# MWGrid software – Installation Instructions

## Version 1.0

### Intro

This document describes the components of the complete MWGrid software system and how you can install them. A separate document within the Documentation folder describes how to actually use the software. Installation and use are not user friendly so it might be worth dropping [P.Murgatroyd@Bradford.ac.uk](mailto:P.Murgatroyd@Bradford.ac.uk) a message first. Certainly do so if you encounter any problems. It would probably be a good idea to read the chapters about the model and its results in ‘Modelling the Logistics of Mantzikert’ before attempting anything with this software as it’s hard enough to know what’s going on as it is.

### Components

There are three components to the complete MWGrid system:

The MWGrid ABM, written in Java.

The aggregated data analysis spreadsheet.

The Blender Python scripts to facilitate visualisation of results.

### Prerequisites

There are certain prerequisites for this software suite to function:

* Java Runtime Environment if only running the MWGrid ABM and the Java Development Kit if altering the software.
* Excel or a spreadsheet programme which reads compatible files for the data analysis spreadsheet.
* Blender for the visualisation package.
* A text editor for the initialisation files.

Because I’m always playing around with the software, I run the MWGrid ABM through the Eclipse IDE. This is a development environment tailored towards Java, and I find it simpler to use Eclipse to run the software. Stand alone executables can be constructed using Eclipse but I never got round to it. These instructions will assume you have also installed Eclipse.

The development was undertaken in a Windows environment but as Java, Eclipse and Blender have Linux versions it is possible to make it run in Linux if you know your way around it a little. I’ve done so in the past.

### Instructions

First install all relevant prerequisites. That includes making sure you have at least the JRE, an Excel-compatible spreadsheet and Blender. It may also include the JDK and Eclipse if you’d like to actually see how the software is put together.

### Links

Java Development Kit - <https://www.oracle.com/java/technologies/downloads/>

Java Runtime Environment - <https://www.java.com/en/>

Blender - <https://www.blender.org/>

Eclipse - <https://www.eclipse.org/downloads/>

LibreOffice, an open source alternative to Excel - <https://www.libreoffice.org/>