1. Introduction

- Woodland structures as part of the landscape determine to a large extent the occurrence and population dynamics of a range of species.
- Nearest neighbour summary characteristics (NNSS) can be employed as surrogate measures of biodiversity to monitor the difference between values ideal for a specific habitat function and currently observed values.
- In order to employ spatial statistics for research into the significance of spatial forest and landscape structure a flexible approach in bioinformatics is required.

2. System design

- Virtual lab for the analysis and reconstruction of spatial forest structure.
- Implemented as JAVA package, object-oriented programming (OOP), platform independent (MS Windows, Mac OS, Unix/Linux).
- Using modern design patterns (gang of four).
- Computing a wide variety of nearest neighbour summary statistics and second-order characteristics (Pommerening, 2002, 2006).
- Modelling point processes (Matérn cluster, Poisson and Matérn hard-core).

3. Research applications of the CRANCOD software

4. References


The core package of the CRANCOD software can be downloaded free of charge from the website http://www.crancod.org.