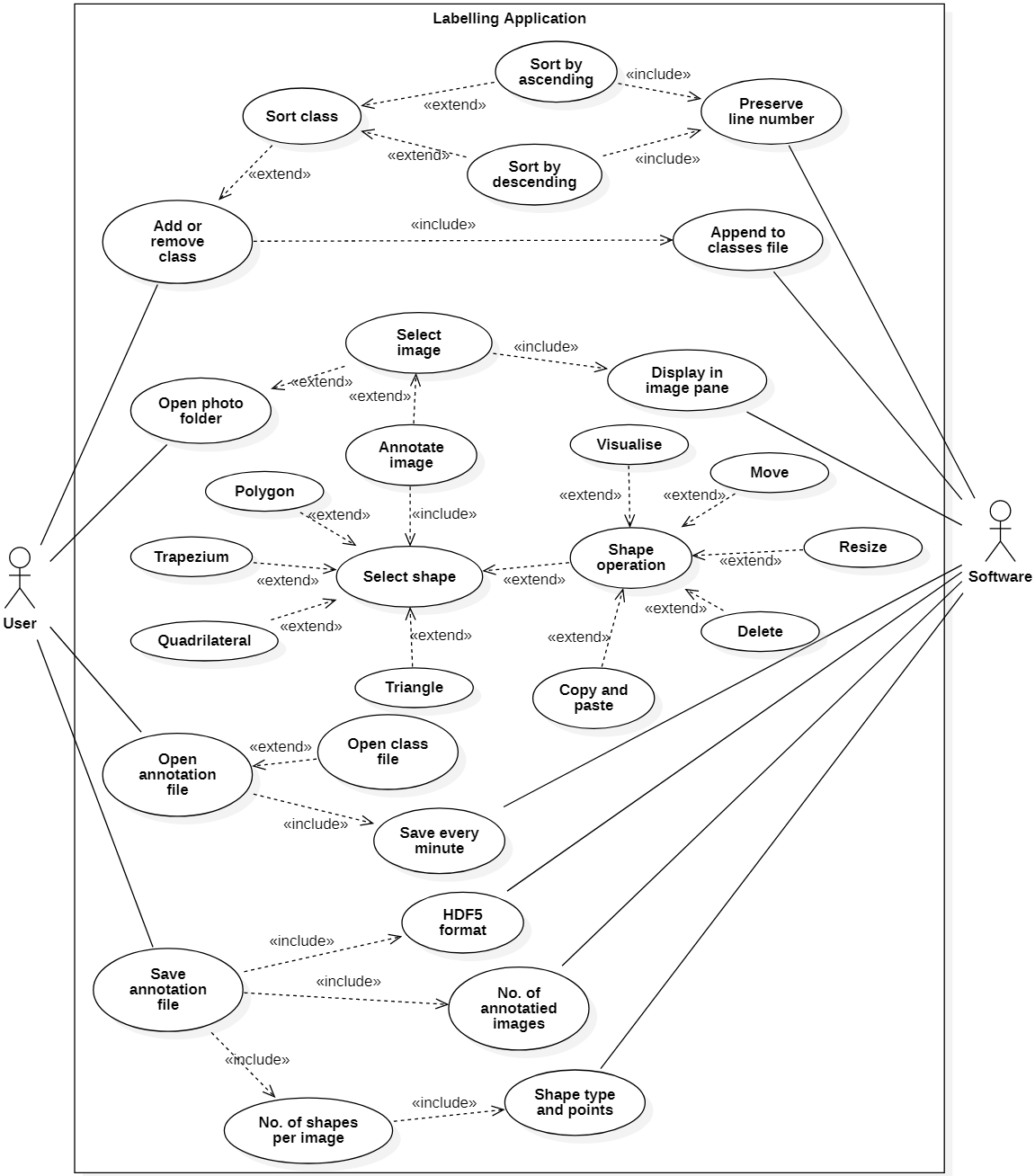
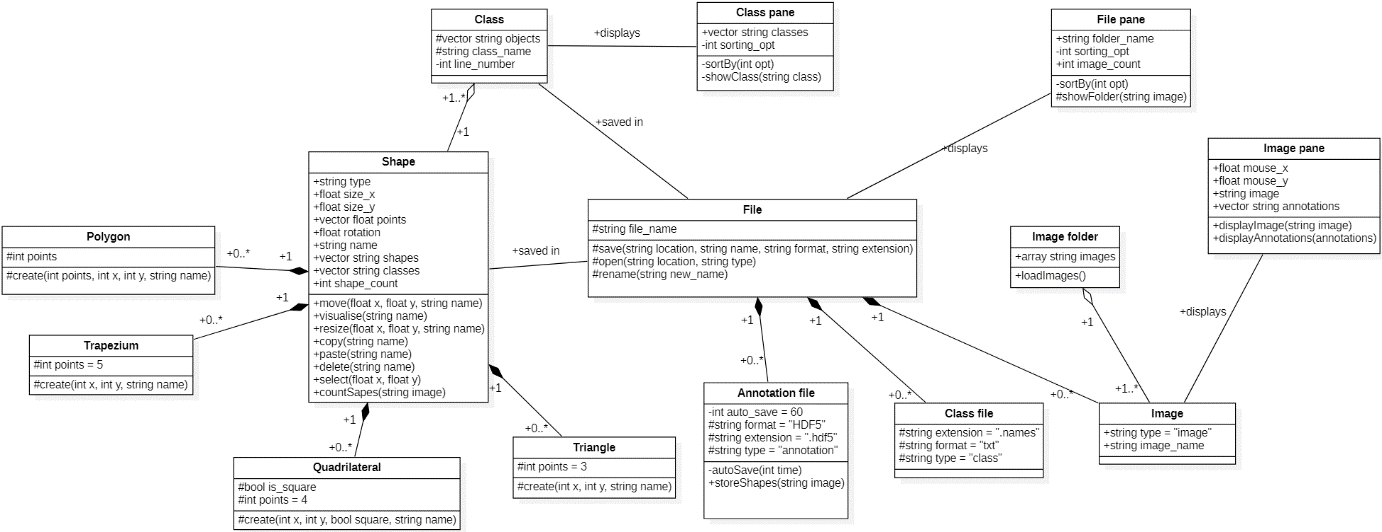
# Software Architecture

## UML Diagrams

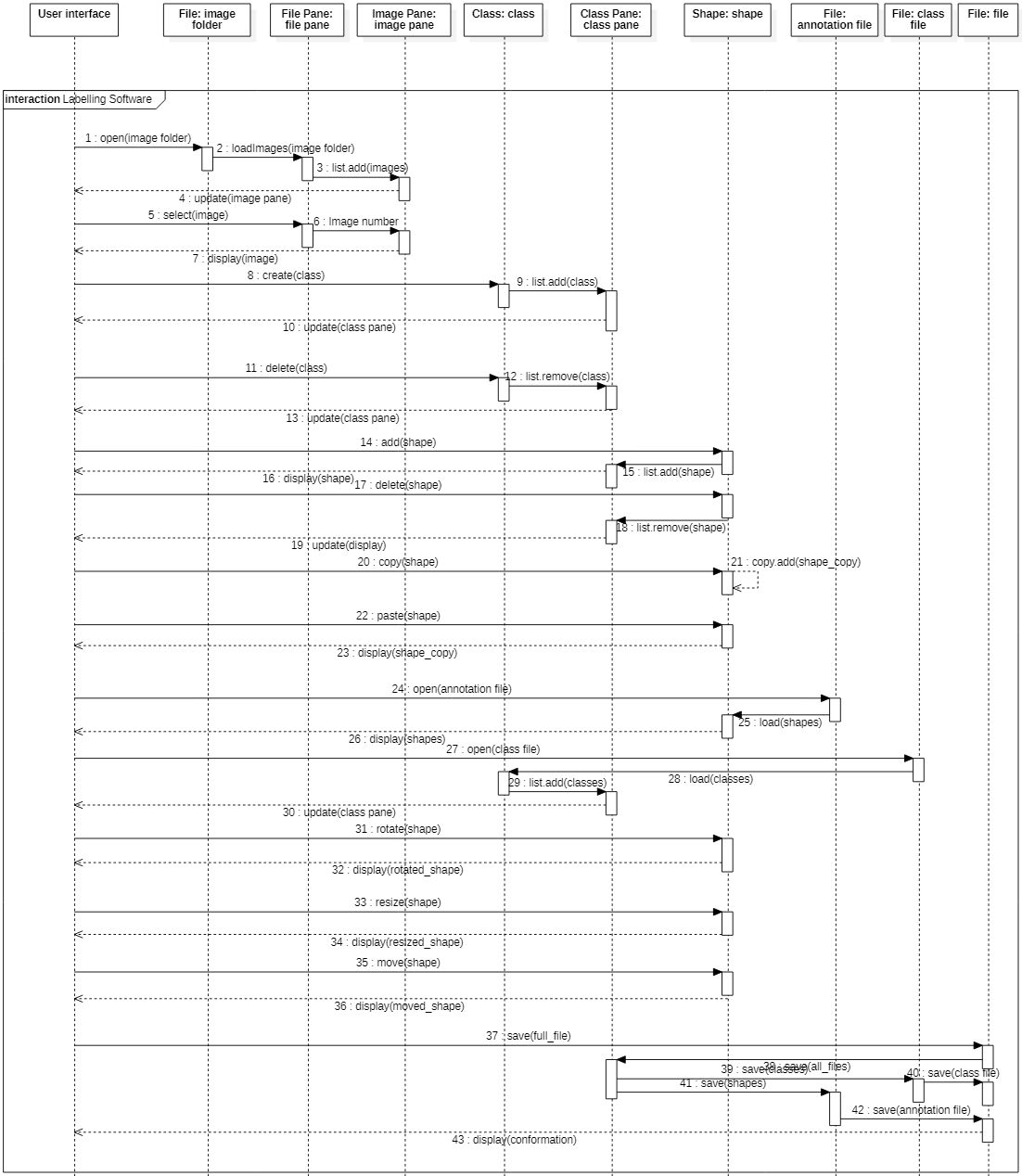
### Use Case Diagram



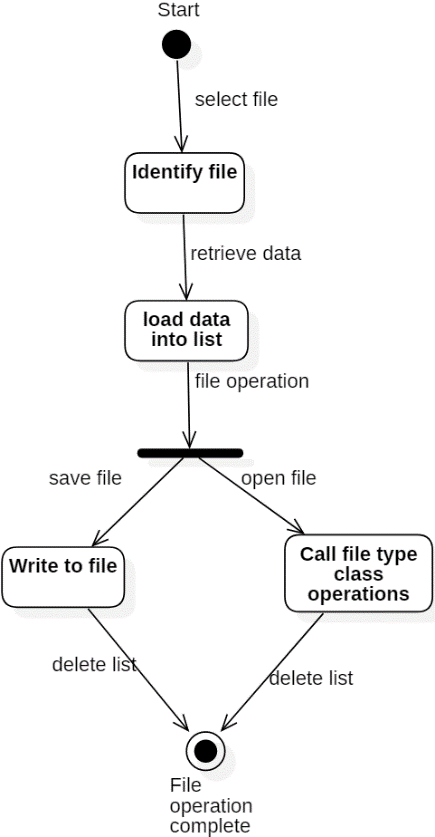
### Class Diagram

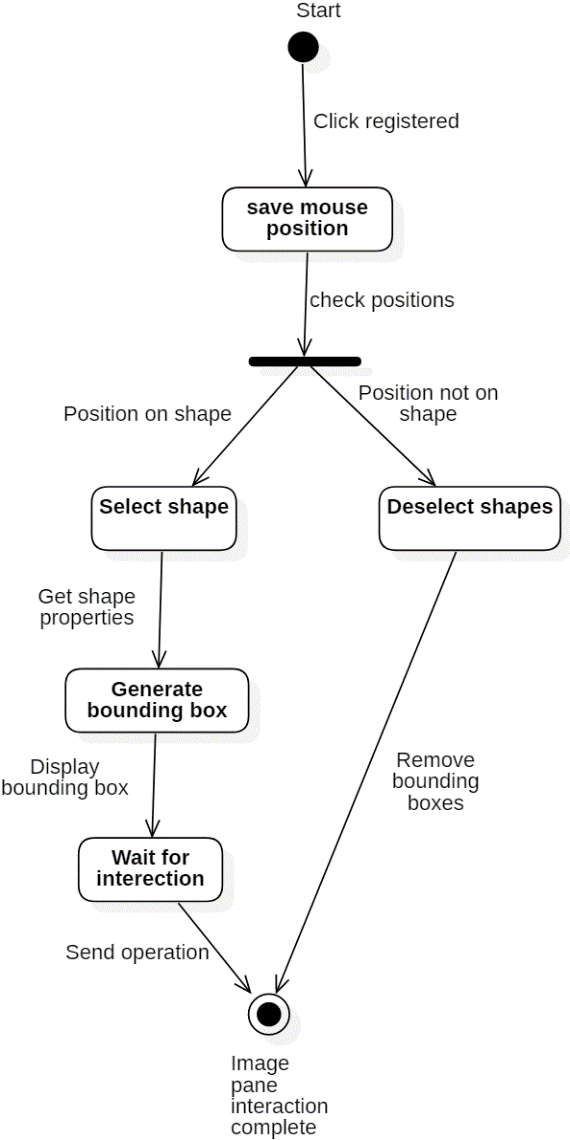


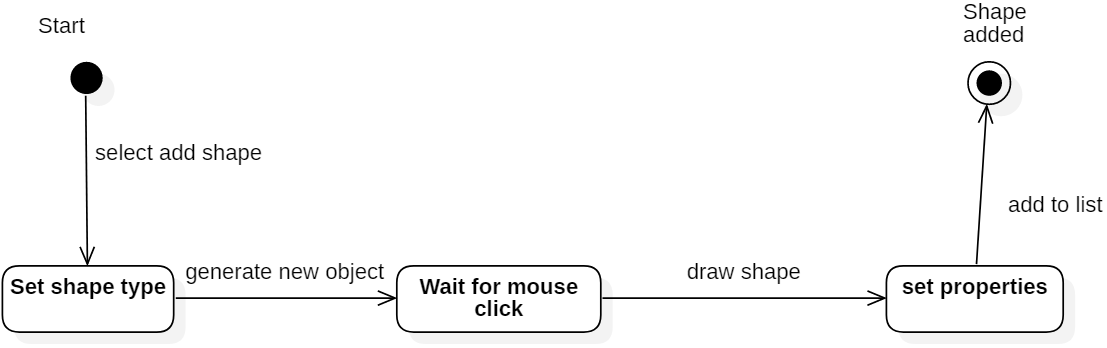
### Sequence Diagram



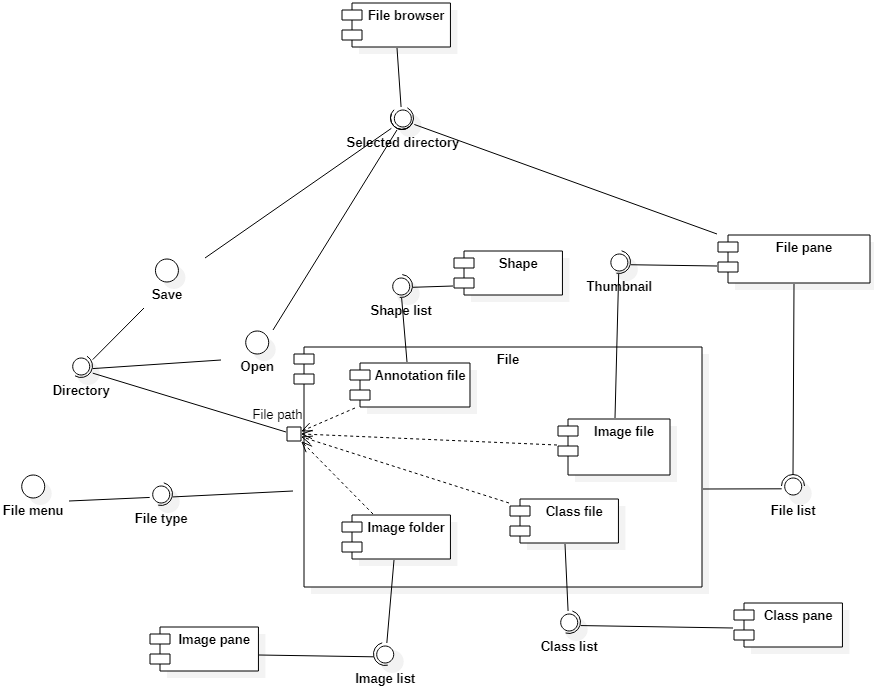
### State Diagrams



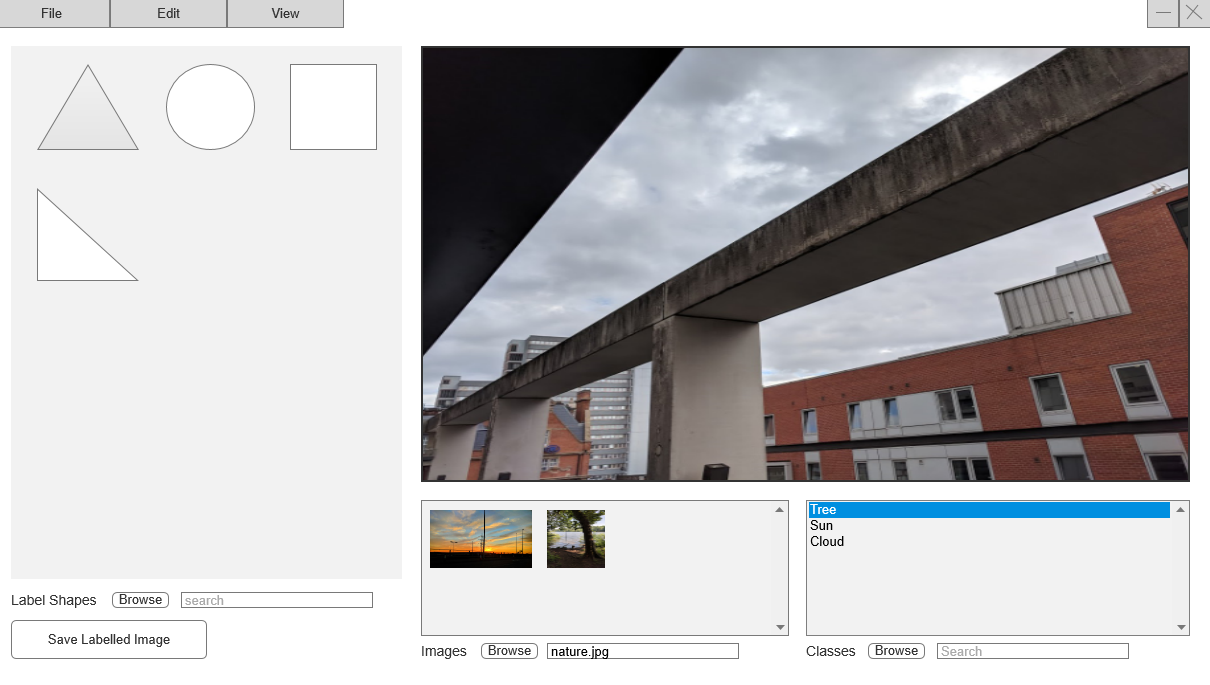




### Component Diagram



## GUI Snapshot



## Tools and Libraries

|  |  |
| --- | --- |
| **Tool/Library** | **Reasoning** |
| Visual Studio 2017 | * Good c++ support/compiler * Group members have previous experience * Good project/file organisation features |
| Microsoft Foundation Class Library (MFC) | * Included in Visual Studio * Ease of use * C++ library * Lots of documentation/support |
| StarUML | * Free non-commercial use * Large set of UML diagram templates and support * Auto code generation |
| OpenCV | * Easy to learn (lots of support) * C++ primary interface * Focussed on real-time processing * Completely free |
| Git (with GitHub) | * Completely free * Group previous experience * Integrated into Visual Studio * Easy to handle merging and branching |
| Slack | * Free * Easy and organised commination * Helpful tools (integrated apps) |