**PPDJ - Bibliography Manager**

**Software Deployment Plan**

**Latest update: 2025-10-20**

**1. System Requirements**

Hardware and Software Requirements for Running Python:

Operating System: Python is compatible with major operating systems including Windows (7, 8, 10, 11), macOS, and various Linux distributions.

Hardware (Minimum for Basic Programming):

Processor: Intel i3/Ryzen 3 equivalent.

RAM: 4GB.

Storage: 100GB HDD.

Graphics: Integrated.

Hardware (Recommended for Data Science/Machine Learning):

Processor: Intel i5/Ryzen 5 equivalent or better.

RAM: 8GB or more (16GB for large datasets).

Storage: SSD.

Graphics: Dedicated GPU (for demanding tasks).

Software: A Python interpreter and a code editor or IDE (e.g., VS Code, PyCharm, Sublime Text).

**2. Deployment Strategy Summary**

The deployment strategy is using pyInstaller (Primary Standalone Executable Builder) to bundle Python interpreter, all dependencies, and application code into platform-specific executables.

This will generate .exe for Windows, .app for macOS, and AppImage or binary for Linux

Furthermore, it aims to reduce user friction by eliminating Python installation requirements.

**3. Installation Package Contents**

**3.1 Required source or compiled files**

The required source files are python source files; including the following files.

**Package initialization**

bibliography\_manager/\_\_init\_\_.py

**Application entry point**

bibliography\_manager/app.py

**SQLite database abstraction layer**

bibliography\_manager/[db.py](http://db.py)

**BibTeX export utilities**

bibliography\_manager/[bibtex.py](http://bibtex.py)

**Services package initialization, Bibliography entries logic, Reference sets logic**

bibliography\_manager/services/\_\_init\_\_.py

bibliography\_manager/services/entries\_service.py

bibliography\_manager/services/refsets\_service.py

**UI package initialization**

bibliography\_manager/ui/\_\_init\_\_.py

**Tkinter main application window**

bibliography\_manager/ui/main\_window.py

**3.2 Required third-party components**

The required components are python dependencies with **Python 3.8+** runtime environment,

**tkinter** for GUI framework which is included with Python on Windows and macOS; requires python3-tk package on Linux. It also requires **sqlite3** for the Database engine which is included with the Python standard library.

***3.4 Required graphical assets, configuration and other non-program files***

The required graphical asset is the application Icon.

***3.5 Documentation files to be provided***

The documentation files to be provided is the user documentation including README.md for Project overview, installation, and quick start guide and INSTALL.md for detailed installation instructions for Windows/macOS/Linux. On the technical aspects, documentation on SQLite schema documentation will be provided.

***3.6 Development files and components that must be excluded***

The development files that must be excluded are .gitignore, and .gitattributes.

**4. Additional Code Required for Deployment**

Start script for:

* Create venv
* Install the dependency from dependencies.txt
* Initialize database

**5. Deployment Tasks**

* Create a Start script that:
  + Create venv
  + Install the dependency from dependencies.txt
  + Initialize database
* Create dependencies.txt with all of the required dependencies
* Create Readme.txt for installation instructions
* Compile the Start script as an executable for Windows, macOS, and Linux
* Test each executable for each OS

**6. Deployment Test Plan**

Verify Python version compatibility (e.g., 3.8+).

*Ensure all required dependencies are correctly installed.*

Confirm that virtual environment setup works on:

* Windows (venv)
* Linux (Ubuntu, Debian)
* macOS

Run the desktop application program from CLI on Windows, Linux, and macOS.

Ensure the program produces the same output on all platforms for the same input.