Extruded City:

Geospatial Coding with Möbius Modeller

CAADRIA 2018 Workshop Proposal

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Geospatial data is everywhere and growing. The types of geospatial data that we can access is also multiplying rapidly. A lot is available on the web, and can be scraped or accessed via APIs. Such data can have great power and can be used and abused in an infinite number of ways. Currently, the way that such data is manipulated and presented is still the domain of experts. (For example, see this study by the LSE.) But that does not need to be that way. Citizens should be able to build *interactive 3d geospatial web mashups* to suit their own needs, creating visualizations that others cane explore and interrogate. When the curiosity and ingenuity of vast numbers of citizens is unleashed on these datasets, important new discoveries will surely emerge.

In this workshop, you will learn to build computational procedures that can generate interactive 3d geospatial web mashups from open data. People will be able to interact with your visualization through various sliders and menus whose behaviours will be defined by you. You will learn how to publish these visualizations onto your own Github pages, so that the rest of the world can play with your creations. There is no need to have any prior scripting or programming knowledge. You will use an open-source Web-based visual programming environment called Möbius Modeller that is powerful but requires no textual coding. This environment allows you to code your own bespoke nodes, with "for loops" and "if conditions", all using the graphical user interface. Think of it as a cross between GIS, Grasshopper, and Scratch, all rolled into one. The only software you will need is the Chrome browser.
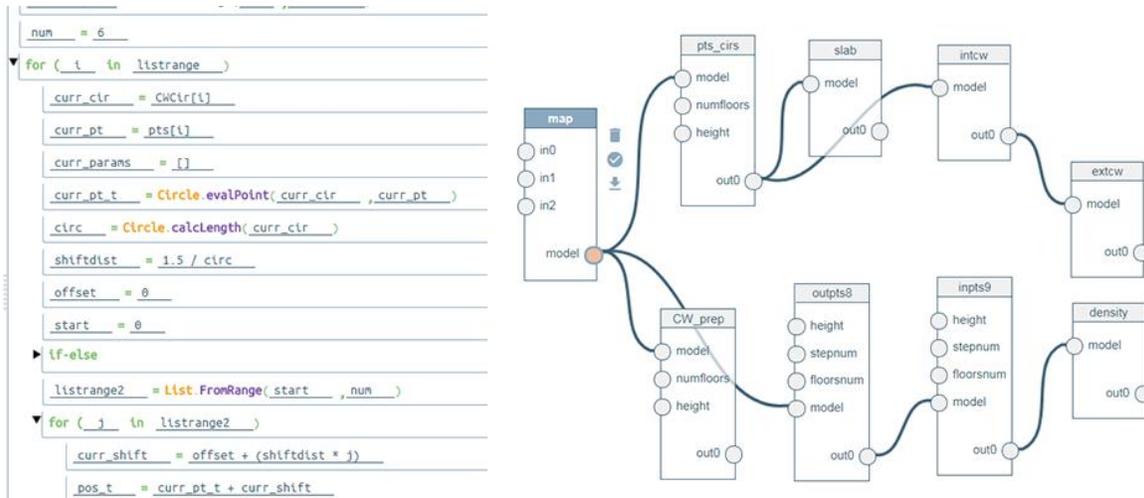
The Möbius Modeller scripting environment combines dataflow techniques with visual blocks-based programming.

Two weeks before the workshop, we will invite you to join our virtual workspace on the collaborative online platform, slack.com. There, we will get to know one another and to start developing ideas and collecting data sources on the cities and regions that you would like to interrogate.

During the five day workshop, we will have a team of people to work with you, developing solutions to the challenges that present themselves. The support team includes specialists in web development, 3d modelling, GIS modelling and data visualization, all available to you for the full duration of the workshop. The first part of the workshop will be spent learning the methodology, including the visual coding, 3d form generation, and web publishing using data on Beijing. For the second part of the workshop, you will focus on your own cities and regions, with continuous support from our team.

The workshop will culminate in an exhibition of interactive 3d geospatial web mashups of cities from around the world. Each mashup will exist as a separate web site, consisting of 3d visualizations and information pages describing the background and data sources.

The workshop will empower you! You will leave with the methodology and tools necessary to build and publish your own interactive 3d geospatial mashups, live on the web.