

# Introduction to Programming

How Does JavaScript Work?

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# Goals

**Goal 1:** You will have a general idea of the structure of a computer.

**Goal 2:** You will have a general idea of how software works.

# Vocabulary

Hardware

Apps

Software

Operating System

Machine Code

Abstraction

# Computer

## What are parts of a computer?

Monitor/  
Screen

WiFi

Keyboard

SSD

RAM

## **HARDWARE**

**What tells the parts of a computer what to do?  
How do the parts coordinate?**

# Computer

**What tells the parts of a computer what to do?**  
**How do the parts coordinate?**

Monitor/  
Screen

WiFi

Keyboard

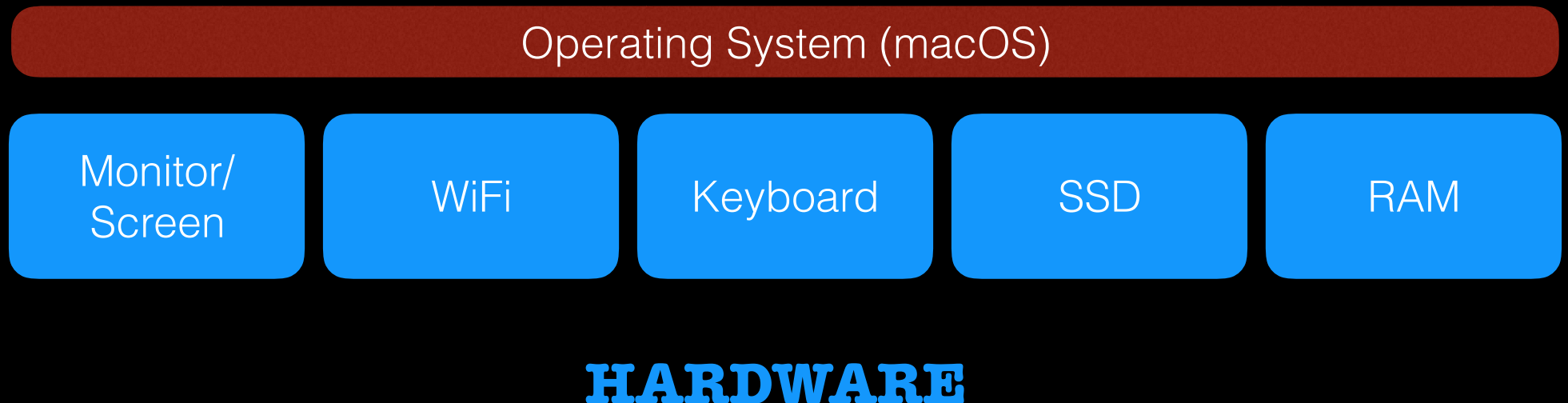
SSD

RAM

**HARDWARE**

# Computer

**What tells the parts of a computer what to do?**  
**How do the parts coordinate?**



**Software interacts with the operating system—  
which interacts with the hardware.**

## **SOFTWARE (Apps)**

Finder

Spotify

Messages

Siri

Chrome

Operating System (macOS)

Monitor/  
Screen

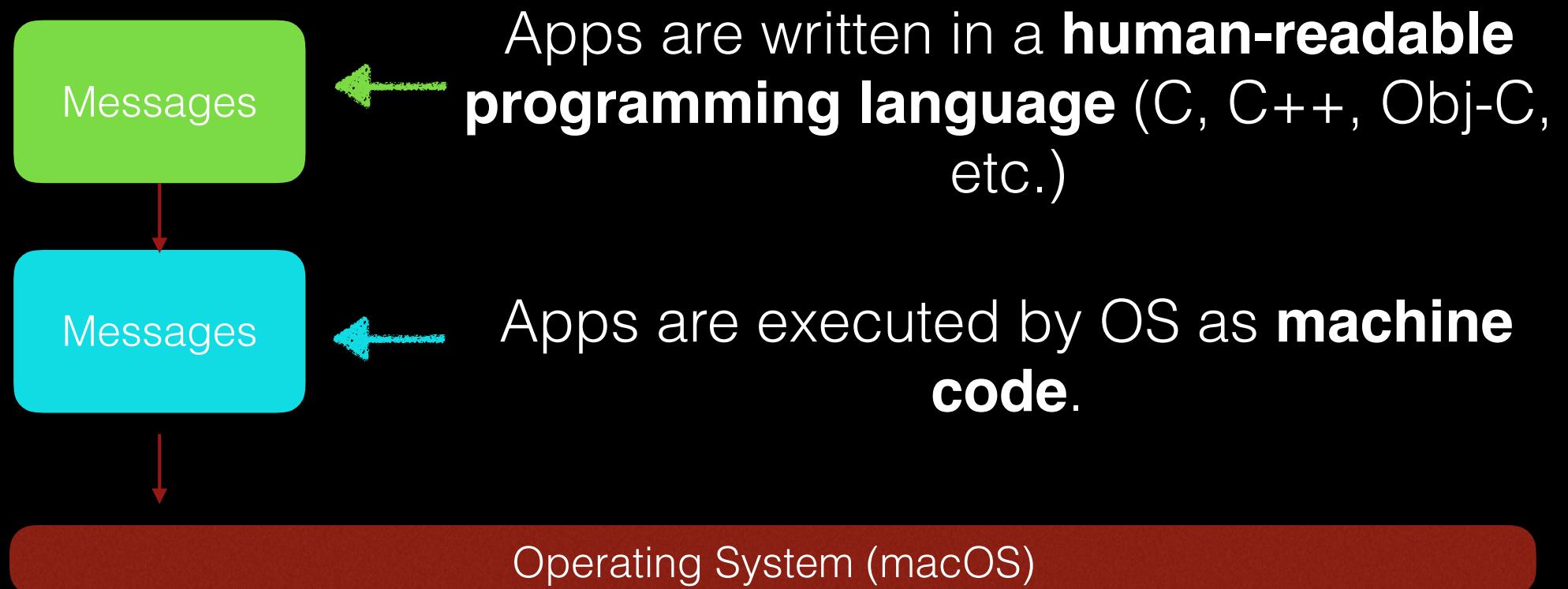
WiFi

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## **HARDWARE**



Apps are written in a **human-readable programming language** (C, C++, Obj-C, etc.)

```
/*  
 * "Hello, World!": A classic.  
 */  
  
#include <stdio.h>  
  
int  
main(void)  
{  
    puts("Hello, World!");  
    return 0;  
}
```



Apps are executed by OS as **machine code**.

0000000	cf	fa	ed	fe	07	00	00	01	03	00	00	00	01	00	00	00
0000010	04	00	00	00	00	02	00	00	00	20	00	00	00	00	00	00
0000020	19	00	00	00	88	01	00	00	00	00	00	00	00	00	00	00
0000030	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000040	98	00	00	00	00	00	00	00	20	02	00	00	00	00	00	00
0000050	98	00	00	00	00	00	00	00	07	00	00	00	07	00	00	00
0000060	04	00	00	00	00	00	00	00	5f	5f	74	65	78	74	00	00
0000070	00	00	00	00	00	00	00	00	5f	5f	54	45	58	54	00	00
0000080	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0000090	28	00	00	00	00	00	00	00	20	02	00	00	04	00	00	00
00000a0	b8	02	00	00	02	00	00	00	00	04	00	80	00	00	00	00
00000b0	00	00	00	00	00	00	00	00	5f	5f	63	73	74	72	69	6e
00000c0	67	00	00	00	00	00	00	00	5f	5f	54	45	58	54	00	00
00000d0	00	00	00	00	00	00	00	00	28	00	00	00	00	00	00	00
00000e0	0e	00	00	00	00	00	00	00	48	02	00	00	00	00	00	00

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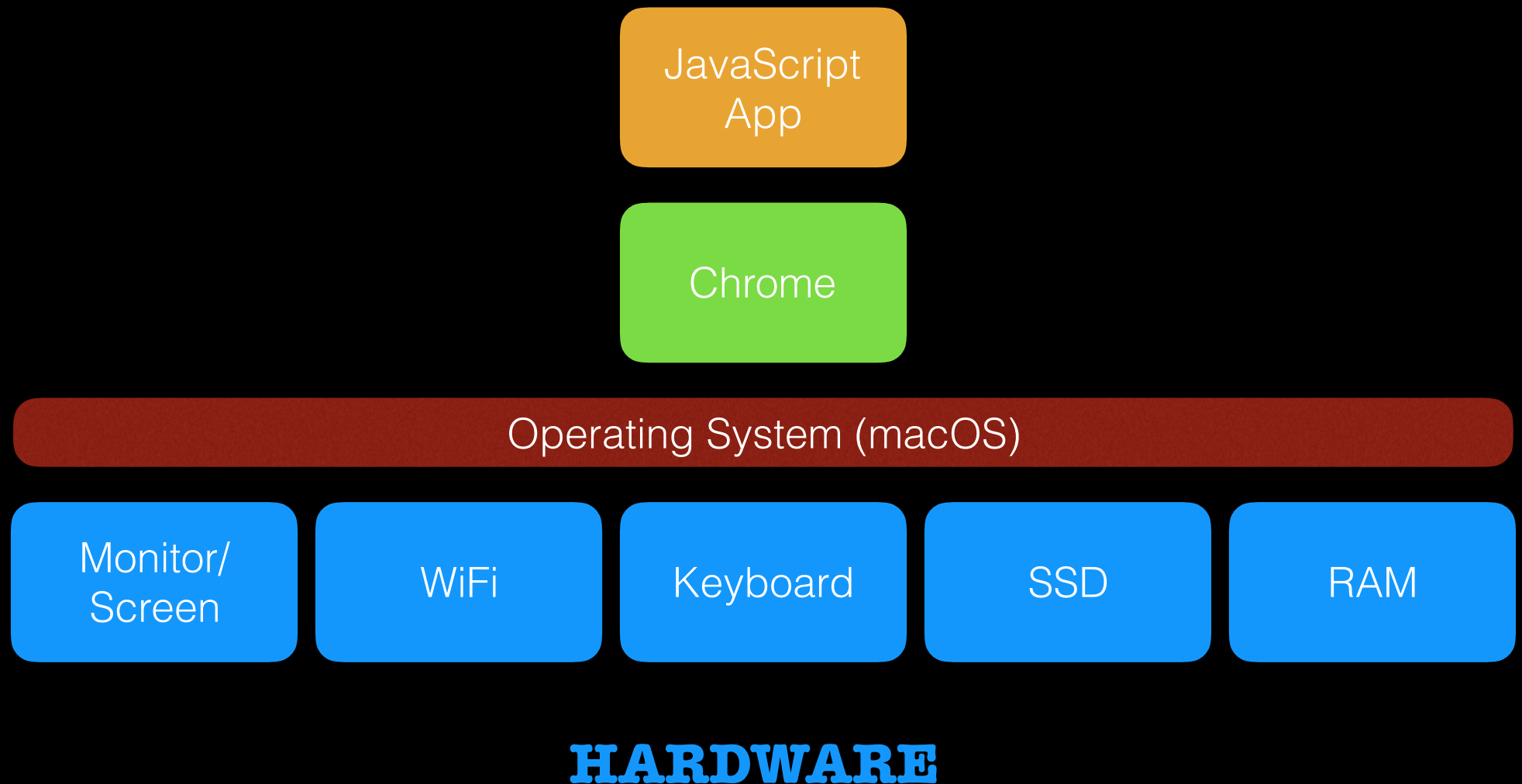
Keyboard

SSD

RAM

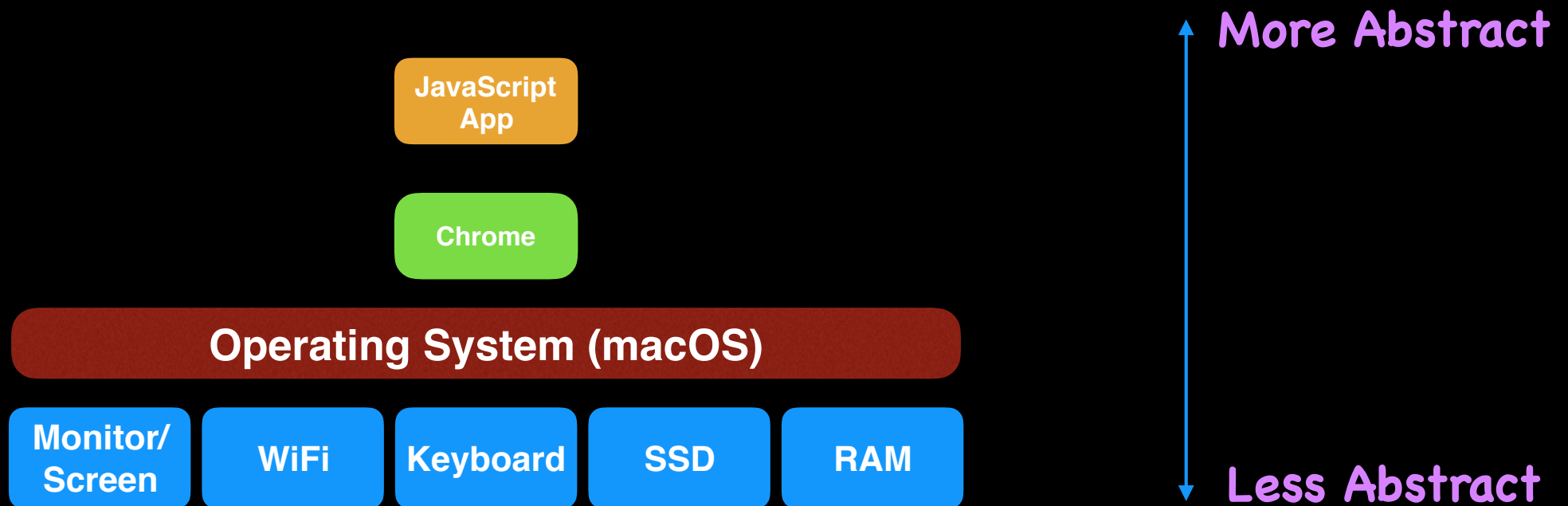
## **HARDWARE**

**A JavaScript app interacts with the browser app  
which interacts with the OS.**



# Abstraction

Removing levels of detail so you only need to worry about what's important to you.



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