

# Smart Voting

---

## Project Summary

Version 1.0

2021 October 10

## **Project Title**

Smart Voting

## **Project Domain**

smartvoting.cc

## **Project Contacts**

Stephen Davis	101294116	CRN ID: 13600- 202101	<a href="mailto:stephen.davis@georgebrown.ca">stephen.davis@georgebrown.ca</a>
Matthew Campbell	101289518		<a href="mailto:matthew.campbell@georgebrown.ca">matthew.campbell@georgebrown.ca</a>
Satabdi Sangma	101287632		<a href="mailto:satabdi.sangma@georgebrown.ca">satabdi.sangma@georgebrown.ca</a>
Michael Sirna	101278670		<a href="mailto:michael.sirna@georgebrown.ca">michael.sirna@georgebrown.ca</a>

## **Project Description**

The Smart Voting platform is a secure web application that allows for elections to be held digitally, all while ensuring the integrity of the ballots. Smart Voting utilizes a ledger database to securely and transparently keep track of votes as they are cast. As with all elections, ballots must be anonymous, but valid. This means checks must be done to make sure the voter is legally authorized to cast a ballot. Additionally, election officials and parties want to know as much data as possible about how and where people voted. There are various unique tools built into the system to assist with interpreting this data. Some of these tools will be publicly available and others will only be accessible by election officials and parties.

## **Problem & Opportunity Assessment**

Currently, the vast majority of elections are held in person, using paper ballots. This system has worked for years but often takes too much time and can easily be disrupted, especially during a global pandemic. Election ballots need to be secure and should not be changed once submitted. This is vital to an election's integrity. One major problem with traditional SQL and NoSQL databases is entries can be modified or deleted once they have been written to the database. With the emergence of blockchain technology, a ledger removes these risks. Once an entry is written to a ledger database, it can not be modified or deleted. By utilizing a ledger database, it would remove one of the biggest challenges for electronic voting.

## **Desired Project Outcomes & Requirements**

1. Web application that is optimized for both desktop and mobile devices.
2. Efficient and aesthetically pleasing to reduce user confusion.
3. Authenticates electors by using a voter identification card.
4. Two separate ledger databases to track voting.
  - a. One ledger handles the votes with timestamps.
  - b. One ledger tracks who has cast their ballot.
5. Easily accessible analysis tools for both public and private use.
6. Generalised party and candidate information for the public.

## **Key Deliverables to be Produced by Students**

1. Generates authorization codes, which would be “mailed” to the users.
2. Have users complete identity verification for added security.
3. Allow users to cast a single ballot after authenticating.
  - a. Once cast, the ballot is recorded on one ledger table while another table records who has voted.
  - b. If the user tries to cast a second ballot, the system will reject their second ballot.
4. Once complete, a confirmation summary is emailed to the user to confirm their selection.
5. Analysis tools available to organizations, political parties, and the public to help understand polls and voting patterns.

## **Desired Start Date**

Monday, September 20, 2021

## **Desired End Date**

Friday, April 1, 2022.

## **Attachments**

None