

A Gamified Course Visualization, Organization, and Assessment System
(Technical Report)

Individualism and Collectivism: The Battle over Charter Schooling
(STS Research Paper)

An Undergraduate Thesis Portfolio
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by

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Preface

How can education systems in the United States better serve students?

Traditional teaching methods, where topics are sequentially taught, each depending on its priors, can often fail those most in need of aid. Professor Mark Floryan of the University of Virginia is developing a new system in which topics are arranged by their dependencies, and each topic can be individually re-assessed until students master it. Floryan's intention is to better serve students who fail to master material due to deficiencies in an early topic which many others rely on. Our capstone team has developed an online platform in accordance with this method. The platform communicates the graph structure of the course and administers repeatable, automated assessments that incorporate a novel grading metric from another student's research. This tool, which requires further evaluation, will aid in the continuing research of professor Floryan.

Public K-12 schools are a major component of the U.S. education system. Presently, two models of schooling vie for support: traditional public schooling and charter schooling. The political strategies of proponents of each method were studied. Proponents of charter schools appeal to the values of individual freedom and choice, while proponents of traditional schools emphasize the importance of equality of opportunity as a right. These appeals are often founded on uncertain claims, suggesting that emotional appeals are more important than objective data in political campaigns.

List of Contents

1. Preface
2. Technical Report: A Gamified Course Visualization, Organization, and Assessment System
3. STS Research Paper: Individualism and Collectivism: The Battle over Charter Schooling
4. Prospectus