

Thesis Project Portfolio

Sous, an Ingredient Substitution and Task Scheduling Tool

(Technical Report)

The Co-Production of American Craft Brewing

(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science

University of Virginia • Charlottesville, Virginia

In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

William Raymond Neal Tonks

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Department of Computer Science

Sociotechnical Synthesis

Both the thesis project and STS research paper detailed below explore the challenges faced and technical solutions used in the creation and preparation of local food and beverages. The thesis project below attempts to solve challenges faced by chefs attempting to create full meals at home by providing them tools to help them experiment with new flavors and for time management in the kitchen. The STS research paper looks into what social, technical, and economic factors have led to American craft beer manufacturers being able to successfully compete with national beer producers. This success is in no small part due to craft beer manufacturers successfully using modern digital tools like IOT sensors and production line automation to be able to experiment with new flavors or recreate existing flavors with limited ingredient options. Craft brewers often get their start as home brewers, which means that enabling people to experiment and learn cooking skills in the home can lead to an environment where people pursue local food and beverage production as their profession. Sous seeks to give home chefs greater ability to experiment with new recipes or adapt existing recipes with new ingredients by providing them knowledge about potential ingredient substitutions and helping them maintain proper kitchen workflow. As society becomes more digitized and physically transient, Americans are beginning to long for a sense of place and belonging that they perhaps feel like is missing from their daily lives, a desire that is well met both by consuming and producing local food and beverages.

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