



1990 Worldwide Developers Conference



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Apple II DTS
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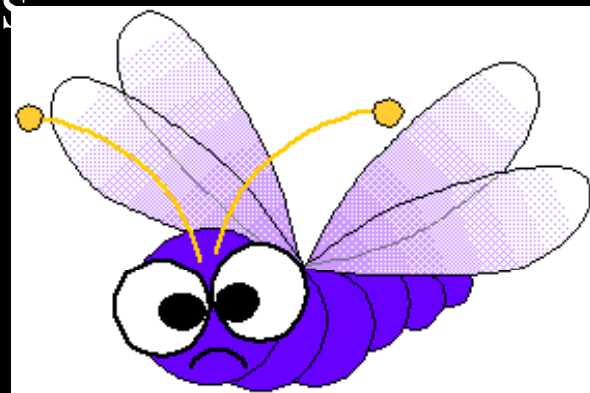


Advanced Apple II Debugging Tips

Avoid the rush. Debug now!

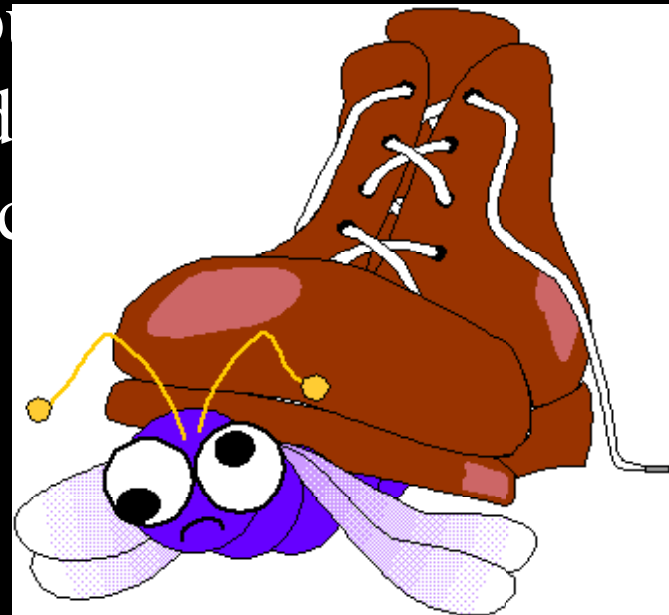
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- Program design for fewer bugs
- Program coding for fewer bugs
- Conditional code for error detection
- Error-tolerant coding practices
- Error-finding utilities



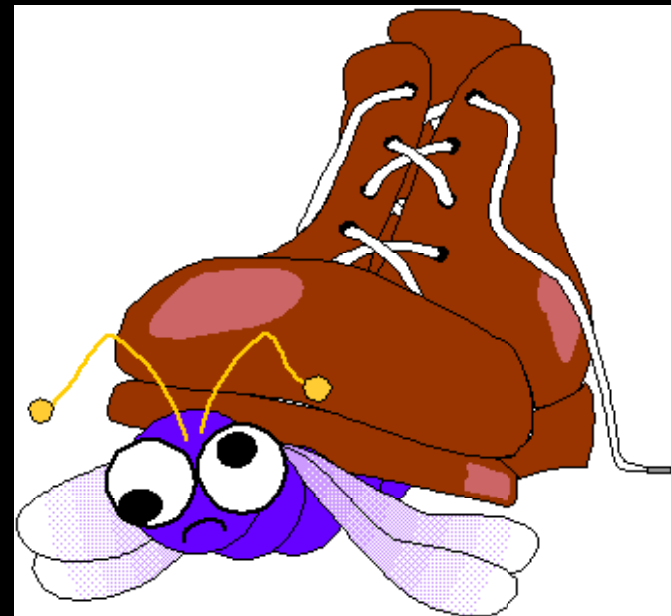
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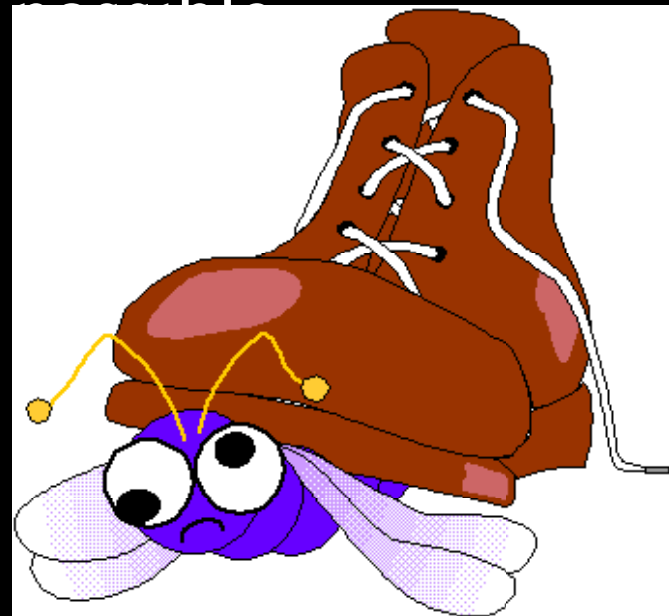
Program Design for Fewer Bugs

- Design in discrete modules
- Design in reuse of code
- Design bulletproof calling conventions
- Design functionality away from main line



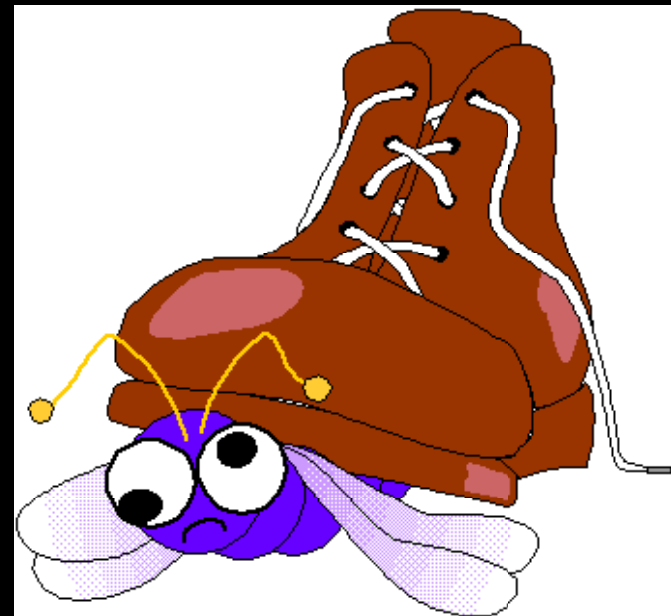
Program Coding for Fewer Bugs

- Code for clarity first
- Re-code areas that need speed later
- Encapsulate code wherever possible
- Add debug code as you go
- Use different user ID's for different things



Conditional Code for Error Detection

- Plan debug code from the beginning
- Add debug code as you go
- Add debug code for “all” obscure cases
- In C, use ptrCheck



Error-Tolerant Coding Practices

- Do you want error tolerance?
- What does error tolerance gain you?
- What does error tolerance cost you?
- Report “acceptable” errors via debug code

Error-Finding Utilities

- If using C, check out ptrCheck
- Invest the time in error-finding utilities
- Make error-finding calls conditional



The power to be your best