Collision=22% Pawn=66%

white KQKq

r . b q k b n r

p p p p p p p

.

.

p p p p p p p

R N B Q K B N

RV
一起学

Full-stack

全栈学习公社 Hacker and Company

CPU

GPU

PPGA

ASIC

ASIC

ASIC

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Only

99

+1

best wish & donated.

gitee.com/rv4kids/

RVWeekly

Full-stack

join 全栈学习公社 Hacker and Company...

Free Software

FOUNDATION



自由软件基金会

GNU

Chess

BACKGAMMON

GNOME Sudoku



1. Model 2. Reconstruct 3. Map 4. 贡献 5. 建立 6. 丰富

DLP games 1099 + 262 民族棋中国史 - LuckyLudii

民族棋

排行榜

JAVA + FCScript + C

中文 Python JS LuaJIT

OS: Debian GNU/Linux 10 (buster) aarch64

Host: Raspberry Pi 4 Model B Rev 1.4

Kernel: 5.10.0-openEuler-21.03-rc1

99个

PI回收

PICYCLE

EMU

计划

QEMU + FPGA => SoC

FLAMEP

Shiliu Pi 99

课程:

1. 数字系统设计

2. 计算机体系结构

3. 软件接口

4. 操作系统

5. 计算机组成原理

专业:

1. 计算机组成与设计

2. RISC-V

3. 软件接口

4. 操作系统

5. 计算机组成原理

6. 开发一个RISC-V上的操作系统

学习: 建立自己的知识地图

RV4KIDS:

RVWeekly

PLCT

EWorld

6站

1. 计算机组成与设计

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6. 开发一个RISC-V上的操作系统

学习: 建立自己的知识地图

RV4KIDS:

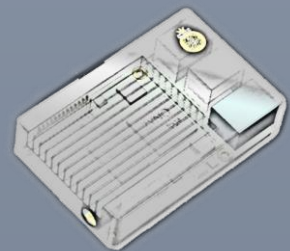
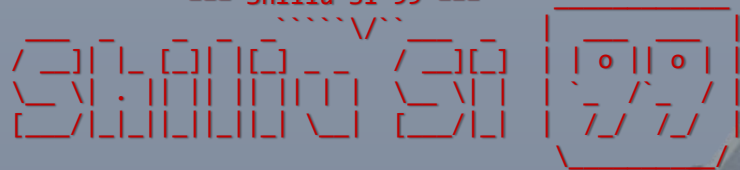
RVWeekly

PLCT

EWorld

6站

=== Shiliu Si 99 ===



FSBL
UBoot

bbl

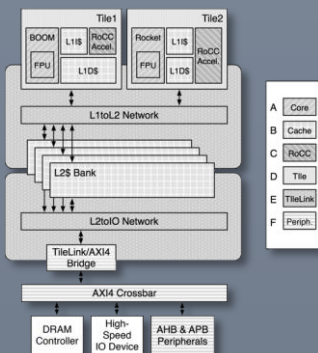
Kernel

Shiliu Pi 99

OpenWrt
linux

Root filesystem

LuCI



ZYNQ
7020

HTIF ④

ARM ⑤

(Processing
System)

RV

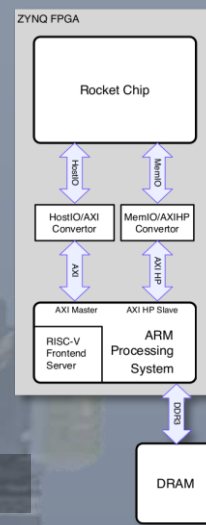
PL (Program
mable
Logic)

Ethernet

SSH ⑧

console

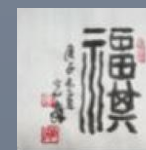
ZedBoard ⑥



bbl(UC)
Berkeley Bootloader

openEuler(中科) ②
linux

GNU Chess ①



1. Target Application (riscv binary)
2. RISC-V Kernel (RISC-V Linux)
3. Rocket Chip (Core on FPGA <-> host ARM on Zynq via AXI)
4. (RISC-V) Front-end Server (on ARM core <-> Rocket Chip)
5. Zynq ARM Core (Linux on Soc)
6. Development Board (ZedBoard/Shiliu PI&SD card)
7. External Communication (PC <-> FPGA over Ethernet.)
8. User Interface (SSH Client terminal on PC.)

Step1: Project Setup

- Download the files needed
- Project setup

Step2: Genetate the files for zedboard

- Bitstream
- FSBL(first stage boot loader)
- uboot for the Zynq ARM Core
- boot.bin
- Other files

Step3: Test

- SSH root@192.168.1.5
- Booting Up and Interfacing with the RISC-V Rocket Core

④ The HTIF is the Host/Target interface, which has the front-end server (**riscv-fesvr**, running on your host compter) communicating with the target design (Sodor). The riscv-fesvr loads the binary into the Sodor memory via the HTIF mem ports, and then uses the Control/Status Registers to bring the core out of reset. Once the program is finished, Sodor tells the riscv-fesvr it is finished via the tohost CSR and simulation ends.

HTIF is a non-standard tool for Berkeley processors, so there's no documentation on it. It is going to disappear soon, as the RISC-V platform spec is released and the cores are updated to be self-hosting.

√ 种植日记:

WLAN: ShiliuPi99

Root@99.99.99.99.

~# ./run-rv-linux.sh

gnuchess

white(1): e4

my move is: ?

WLAN: ShiliuPi99

Root@99.99.99.99.

~# ./run-rv-linux.sh

gnuchess

white(1): e4

my move is: ?

小小志愿者

Shiliu Pi 99



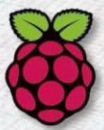
1. Model 2. Reconstruct 3. Map 4. 贡献 5. 建立 6. 丰富
DLP games 1099 + 262 民族棋中国史 = LuckyLudii



民族棋
机器博弈
排行榜

JAVA + FCscript + C
中文 Python JS LuaJIT

OS: Debian GNU/Linux 10 (buster) aarch64
Host: Raspberry Pi 4 Model B Rev 1.4
Kernel: 5.10.0-openEuler-21.03-rpi



99个
PI回收
PICYCLE



石榴派
漂流
计划



PI400
替代
方案

- 1. LAMP 站
- 2. 爬虫机器
- 3. 语音助手
- 4. 内网穿透
- 5. 智能网关

课程:

- 1. 数字系统设计
- 2. 计算机体系结构
- 3. 软硬件接口
- 4. 操作系统
- 5. 计算机软硬件算法

RV4Kids:

- RVWeekly
- PLCT
- EEworld
- B站

专业:

- 自动化
- 微电子
- 电子信息
- 计算机

1. 计算机组成与设计:

- RISC-V 2. RISC-V
指令集开源软件
生态 3. 方舟-编译
技术入门与实战
4. V8 for RISC-V
5. Verilog 入门教学
6. 开发一个RISC-V上的操作系统

学习: 建立自己的知识地图

浪潮 浙江大学 清华大学 蜂鸟 ISCAS NIST RISC-V

芯来 Proteus GCC LLVM ISA OpenWrt Make

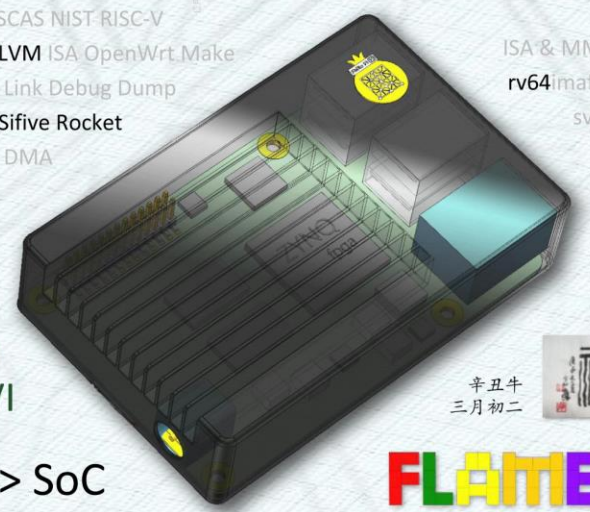


Link Debug Dump
Sifive Rocket
DMA



RV32I
YARVI

QEMU + FPGA => SoC

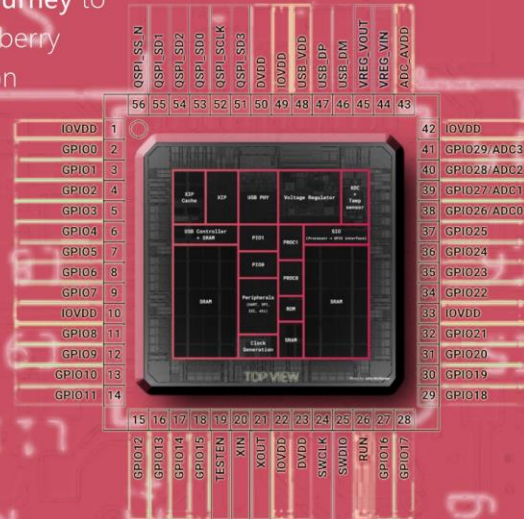


ISA & MMU
rv64 mafd
sv39

辛丑年
三月初二

FLAME?

- Raspberry Silicon: Raspberry Pi Pico \$4
- Raspberry Silicon: RP2040 \$1
- The journey to Raspberry Silicon



第2期^{2nd} 学习小组

2021.6.20

—青少年开源文化期刊

- RVWeekly

- Shiliu PI -> Shiliupi Silicon
= Shiliu Si = 石榴核
- Shiliu PI 99 risc-v
on FPGA

SIGer 编委会

A microcontroller Datasheet





RV4Kids 为科普而生！
让我们展开双臂拥抱青少年

国内版

国际版

RV4kids 开源



JOHN L. HENNESSY DAVID A. PATTERSON

COMPUTER ARCHITECTURE

A Quantitative Approach

孔令军 PicoRio 浪潮RISC-V小组 RV与芯片评论 CRVA RV4Kids

SI Ger 第四期 #4th 兴趣小组 2021.3.21

一青少年开源文化期刊



RVWeekly 增刊

SI Ger 编委会

HELLO 欧来指北

2021.4.9 sig-RISC-V

- 能在社区传播的路上有个我 海封面
- WSL 建仓实践与底层逻辑 涛故事
- 用 RISC-V 赋予的全栈能力 打破条条框框 轻装前进
- Summer 2021 - NutShell

第十期 10th SI Ger 兴趣小组

一青少年开源文化期刊

Application: A-Tune Base-service Compiler Computing DB Desktop dev-utls doc GNOME Infrastructure iSulad xae Kernel Mar- keting Networking Others oVirt Packaging Private Programming language Runtime security-committee Storage System-tool TC Virt vfile aarch32 ai-bigdata android-middleware bio bootstrap ceph CICC CloudNative cms Community Compatibility-infra compliance confidential-computing DOE desktop-apps DyschOS EasyLife embedded Gatekeeper golang Ha high-performance-network industrial-control Java KDE KIRAN-DESKTOP KubeSphere libboundscheck mate-desktop minuzchess noderjs OKD ONL OpenNesty openstack ops OS-Builder Ostree- Assembly perl-modules python-modules QA RaspberryPi recycle REDF release-management RISC-V ROS ruby Rust security-facility UKU WayCa wine



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Free Software FOUNDATION

自由软件基金会

GNU

- Chess
- BACKGAMMON
- GNOME Sudoku

Full-stack

全栈学习公社 Hacker and Company...

Architecture, Algorithm, All... based on FPGA

- CPU
- GPU
- FPGA
- ASIC

人工智能芯片的特性与比较
AI on FPGAs: Past, Present, and Future

决战高性能计算, 350亿美元收购FPGA
FPGAs keep Mars Rovers moving...

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Full-stack Hacker and Company...

RVWeekly 特刊 1th 学习小组 2021.6.8

SI Ger 一青少年开源文化期刊

openEuler SI Ger 编委会

- Raspberry Silicon: Raspberry Pi Pico \$4
- Raspberry Silicon: RP2040 \$1
- The Journey to Raspberry Silicon

第2期 2nd 学习小组 2021.6.20

SI Ger 学习小组

一青少年开源文化期刊

- RVWeekly
- Shiliu Pi -> Shiliupi Silicon = Shiliu Si = 石榴核
- Shiliu-Pi 99 risc-v on FPGA

SI Ger 编委会

A microcontroller Datasheet

RV4kids 开源



百度一下

