VoroComp: a Program for Voronoi Diagram Computations

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Project Name: VoroComp
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1 Project Description

The result of the `VoroComp` project will be a program for the computation of Voronoi diagrams (also known as Dirichlet or Theissen tesselations).

The program will be controlled through a graphical user interface (GUI), where the user can introduce points in a portion of the plane (of set length), using the mouse. After the introduction of all the points, the Voronoi diagram will be displayed. This GUI will pass on its information to a computational kernel (CK) and will get back the necessary information to display the Voronoi diagram.

The (CK) and (GUI) are designed in such a way that they can run on different machines, connected through a network. The CK and GUI will be written in pure Java, while the communication between them will be handled by Java RMI.

2 Project Milestones

1. The project will start on Thursday, 6th May 1999 and finished by 10th of July.

2. A detailed specification of the GUI and the CK will be finished by the 17th of May. The customer can make changes to the specification until the 21st of May. A version incorporating the changes proposed by the customer will then be available until the 24th of May. After the signed approval by the customer of the final version only minor changes of the specification are allowed without changing of the agreement.

3. A preliminary version of the CK (without error handling) will be finished by the 31st of May. This version will be able to compute Voronoi diagrams but will not be able to display these diagrams graphically. The customer can test this version until the 3rd of June by using a suitable test driver provided by developers. If no comments are made by June 6th, this version of the computational kernel will be included in the final product with the added functionality of error handling. Comments made before June 6th will be discussed with the developers, and incorporated in the CK. This incorporation will be finished by June 10th. After the signed approval of the final version of CK the customer is allowed to make only minor alterations to it; further alterations will require an additional agreement between customer and developers.

4. The part of the GUI dealing with user input (the part that allows the user to place points) will be finished by the 7th of June. The customer can test this version until the 11th of June, If no comments are made by June 11th, this version of the GUI will be included in the final product. Comments made before June 11th will be discussed with the developers, and incorporated in the GUI. This incorporation will be finished by June 14th; after the signed approval of the final version of GUI the customer cannot make any major alterations to it.

5. The complete program, linking GUI and CK will be finished by 21st of June. The customer can test the program for 3 days. If by the end of this testing period (June 24th) no comments have been made, the current version will be the final delivered program. Changes proposed

before this date will be discussed with the developers and will be implemented into the current program. The proposed changes should not concern the GUI or CK, as all changes to these parts of the program have been made in earlier stages. The final version of the complete program will then be finished by 26th June. No more major changes can be made to this version.

6. The manual will be finished by 28th June. Proof reading is done by the customer until 30th June. Changes proposed before June 30th, 6 p.m. will be discussed with the developers and the manual will be modified depending on the result of these discussions. A final version of the manual will be ready by 7th July. No more changes can be made to this final version.

7. Until 2 weeks after the releasing of the final version of the complete program bugs will be reported and fixed by the developer.

3 Customer Duties and Rights

- The customer has the right to interfere in the specification before final approval of the specification. After approving the specification, the customer does not have the right to demand any major changes.

- After final approval of the specification, the customer provides a set of test cases for the software by the 21st of May. If the test cases are not delivered by this date, for each additional day they are not provided, the project is prolonged by 2 days (including additional payment).

- The customer provides the necessary tools for the development of the project: JDK 1.1, MS Development Studio and Netbeans.

- The customer agrees on weekly 2 hour meetings with the developers, unless the developers inform the customer otherwise. If the customer is not available for these meetings, the project time and payment will be prolonged by a week for each meeting he is not available.

- The customer provides one contact person to the developers.

4 Developers Duties and Rights

- The developers have the right to schedule at most one additional 2 hours meeting per week with the customer, provided they announce these meetings three days beforehand.
- The development can deviate from the proposed schedule by at most one week. If the project deviates from schedule by more than one week (not taking into account the afore mentioned deviations), the customer has the right to defer further payments until the developers meet the delayed milestone.

5 Deliverables

At the closing date of the project, the customer will receive the following deliverables:

1. the compiled `VoroComp` program with source code;
2. implementation documentation and interface protocol of the CK;
3. a web page with online documentation;
4. A printed user manual explaining the use of the `VoroComp` package;
5. a downloadable package for self-installation.

Note that the ownership of the source code upon delivery will be transfered to the customer.