

# GNOME

Much more than just a “desktop”



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# Who am I?



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GNOME hacker  
GNOME foundation member  
GNOME Hispano association treasurer

# Let the battle begin...



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- If you are not a GNU/Linux user, please leave the room quietly... (\*)



(\*) Just kidding, you can stay, but you need to question your life choices.





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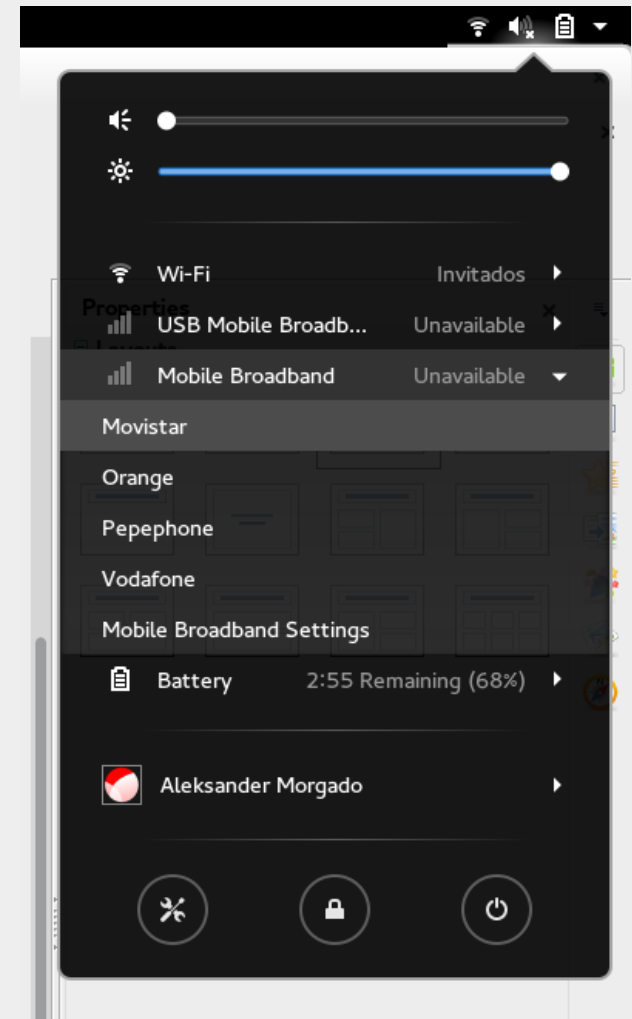
# What is GNOME?

# GNOME is a Desktop Environment



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- Core common libraries (**GLib**/GObject/GIO)
- Widget toolkit (**GTK+**)
  - Built-in accessibility support (ATK)
- Window manager (Mutter)
- Shell (**gnome-shell**)
- File manager (Files/nautilus)
- System management (e.g. Settings)
- Interoperability → freedesktop.org (e.g. **DBus**)
- Innovation!!! e.g. **Flatpak**



# GNOME is a community



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- Users
- Developers
- Translators
- Artists
- Documentation writers

<https://wiki.gnome.org/Events>

# <https://wiki.gnome.org/Events>



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- GUADEC
  - Every year in a European city.
- GNOME.Asia Summit
  - Every year in an Asian city.
- GNOME Boston Summit
  - Every year in Boston (or Montréal).
- GUADEC ES
  - Every year in a Spanish city.
- + multiple hackfests and meetups (e.g. GBeers Madrid)

# The GNOME Foundation



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- Non-profit organization
- Coordinate GNOME releases
- Determines what software is part of the GNOME project
- Official voice for the GNOME project
- All contributors can apply for membership.
- Special projects: Outreach for Women
- <https://www.gnome.org/foundation/>





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**DBus**

**GObject Introspection**

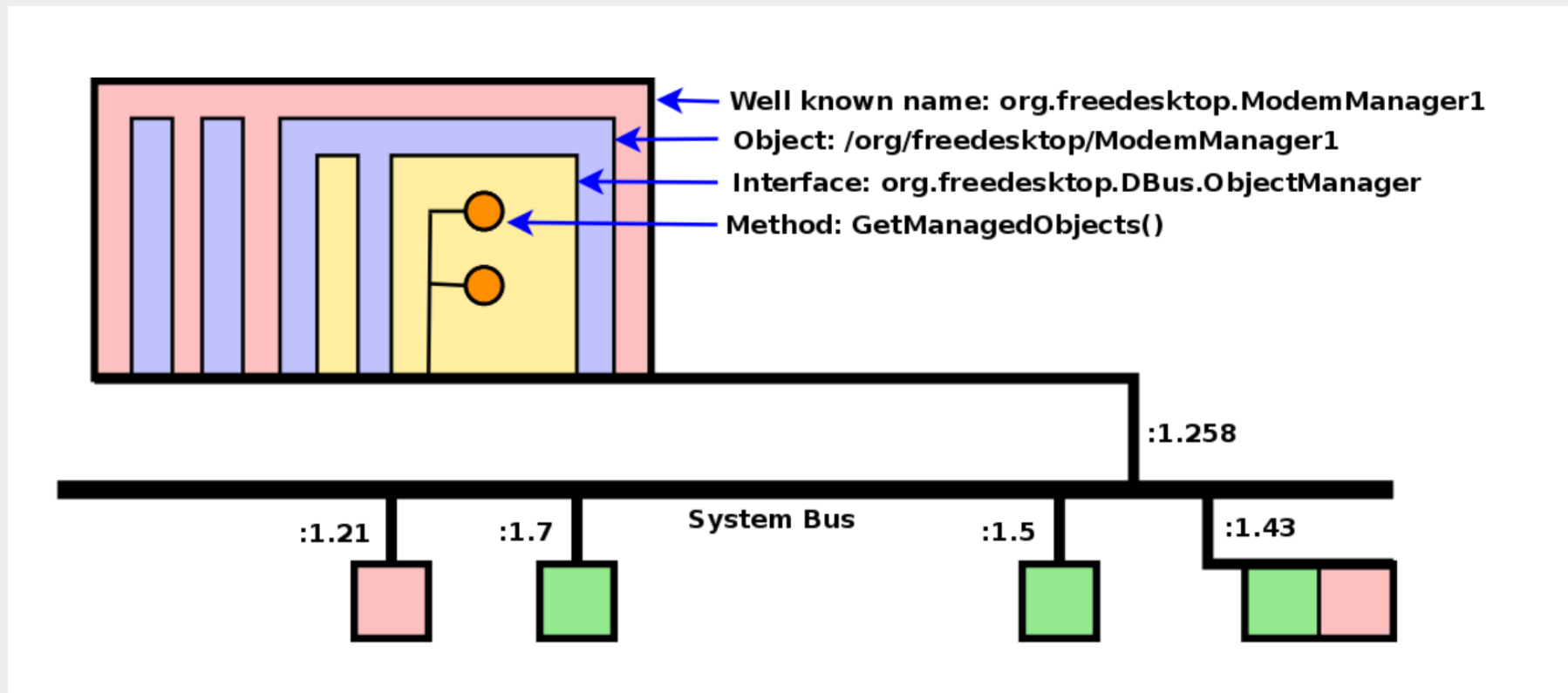
**Flatpak**

# DBus



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- Session bus & System bus
- Clients and Services



# Analyzing & debugging DBus



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- `d-feet`
- `dbus-monitor -system`
- `dbus-monitor --session`

# Common DBus services



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- NetworkManager (freedesktop)
- ModemManager (freedesktop)
- PolicyKit (freedesktop)
- UPower (freedesktop)
- Notifications (freedesktop)
- Tracker (freedesktop)
- SettingsDaemon (gnome)

**Note:** all these  
written with GNOME  
core libraries!

# GObject Introspection



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- Specific “annotations” included when defining the GObject and their APIs allow us to automatically generate “introspection” information.
- No more custom bindings required!
- E.g. write a library in C, use it in Python or JS
- Same annotations for Vala

# Python G-I example



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```
connection = Gio.bus_get_sync(Gio.BusType.SESSION, None)
proxy = Gio.DBusProxy.new_sync(connection,
                                Gio.DBusProxyFlags.NONE,
                                None,
                                "es.aleksander.Alarm",
                                "/es/aleksander/Alarm",
                                "es.aleksander.Alarm",
                                None)

try:
    proxy.call_sync("Configure",
                   GLib.Variant("(u)", (10,)),
                   Gio.DBusCallFlags.NONE,
                   -1,
                   None)
except Exception as e:
    sys.stderr.write("Error: %s\n" % str(e))
```

# Flatpak, <http://flatpak.org>



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- **Access a wide variety of applications**
  - The list of Flatpak applications is growing all the time and includes Spotify, Skype and Telegram.
- **Get new versions faster**
  - New releases of applications appear sooner with Flatpak.
- **Safely update your apps without having to reboot**
  - Unlike package managers, Flatpak can safely update applications on the fly.
- **Install different versions of the same application**
  - Simultaneously install multiple versions of the same application.
- **Secure, sandboxed applications**
  - Flatpak's sandboxing technology prevents exploits and hinders malicious applications.

# Thanks!



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