TabCaster `C` Re-Implementation

This is for re-implementing this in C, from Python.

This will act as the issues on our git tracker.

The lists below are our git issues:

- (Tag) Title
  - Description of issue
  - Include both or 2+ lines

'TabCaster-Server' (Linux Mint)

- (Core) Send UDP Packets
  - This is used for the connection
- (Core) Find Best-Fit Low-Latency Video Stream Encoder Library
  - FFMPEG can use X11 directly, however try to call X11 directly.
  - More optimised FFMPEG flags could be possible. Heavily document it.
- (Feature) Create Virtual Screen Using `xrandr` On Handshake
  - Call xrandr to create the virtual screen with the position and size specified by the server.
- (Feature) Set Position Of Virtual Display
  - Pass the flag to `xrandr` in order to let it create the screen.
- (Polish) Non-Graceful Shutdown
  - Make sure streams are closed properly, and everything is taken down correctly.
- (Bug) Make Sure `xrandr` Updates When Virtual Connection Is Displayed
  - calling xrandr again does not show the display fully connected, fix this, it's likely important for other stuff down the line.
- (Bug) Fix Enforced Maxiumum Size On Display
  - Crashes `xrandr`, fix. Check if it's actually `xrandr` or a GPU issue.
- (Bug) Cannot Change Monitor Position During Stream
  - `xrandr` makes it static, allow being able to move it around. Mandatory to fix.
- (Bug) Linux Crashes FFMPEG
  - Possible OOM? Happens after 5 minutes 11 seconds consistently
  - Possible perms?
- (Optional) Establishes NDS Connection
  - Done in the prototype, really nice feature but optional
- (Milestone) Achieve Sub-10ms Latency
  - Major goal for the project, allowing for seamless-feeling video streaming

'TabCaster-Client' (Android)

- (Core) Send Screen Dimensions On Connection
  - This is used for `xrandr` to decide how to render the virtual display.
- (Feature) Allow Setup Of Preferred Side
  - Allows users to imediately put the display on the correct side.
- (Feature) Exit Fullscreen
  - Nice exit fullscreen button

- (Feature) Better UI and UX Overhaul
  - Non urgent; make it look nice for the end user
- (Optional) Connection / Disconnection Notification
  - Make a notification appear when connection established OR disconned detected

Notes

Additional points for development

- Use clock.zone for measuring latency
- `xrandr` needs open physical connection
- Look into SunAndMoon / Parsec for Linux
- DisplayPort is packet-based
  - DisplayPort over the network.
  - Digital Rights Managament might be an issue if DP is used.
  - DisplayPort resolution handshake

Take FFMPEG's documentation, put it into LocalDocs Deepseek, and ask it what combination of flags.