
The BehaviourComposer: A way for students to build computer programs without first learning to program

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Abstract

The LOGO tradition is to help students to learn to program from the bottom up. They learn the basic building blocks of the programming language before building the programs they care about. This has many advantages but is sometimes infeasible due to constraints of time or lack of expert support. Also some students lose patience learning to programming before they have progressed far enough to see the benefits.

An alternative is to build tools and code libraries that enable students to very quickly build programs they care about by composing and customising pre-existing code fragments. At Oxford University we have built a freely available tool to support this “middle-out” style of programming called the *BehaviourComposer*. The prototype works together with NetLogo and contains an extensive library of code fragments we call *micro-behaviours*. It is oriented towards building scientific models but the approach is more general. Note that the details of low-level programming are not hidden and those students with the interest and time can go deep after starting in the “middle”.

In this workshop, you will be given the chance to experience first hand how one can build a model of an artificial society in a short time. You don't need to have any previous experience with NetLogo (or any programming language!). The *BehaviourComposer* incorporates a web browser component that provides familiar, and yet powerful, ways to browse, customise, and compose small bits of code.

The *BehaviourComposer* is free and open source but currently only runs in *Microsoft Windows*. The *BehaviourComposer* was built as part of the Constructing2Learn Project described at <http://dfl.cetis.ac.uk/wiki/index.php/Constructing2Learn>.

Keywords

BehaviourComposer; NetLogo; computer simulation, modelling, StarLogo

