

# Fwd: open source voting

Jerdonek, Chris (REG)

Tue 2/14/2017 6:30 AM

To: Jerdonek, Chris (REG) <chris.jerdonek@sfgov.org>;

 1 attachments (31 KB)

Phase\_1\_RFP\_Outline.docx;

----- Forwarded message -----

From: **Chris Jerdonek** <[chris.jerdonek@sfgov.org](mailto:chris.jerdonek@sfgov.org)>

Date: Fri, Jan 20, 2017 at 1:39 AM

Subject: Re: open source voting

To: Roger Donaldson <[roger.donaldson@gmail.com](mailto:roger.donaldson@gmail.com)>, "Arntz, John (REG)" <[john.arntz@sfgov.org](mailto:john.arntz@sfgov.org)>, "Donaldson, Roger (REG)" <[roger.donaldson@sfgov.org](mailto:roger.donaldson@sfgov.org)>

Thanks for the thoughtful heads up, John.

See attached for the rough document that Roger and I put together earlier this evening. It has various bullet points and verbiage you can draw from, etc. You can use any of this without attribution.

I will also resend an e-mail I sent over the summer with related, similar language.

--Chris

# SF Open Source Voting Project

## Outline for RFP for Phase 1 (Planning Phase - \$300K)

### Summary

#### Overall Project Goal

Ensure that an open source voting system—running on commercially available hardware—that provides the greatest degree of accessibility, accuracy, transparency, security, auditability, affordability, and flexibility be available for use by the Department of Elections no later than the June 2020 Presidential Primary Election.

#### Goal of \$300K Planning Phase

The deliverables of the planning phase (anticipated December 2017) should make the project “shovel-ready” to begin actual development (pending budget approval).

Specifically, develop a detailed plan to meet the overall project goal, including project phases with scope, approach, method, and deliverables, detailed project timeline and milestones, detailed cost estimates, a project management strategy, draft RFP’s for the next and remaining project phases, as well as ownership and maintenance strategy for the system lifecycle.

The planning phase should identify risks and steps to mitigate them, incorporate innovative approaches towards open source, incorporate the elements listed in the Elections Commission resolution and other supporting documents (see “Referenced Documents”), and raise public awareness of the project.

#### Goal of RFP

Procure services to fulfill the role of project director with technical expertise to report to the Director of Elections and be responsible for completing the goals of the planning phase, including working with stakeholders, collaborators, and regulators; drafting system requirements; and selecting and managing technical contractors, as necessary; and produce the deliverables.

### Deliverables

1. (Ongoing) Public face for project (e.g. project website)
2. (Ongoing) Form citizen advisory bodies (scheduling / publicizing / facilitating monthly meetings)

- a. Technical group
  - b. Non-technical group
- 3. Component Definitions
  - a. Include high-level interfaces
- 4. Requirements / Capabilities
  - a. System
  - b. Components
- 5. High-level design and architecture
  - a. How should subsequent development be divided up?
- 6. Recommended Plan and Options for remainder of project
  - a. Include timelines
- 7. Cost Estimates
  - a. Working, certifiable system
    - i. Development
    - ii. Integration
    - iii. Certification
  - b. Deployment
  - c. Operations
- 8. Business Model
- 9. Draft RFPs

## Tools and Methods

- 1. RFI issuance
- 2. Budget and spending authority to hire subcontractors (within the budgeted amount)
- 3. Incremental / agile approach
- 4. Identify possible project collaborators, including possible partner jurisdictions, nonprofits, companies, and other organizations.
- 5. Identify any additional sources of funding (e.g. grants).

## Candidate Qualifications / Scoring

- 1. Record of commitment to / experience with open source (highest importance)
- 2. Hardware / software experience
- 3. Voting and elections knowledge
- 4. Technical ability
- 5. Prior efforts: ideation to production ... depth and breadth of demonstrated domain expertise
- 6. A draft of ideas for how the applicant would approach and structure the project (e.g. 5 pages max)

## Key Considerations/Parameters (or...Scope / Drivers?)

1. Open Source / GPL / Copyleft
2. Commercial-off-the-shelf (COTS) hardware
  3. Compliant with applicable local, state, federal laws and guidance
  4. Operationally viable
  5. Develop components “in the open” from day one

## Possible Project Phases

The project is anticipated in multiple phases. The following is a possible scenario for the project phase breakdown where the output/outcome of each phase provides input to the next. A delineation of a phase would be do to practical considerations of project management, phase scope, deliverables and resourcing. A key phase 1 deliverable is to develop a phased approach applying these parameters, but may vary substantially based on the findings and judgement of the Project Director.

2004-2016	FY17	FY18	FY19			FY20	FY21
Policy Development	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Presidential Election (Jun '20)	
	Project Planning and Definition	Detail Design to Final Prototype	Production Build Spec & 1 <sup>st</sup> Article Acceptance	Certification	Build, Accept Deploy		

## Possible Voting System Components (Hardware & Software)

For additional technical background, here is one possible division of a voting system into hardware and software components.

Components should have clear interfaces (using open standards where possible) and be independently testable. Ideally, components should also be independently certifiable.

### Software Components (both applications and libraries)

1. **Election Definition EMS Integration software.** Application or library interfacing with the Department's Election Management System (EMS) to import and convert election definition information from the EMS into the voting system database. Includes things like what offices, candidates, measures, etc. are on ballot and in what precincts, etc.
2. **Voting System Database / Management software.** Application and central database storing all information needed for voting system. Includes things like contest and ballot definitions, ballot images, cast vote records, and election results. Management interface lets staff perform tasks like import and export data in open data formats, digitally evaluate "out-stacked" ballots and ballots with write-in candidates, and perform other functions needed during the canvass. Should support plug-ins like EMS integration, tabulation, and results reporting.
3. **Ballot Layout software.** Application that lets staff generate paper-ballot layouts from the election definition for each ballot type in automated or semi-automated fashion, including

support for multiple languages.

4. **Scanner device drivers.** Low-level software library providing an API to the basic hardware functionality of a ballot scanner (e.g. out-stacking a ballot, returning a ballot, advancing a ballot, etc). Needed for both precinct and central ballot scanners.
5. **Ballot image interpretation software.** Library responsible for interpreting and converting an image of a cast paper ballot into vote totals, given a ballot layout. The open source software OpenCount developed at Berkeley could be a foundation for this.
6. **High-level scanner software.** High-level software library controlling the precinct and central ballot scanners. Interacts with the scanner device driver and ballot image interpretation component and is responsible for things like scanning and storing ballot images, detecting the ballot layout, interpreting and tabulating ballot markings, and export. The open source software OpenCount developed at Berkeley could be a foundation for this.
7. **Election tabulation software.** Application or library to aggregates and counts all vote totals and generates the results in an open data format. Includes the RCV tabulation algorithm.
8. **Results reporting software.** Application or library to generate human-readable results reports for the public from the open results data from the tabulator (e.g. printable results and results posted on the Department website).

## Hardware

1. **Accessible Voting Device (e.g. Accessible Ballot-Marking Device).** Device used in polling places to allow people with disabilities to vote independently. Needs accessible interfaces like audio, sip-and-puff, etc. May need custom casing / shell around COTS computer?
2. **Central Ballot Scanner.** Ballot scanner used centrally to scan and tabulate vote by mail ballots.
3. **Precinct Ballot Scanner.** Ballot scanner used in polling places to scan and tabulate ballots cast in person. May need custom casing / shell around COTS scanner?

## Referenced Documents

(TODO: add links, dates, full titles)

- San Francisco Elections Commission Resolution
- 2015 Commission Annual Report (for history of open source voting in SF)
- San Francisco Board of Supervisors Resolution
- Local Agency Formation Commission Report
- San Francisco Voting Systems Task Force Report

# Fwd: initial thoughts for open source voting project director position

Jerdonek, Chris (REG)

Tue 2/14/2017 6:34 AM

To: Jerdonek, Chris (REG) <chris.jerdonek@sfgov.org>;

----- Forwarded message -----

From: **Chris Jerdonek** <[chris.jerdonek@sfgov.org](mailto:chris.jerdonek@sfgov.org)>

Date: Fri, Jan 20, 2017 at 1:45 AM

Subject: Fwd: initial thoughts for open source voting project director position

To: John Arntz <[john.arntz@sfgov.org](mailto:john.arntz@sfgov.org)>, Roger Donaldson <[roger.donaldson@sfgov.org](mailto:roger.donaldson@sfgov.org)>

FYI, resending per my previous e-mail. "Bullet points" are at the very bottom.

--Chris

----- Forwarded message -----

From: **Chris Jerdonek** <[chris.jerdonek@gmail.com](mailto:chris.jerdonek@gmail.com)>

Date: Fri, Jul 29, 2016 at 4:25 PM

Subject: initial thoughts for open source voting project director position

To: John Arntz <[john.arntz@sfgov.org](mailto:john.arntz@sfgov.org)>

Hi John,

See below for some initial thoughts on the posting for a temporary position to direct the open source voting project. Perhaps we can talk more about this next week, if you have time. I can send you an e-mail on Monday.

Also, one other thought I believe I mentioned to you in the past is that, if it's too hard to find someone with "all" of the desired skills, I think it would be good to plan for and leave open the possibility of bringing on additional resources midway through to do individual pieces of work on an as-needed basis (e.g. technical / architectural / design work if that would be useful). In other words, I think it would be good if the person were empowered to ask for more help (working / discussing in conjunction with you, of course). I just don't know myself what's involved in bringing on additional resources like that in a government setting to know if the option is feasible. This would make the hiring process a bit easier because the lead person wouldn't be required to "have it all" and do everything. The allocated funds also allow for that.

Of the below, I do think that having a strong record of experience with open source and roots in the open source community is the most important characteristic to look for. I think I mentioned this to you in person. If the person has that, then I think there is a good chance they would have a good understanding of what resources it would take to get the other stuff done well, etc, as well as have a true passion for the goal and desire to see the project to succeed.

<snip>

## Summary

Lead the planning phase (Phase 1) of a multi-year project to develop and certify the country's first open source voting system.

[Include more background on the project's history and significance.]

[Include link to relative background documents like Board and Commission resolutions, City budget document, etc.]

As the leader of the project, you would report to the Director of San Francisco's Department of Elections.

## **Responsibilities**

Responsibilities may include--

- Hold and facilitate regular public meetings to share information and solicit feedback from the public on the voting system (e.g. one technical meeting and one non-technical meeting per month).
- Create and maintain a public-facing website for the voting system project.
- Develop and document high-level system requirements, including accessibility, auditability, security, and usability goals.
- Develop and document the overall technical architecture and design, including both software and hardware design.
- Develop and document an overall procurement and project management strategy that uses an agile approach. The strategy should include what and how many RFP's should be issued, project milestones and deliverables, and strategy for iteration, integration, and acceptance testing.
- Develop and document an overall plan for subsequent phases of the project, including pilot use, deployment, and full use in the first election.
- Write the RFP's that will be issued.
- Develop an open source licensing approach, including what licenses should be used, plan for publishing the source code, and plans for interacting with the public over the source code (e.g. processes for handling public feedback).
- Develop detailed cost estimates suitable for city budget planning.
- Pro-actively work with the California Secretary of State's Office on a plan for certification.
- Work on identifying other organizational collaborators, including academic institutions, non-profits, commercial entities, and government jurisdictions and what responsibilities should be shared with the organizations.
- Work on identifying and obtaining additional funding from outside sources, including government, non-profit, private, and philanthropic sources.

## **Preferred Experience**

Preferred experience includes--

- Strong record of experience with open source software and working with the open source community.
- Strong technical background (hardware, software engineering, and/or computer science experience preferred).
- Strong communication skills.

Also desired--

- Project management experience.
- Experience working with government stakeholders.
- Knowledge of elections and voting systems.

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