GNU General Public License v3: The Full Explanation

1. What is the GPL?

- **Purpose:** The GPL is a legal license for software (and other works) that guarantees users the freedom to **use, study, share, and modify** the software.

- **Copyleft:** It's designed to keep software free and open. If you distribute or modify GPL-licensed software, you must keep it free and open for everyone else too.

- **Free as in Freedom:** "Free" means freedom, not price. You can charge money for GPL software, but you must respect the freedoms it guarantees.

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2. What You Can Do Under the GPL

A. Basic Freedoms

- **Run the Program:** You can use the software for any purpose.

- **Study the Source Code:** You can look at how the software works and learn from it.

- **Modify the Software:** You can change the software to make it do what you want.

- **Share Copies:** You can give or sell copies to others.

- **Share Your Modifications:** You can share your modified versions with others.

B. For Developers and Distributors

- **Apply GPL to Your Own Work:** You can release your own software under the GPL.

- **Charge for Distribution:** You can charge a fee for distributing the software, but you must still provide the source code and the same freedoms.

- **Use GPL Code in Your Projects:** You can use GPL-licensed code in your own projects, but your project must also be licensed under the GPL (or a compatible license).

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3. What You Must Do Under the GPL

A. When Distributing the Software

- **Include the Source Code:** If you distribute the software (modified or not), you must also provide the source code to the recipients.

- **Keep the License Intact:** You must include the GPL license with the software and keep all copyright notices and license terms.

- **Document Changes:** If you modify the software, you must document your changes and make it clear that you modified it.

- **Provide Installation Information:** If the software is designed to run on a specific device (like a phone or a router), you must provide the information needed to install modified versions on that device.

B. When Modifying the Software

- **License Modified Versions Under GPL:** Any modified version you distribute must also be licensed under the GPL.

- **Mark Your Changes:** You must clearly indicate that you modified the software and include the date of your changes.

- **Preserve Notices:** You must keep all copyright notices, license terms, and disclaimers intact.

C. When Conveying the Software

- **Verbatim Copies:** If you distribute exact copies of the software, you must include the GPL license and all notices.

- **Modified Versions:** If you distribute modified versions, you must license the entire work under the GPL and provide the source code.

- **Non-Source Forms (e.g., Binaries):** If you distribute the software in a non-source form (like a compiled binary), you must also provide the source code in a machine-readable format.

4. What You Cannot Do Under the GPL

A. Restrict Freedoms

- **No Proprietary Versions:** You cannot distribute the software under a proprietary license that restricts the freedoms guaranteed by the GPL.

- **No Technological Restrictions:** You cannot use technical measures (like DRM) to prevent users from modifying or sharing the software.

- **No Additional Restrictions:** You cannot add legal terms that restrict the rights granted by the GPL.

B. Patent Use

- **No Patent Lawsuits:** If you distribute GPL software, you cannot sue users for patent infringement if they use, modify, or share the software as allowed by the GPL.

- **Patent Licenses Must Be Shared:** If you have patent rights that apply to the software, you must license those patents to everyone who receives the software.

C. Anti-Circumvention

- **No Locking Down Devices:** You cannot use the GPL to create devices that prevent users from installing or running modified versions of the software.

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5. Consequences of Violating the GPL

A. Automatic Termination

- **Lose Your Rights:** If you violate the GPL (e.g., by distributing the software without the source code or adding restrictions), your rights under the license are automatically terminated.

- **Reinstatement:** Your rights can be reinstated if you stop violating the license and fix the issue within 30 days of being notified.

B. Legal Action

- **Copyright Infringement:** Violating the GPL is a copyright violation, and the copyright holder can take legal action against you.

- **No Warranty:** The GPL provides no warranty for the software. If something goes wrong, you're on your own.

C. Liability

- **No Liability for Damages:** The GPL limits liability. If the software causes harm, you cannot sue the developers or distributors for damages.

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6. Special Cases and Exceptions

A. System Libraries

- **Exemption for System Libraries:** You don't have to include the source code for system libraries (like the operating system kernel) that the software depends on, as long as those libraries are generally available.

B. Aggregate Works

- **Combining with Independent Works:** If you combine GPL software with other independent works (like a collection of software on a CD), the GPL does not apply to the independent works.

C. User Products

- **Consumer Devices:** If the software is designed to run on a consumer device (like a phone or a router), you must provide the information needed to install modified versions on that device.

D. Additional Permissions

- **Extra Terms:** You can add additional permissions to the GPL (like allowing linking with proprietary code), but you cannot add restrictions.

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7. How to Apply the GPL to Your Own Software

A. Include the License

- **Attach the GPL:** Include a copy of the GPL with your software.

- **Add Copyright Notices:** Add a copyright notice to your source files, stating that the software is licensed under the GPL.

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- **Attach the GPL:** Include a copy of the GPL with your software.

- **Add Copyright Notices:** Add a copyright notice to your source files, stating that the software is licensed under the GPL.

B. Example Notice

> This program is free software: you can redistribute it and/or modify
> it under the terms of the GNU General Public License as published by
> the Free Software Foundation, either version 3 of the License, or
> (at your option) any later version.
>
> This program is distributed in the hope that it will be useful,
> but WITHOUT ANY WARRANTY; without even the implied warranty of
> MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
> GNU General Public License for more details.
>
> You should have received a copy of the GNU General Public License
> along with this program. If not, see <https://www.gnu.org/licenses/>.

C. Interactive Programs

- **Display Legal Notices: If your software has an interactive interface, it should display the GPL license and copyright notices when it starts.**

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8. Why the GPL Matters

A. Protects User Freedom

- **The GPL ensures that users always have the freedom to use, study, share, and modify the software.**

B. Encourages Collaboration

- **By requiring that modified versions remain open, the GPL fosters a community of collaboration and innovation.**

C. Prevents Exploitation

- **The GPL prevents companies from taking open-source software, modifying it, and then locking it down with proprietary restrictions.**

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9. Common Misconceptions

A. "The GPL Forces Me to Give Away My Software for Free"

- **False: The GPL allows you to charge for distribution, but you must still provide the source code and the same freedoms.**

B. "I Can't Use GPL Software in My Proprietary Project"

- **True: If you use GPL-licensed code in your project, your entire project must be licensed under the GPL (or a compatible license).**

C. "The GPL Is Only for Software"

- **False: The GPL can be used for any copyrightable work, including documentation, art, and hardware designs.**

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10. Summary Table: What You Can and Cannot Do

Action	Allowed?	Conditions
Use the software	Yes	For any purpose.
Study the source code	Yes	You must have access to the source code.
Modify the software	Yes	You can modify it for personal use or distribute modified versions under GPL.
Share copies	Yes	You must include the source code and GPL license.
Charge for distribution	Yes	You can charge a fee, but you must still provide the source code.
Lock down the software	No	You cannot use DRM or other restrictions to prevent modification or sharing.
Add restrictions	No	You cannot add legal terms that restrict the freedoms guaranteed by the GPL.
Use patents to restrict	No	You cannot use patents to prevent others from using or modifying the software.

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11. Final Thoughts

The GPL is all about freedom and sharing. It ensures that software remains open and accessible to everyone, fostering innovation and collaboration. If you follow the rules, you can use, modify, and share GPL software freely. If you break the rules, you risk losing your rights and facing legal consequences.