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Software Engineering Department

Braude College of Engineering

Capstone Project Phase B

**Maintenance Guide**

**B-23-2-R-5**

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Link to the project’s GitHub repository:

[GitHub - BMC Path Planning](https://github.com/danielbal21/BMC_Path_Planning)

# Maintenance Guide

The software was developed using Python 3.11, incorporating the following libraries.

|  |  |
| --- | --- |
| **Name** | **Description** |
| PyQt5 | GUI development framework |
| contourpy | Contour plotting library |
| cycler | Cycling color maps |
| fonttools | Manipulating font files |
| graphviz | Graph visualization |
| kiwisolver | Mathematical optimization |
| matplotlib | Plotting library |
| networkx | Network analysis |
| numpy | Numerical computation |
| packaging | Package management |
| pillow | Image processing |
| pip | Package installer |
| pyparsing | Parsing library |
| python-dateutil | Date and time manipulation |
| scipy | Scientific computing |
| setuptools | Package setup tools |
| six | Python 2 and 3 compatibilities |
| wheel | Built package distribution |
| z3-solver | Theorem prover |

To set up the project's source code, follow these steps:

1. Clone the project from GitHub using:  
   git clone https://github.com/danielbal21/BMC\_Path\_Planning.git
2. Using your preferred IDE (PyCharm, Spyder, VSCode) open the project’s folder: BMC\_Path\_Planning
3. Setup a virtual environment with a python 3.11 interpreter.
4. Install dependencies using  
    pip install -r requirements.txt.
5. Run the project using the Window.py file.

The project should be run on a Windows machine. The solution process is CPU-bound, meaning that a more powerful machine will result in better computation time.