

CS486C – Senior Capstone Design in Computer Science

Project Description

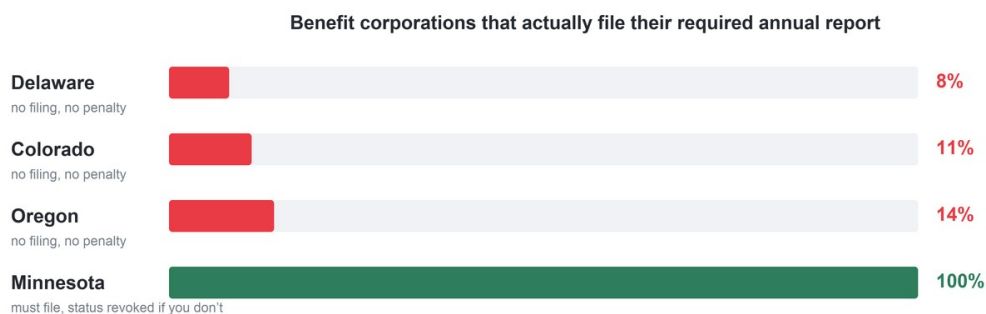
Project Title: Paper Promises: Tracking Whether Benefit Corporations Keep Theirs	
Sponsor Information: 	Andrés Sepulveda Morales, Founder and Creative Technologist Red Mage https://redmage.cc

Project Overview:

A benefit corporation is a company that has legally committed, in its founding documents, to pursue a public benefit alongside profit. Thousands of companies in the United States have taken that step, and many customers choose them because of it. In most states, that promise comes with an obligation attached: publish an annual report saying what you actually did about it, assessed against a third-party standard.

Almost nobody does. The most careful study of this found compliance rates of 14 percent in Oregon, 11 percent in Colorado, and 8 percent in Delaware. A separate review found that exactly one of 697 benefit corporations in Nevada had published its report. In one state the rate was 100 percent, and the reason is instructive: Minnesota requires the report to be filed with the Secretary of State by April 1 with a \$35 fee, and if you miss it, the state revokes your public benefit corporation status automatically. Everywhere else, missing it costs nothing, so it gets missed.

Red Mage is a small, bilingual, accessibility-first consulting practice working with nonprofits, B Corps, mission-driven teams, and Latino-led businesses. Our clients are exactly the companies caught by this. They incorporated as benefit corporations because they meant it, and then discovered that the obligation varies by state across at least four independent dimensions: how often you report, who you report to, whether it gets filed with the state at all, and what happens if you skip it. Delaware wants it every two years, sent only to shareholders, filed nowhere, with no penalty. Minnesota wants it annually, filed with the state, and will revoke your status. Rhode Island fines you \$25 a year. New Jersey takes your status away after two years. Most founders have no idea which regime they are in, and one study found that several companies did not know they were benefit corporations at all, because their state's incorporation form made it a checkbox.



The only state where companies keep the promise is the one that takes it away if they don't.

Compliance rates from Verheyden (2018); no one has measured this since.

What we envision is a web application that answers three questions for a company: what do I actually owe, when is it due, and what does it need to say. The user selects their state and enters their incorporation details. The system

tells them their specific obligations, tracks the deadline, warns them before the consequences bite, and helps them assemble a draft report structured to satisfy their state's statute.

The requirements for this project are unusually well defined, because they are written in law. Fifty states, each with its own statute, each specifying frequency, recipient, filing venue, fee, third-party standard requirement, and penalty. Turning that into a correct, queryable rules database is real work and is the natural focus of the first semester. Verifying it is real work too, and it is the kind of requirements engineering that is usually hand-waved on a student project. Here it is the project.

There is also a genuine research contribution available. The compliance numbers quoted above are the best that exist, and they come from fieldwork done between 2014 and 2017. Nobody has measured this in nearly a decade. Many states publish business registry data. A team that builds the tracker has, as a byproduct, most of what it needs to produce the first current national picture of whether benefit corporations are keeping their public promises. That is a finding, not just a feature, and it is the kind of thing that makes a good conference presentation in May.

Some key features will include:

Minimum viable product:

- A structured rules database covering benefit corporation reporting obligations across all fifty states and the District of Columbia: frequency, recipient, filing venue, fee, third-party standard requirement, and penalty for non-compliance
- A guided questionnaire that turns a company's state and incorporation details into a plain-language list of what it specifically owes
- Deadline tracking with escalating reminders, and a clear warning where the penalty is loss of legal status
- Citations to the governing statute on every obligation, so a user or their lawyer can check the source

A useful system:

- A guided report generator producing a draft structured to satisfy the user's state statute, with clear boundaries about what is a drafting aid and what requires professional advice
- Support for a company that operates or is registered in more than one state
- A multi-company view for the accountants and advisors who manage several of these
- An accessible interface meeting WCAG 2.1 AA
- Alerts when a state amends its statute, so the rules database does not silently rot

Stretch goals:

- Automated collection from public state business registries to measure the current national compliance rate, which has not been measured since 2017
- A public directory of companies that did file, so keeping the promise is visible
- Historical trend analysis by state, testing whether filing requirements and penalties predict compliance

The users are small mission-driven companies, the lawyers and accountants who advise them, and potentially the state offices that administer this. The impact is unusually concrete for a student project. In at least one state, missing this filing means a company loses the legal status it chose on purpose, and it can be dissolved for failing to change its name afterwards. A tool that prevents that has a measurable effect on real companies. And if the team completes the stretch goal, they will have produced a piece of original public research that did not exist before they started.

Knowledge, skills, and expertise required for this project:

- Web application development with a modern JavaScript or TypeScript framework of the team's choosing

- Relational database design; the rules database is the heart of this project and modelling it well is most of the battle
- Careful requirements work: reading primary legal sources accurately and turning them into structured data. No legal background is expected, and the sponsor will help, but precision matters here more than on a typical project
- Scheduled jobs and notifications
- Web scraping and data collection for the research stretch goal
- Attention to accessibility and to writing for non-experts; the sponsor will provide guidance and review here

Equipment Requirements:

- There should be no equipment or software required other than a development platform and software/tools freely available online.
- All source material is public: state statutes are freely available online, and state business registries publish their data. There are no vendor accounts, paid data sources, or API costs.

Software and other Deliverables:

- A strong as-built report detailing the design and implementation of the product in a complete, clear and professional manner. This document should provide a strong basis for future development of the product.
- Complete professionally-documented codebase, delivered both as a repository in GitHub, BitBucket, or some other version control repository; and as a physical archive on a USB drive.
- A deployed, working demonstration instance that a non-technical person can be handed and asked to use.
- The fifty-state rules database as a documented, exportable dataset, with a statute citation on every row. This has standalone value even apart from the application.
- A written note on the limits of the work: which states were verified against primary sources, which were not, and how a future contributor should keep the database current.
- A deployment runbook precise enough that a developer who has never seen the project can stand it up from scratch in under an hour, tested by someone outside the team.
- Configuration through environment variables, with no credentials, keys, or secrets anywhere in the source history, verified before final delivery.
- An open source licence applied to the repository, and the repository transferred to or mirrored in an account the sponsor controls at the end of the project.
- A short honest handoff document: what works, what does not, what the team would do next, and where the bodies are buried. This is worth more to whoever picks the project up than another chapter of the as-built report.
- Basic automated tests covering the core logic, enough that a future contributor can change something and find out if they broke it.