

# Introduction to Software Development

## Software Types and Bug Fixing Importance



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**QA  
Fundamentals**



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# Software Development



# First Look at Software

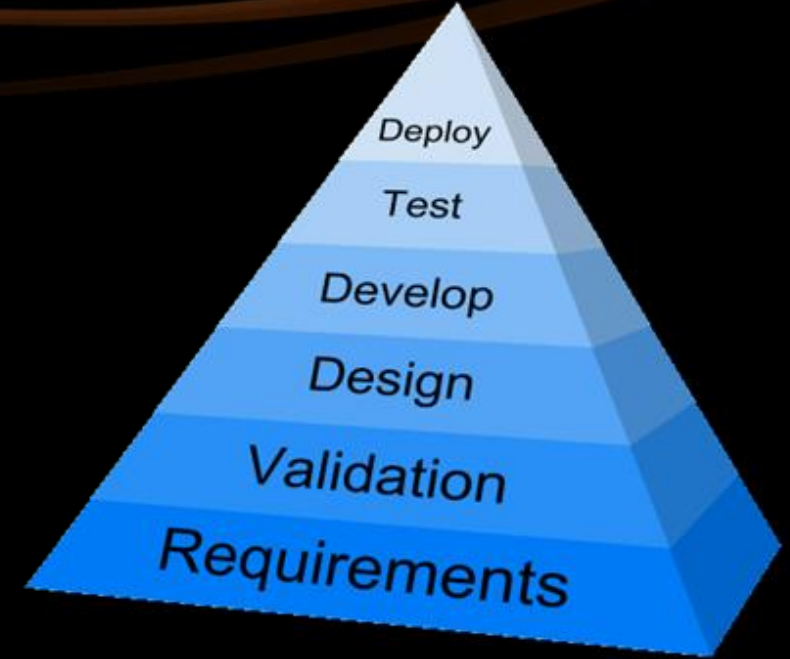
- Software definition

**Software** is any set of machine-readable instructions that directs a computer's processor to perform specific operations

```
17  
18 00000000 FF6001 jmp [eax+0x01]  
19 00000003 FF6010 jmp [eax+0x10]  
20 00000006 FF6020 jmp [eax+0x20]  
21 00000009 FF607F jmp [eax+0x7f]  
22 0000000C FFA080000000 jmp [eax+0x80]  
23 00000012 FFA0A0000000 jmp [eax+0xa0]  
24 00000018 FFA0FF000000 jmp [eax+0xff]  
25 0000001E FFA000010000 jmp [eax+0x100]  
26 00000024 FFA001010000 jmp [eax+0x101]  
27 0000002A FFA011110100 jmp [eax+0x11111]  
28 00000030 FFA011110101 jmp [eax+0x01011111]
```

# First Look at Software (2)

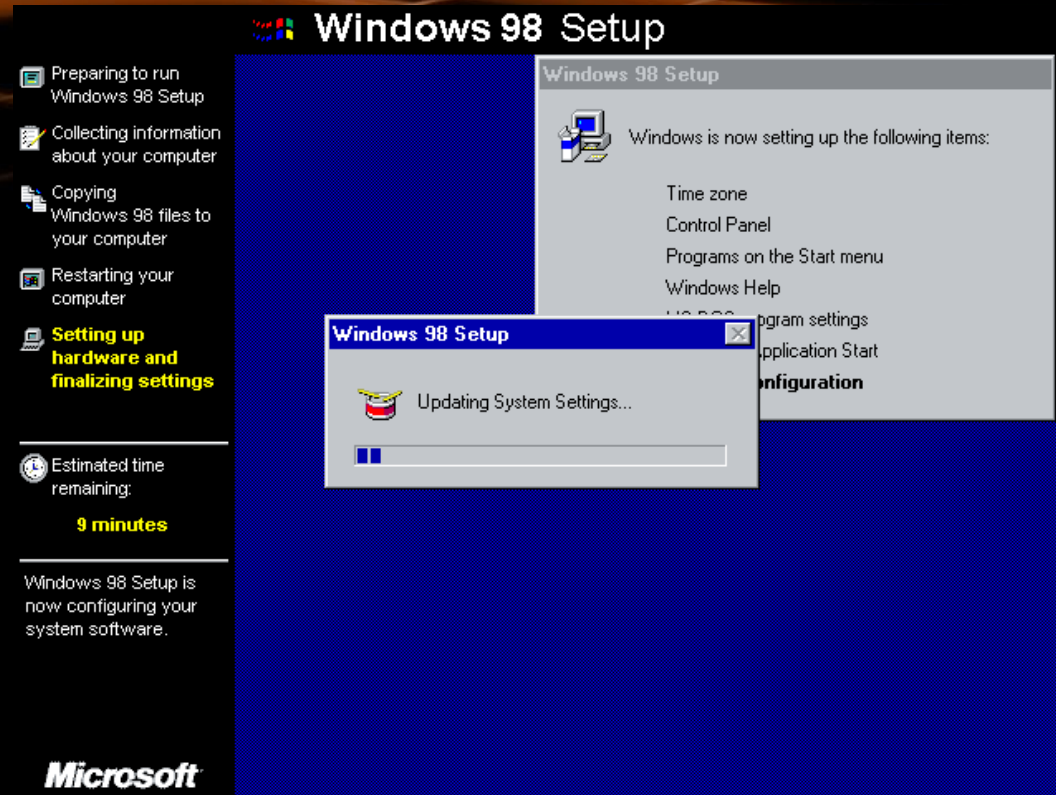
- Developed for 8 decades
- Evolved into a profession
- Concerned into quality maximizing
- Software engineering
  - Best practices for writing code
  - Management issues (team size, process, etc..)
  - On-time delivery
  - Work-place culture





# Software Distribution





# Retail Software

# Retail Software

- The vast majority of software until the emergence of internet







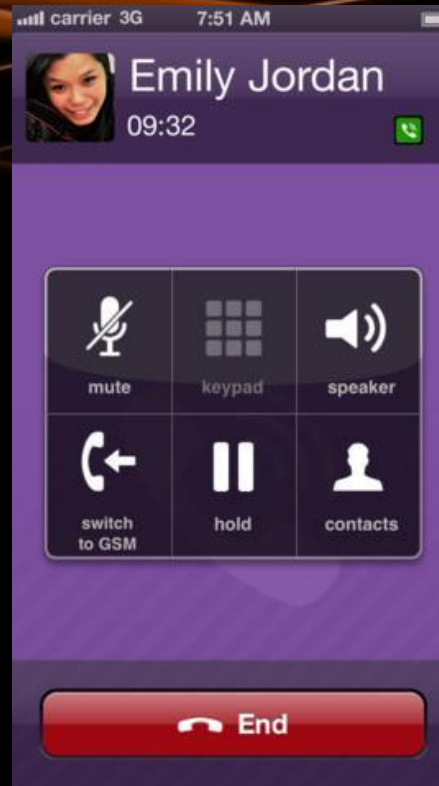
The image shows the Facebook homepage from around 2006. At the top is a blue header with the Facebook logo on the left. On the right of the header are login fields for 'Email' and 'Password', a 'Log In' button, and links for 'Don't see your account?' and 'Forgot your password?'. Below the header, the main content area is split. On the left, a message reads 'Facebook helps you connect and share with the people in your life.' followed by a graphic of a world map with orange person icons connected by blue lines. On the right, the 'Sign Up' section is titled 'Sign Up' with the tagline 'It's free, and always will be.' Below this are input fields for 'First Name', 'Last Name', 'Your Email', 'Re-enter Email', and 'New Password'. There is a 'Select Sex' dropdown menu and a 'Birthday' section with 'Month', 'Day', and 'Year' dropdowns. A link 'Why do I need to provide this?' is below the birthday fields. A green 'Sign Up' button is at the bottom of the form. At the very bottom of the page, a link says 'Create a Page for a celebrity, band or business.'

# Web Applications

# Web Applications

- The concept has been introduced in 1999 in Java Servlets
- A major leap in the software distribution
- Browsers and technologies are developed in favor of web apps
  - 2005 – the term Ajax was coined
  - 2011 – HTML5 was finalized





# Mobile Applications



# Mobile Applications

- App distribution platforms began appearing in 2008
  - Apple app store
  - Google play
  - Windows phone store
- Started as productivity and information retrieval apps
- Reached bigger market share than retail software





# Why Bugs Still Occur

- People DO make mistakes
- Software complexity
- Requirements (quality, change...)
- Deadlines
- Obsolete automation scripts
- Lack of skilled testers





# Bug Fixing Importance



# Bug Fixing importance (2)



# Bug Fixing Importance (3)

- Unfixed bugs camouflage other bugs
- Suggest quality isn't important
- Duplicate effort
- Unreliable metrics and money loss
- Fixing a bug today costs less than tomorrow





# Summary

- Software evolved through the time
  - Retail, web, mobile
- It still has bugs
- Reasons does not change
- Importance of fixing bugs
  - More customers
  - More money
  - No unsatisfied developers



# Literature

- QA Book: [www.istqb.org/downloads/send/2-foundation-level-documents/3-foundation-level-syllabus-2011.html](http://www.istqb.org/downloads/send/2-foundation-level-documents/3-foundation-level-syllabus-2011.html)
- Tutorials: [www.w3schools.com](http://www.w3schools.com)
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# Introduction to Software Development



## Questions?





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