

# Building And Breaking Your First Computer

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# Qualifications

- First PC Was Pulled Out Of A Dumpster At School In Year 7
- Pulled That Apart
- Had It Blow Up When Put Back Together
- Worked in IT for 4ish years
- Built roughly one computer per week
- Lead Technician for EWB UWA's PC's For Refugee's

# What We Will Cover

- Setting A Budget
- What Sort Of PC Will We Build?
- Picking Parts



# Setting A Budget

- You will need at least \$700
- You shouldn't spend more than \$1500 on the tower
- A good PC will cost around \$1000

# What Sort Of PC Will We Build?

- Mini-ITX Tower
- Regular PC
- Gaming Machine
- High End Gaming Machine

# Picking Parts

- Case
- Power Supply
- Mainboard
- CPU
- RAM
- Hard Drive/SSD
- Graphics Card
- Optical Drive



# Picking Parts - Case

- Case dictates how large parts can be
- If you have lots of files, find one with lots of space for hard drives
- Make sure you can fit it in/on/around your desk
- Make Sure it looks cool (or at least not ugly)

# Picking Parts – Power Supply

- Lots of Cases come with PSU's
- Modular keeps the inside of your case tidy
- Make sure power supply will support the load you put on it
- [www.extreme.outervision.com/PSUEngine](http://www.extreme.outervision.com/PSUEngine) can help you out



# Picking Parts - Mainboard

- Take into account everything else you put into your pc
- One of the hardest parts to change later
- Check the specifications of it frequently

# Picking Parts - CPU

- Most expensive part
- Needs to fit the mainboard
- Make sure it comes with a heatsink

# Picking Parts - RAM

- Really cheap
- Easy to swap out later
- Always buy in multiples of two
- More does not always mean better
- 8-12GB will be plenty



# Picking Parts – Hard Drive/SSD

- Can always put more hard drives in
- A 60GB SSD will be good for Windows
- Secondary Hard Drive can store Steam Files, Program Installs and Files

# Picking Parts – Graphics Card

- Look up value for money cards
- No point getting the best/most expensive
- Aim for 1GB DDR5 or more

# Picking Parts – Optical Drive

- DVD-RW Drive is enough for most people
- No point getting a Blu-Ray drive unless you know you are going to use it



# Putting It Together

- Have a nice large clear area
- Use Some Bubble wrap so you don't scratch your new case
- Power Supply in first, you can use this to ground yourself
- Pop out a hole for the Optical Drive and slot it in. Secure it in place with some screws

# Putting It Together

- Put mainboard mounts in and make sure they line up with the holes on the mainboard
- Frequently ground yourself by touching the case
- Keep the mainboard in/on it's antistatic bag.
- Put RAM and CPU on the mainboard before putting it in the case



# Putting It Together

- Put the mainboard backplate into the case
- Put the mainboard in, check the backplate and screw it in.
- Put the hard drives in and secure them in place
- Plug in front panel connectors. Check the stickers you get to figure out where they go



# Putting It Together

- Run power cables to everything and cable tie them neatly in place
- Run data cables and cable tie them neatly in place

# Mistakes You Will Make

- Not plugging in a 4pin or 8pin connector into the mainboard
- Not plugging in a 6pin or 8pin connector into your graphics card
- Not turning on the PSU
- Plugging your screen into the mainboard instead of the graphics card

# Questions?

- Email Me: [bobgeorge33@ucc.asn.au](mailto:bobgeorge33@ucc.asn.au)
- IRC: BobGeorge33
- Find In The Clubroom Most Days
- At PC's For Refugee's when it is on
- Happy to help pick parts, but I won't do it all for you