

Agenda

- Introduction
- Technical Impediments to Remote Participation
- Legal Impediments to Remote Participation
- Next Steps

Electronic Voting at Wayland Open Town Meeting

- ~10,000 registered voters
 - Annual Town Meeting averages 600 voters
 - Town Elections average 2100 voters
- Began on-premises electronic voting in 2011
- Objectives: privacy, accuracy, and speed
- Security
 - All messages are encrypted
 - Nothing is connected to the Internet
 - Moderator can initiate a real-time audit
- Results
 - Voters make decisions on the merits, without concern for consequences from family, friends, neighbors, co-workers, employees, or employers
 - Town Meeting is more relaxed, deliberate, and methodical; decisions made in this environment are better, to the benefit of every Wayland resident
 - Annual Town Meetings are shortened by an average of 3 hours
 - ~70 Massachusetts towns now use Electronic Voting in their Town Meetings



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Why Enable Remote Participation?

- Some residents can't or won't obtain childcare on school nights
- Some residents must rise early for work the following morning
- Some residents have commitments on weekends
- Some residents have disabilities
 - Unable to drive at night
 - Unable to hear the proceedings

For years, Wayland residents have been asking

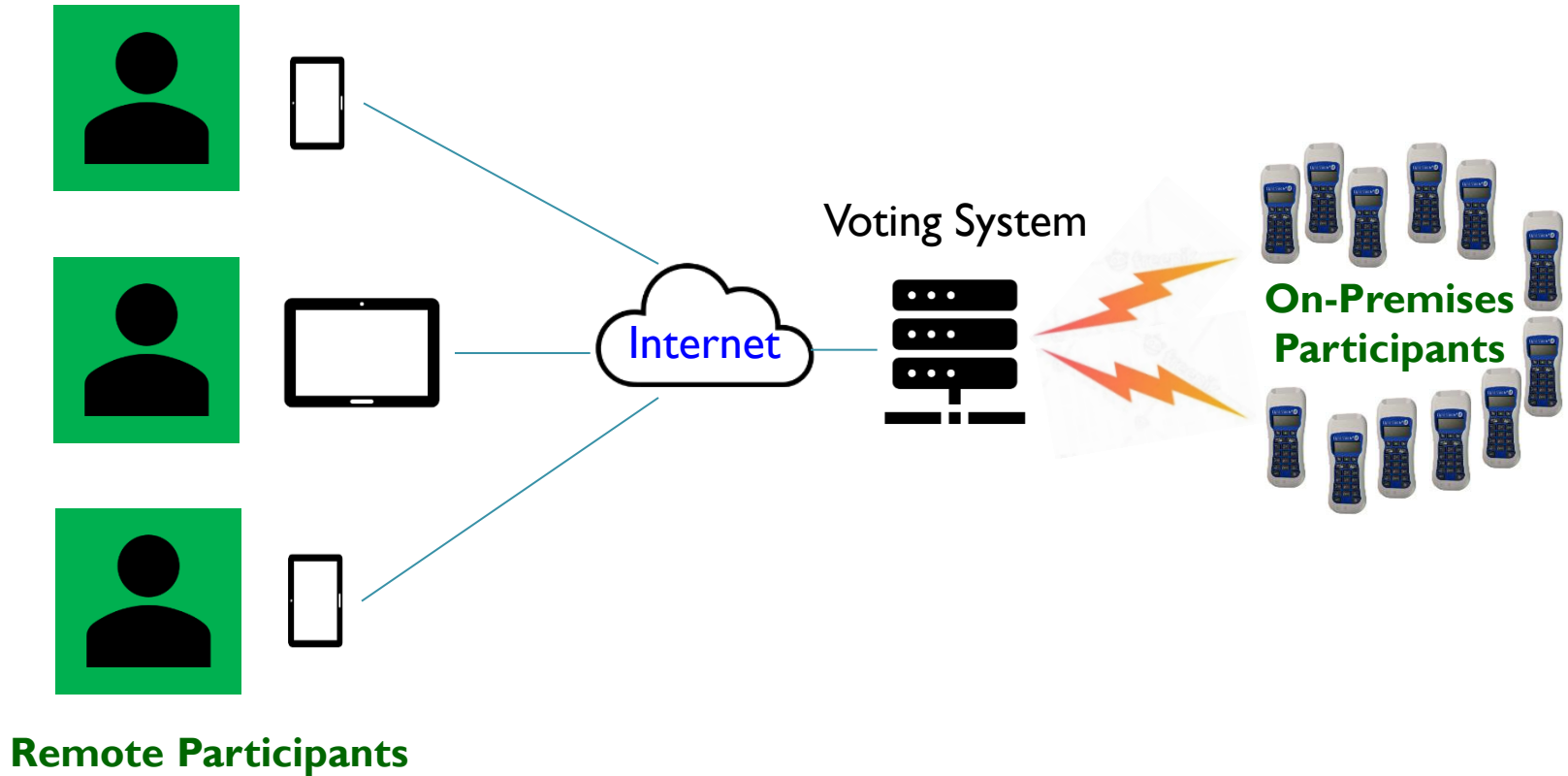
“We can shop and bank via the Internet, why can't we participate in Town Meeting via the Internet?”

Remote Participation will increase participation in Town Meeting

Electronic Voting at Wayland Town Meeting



Electronic Voting with Remote Participation



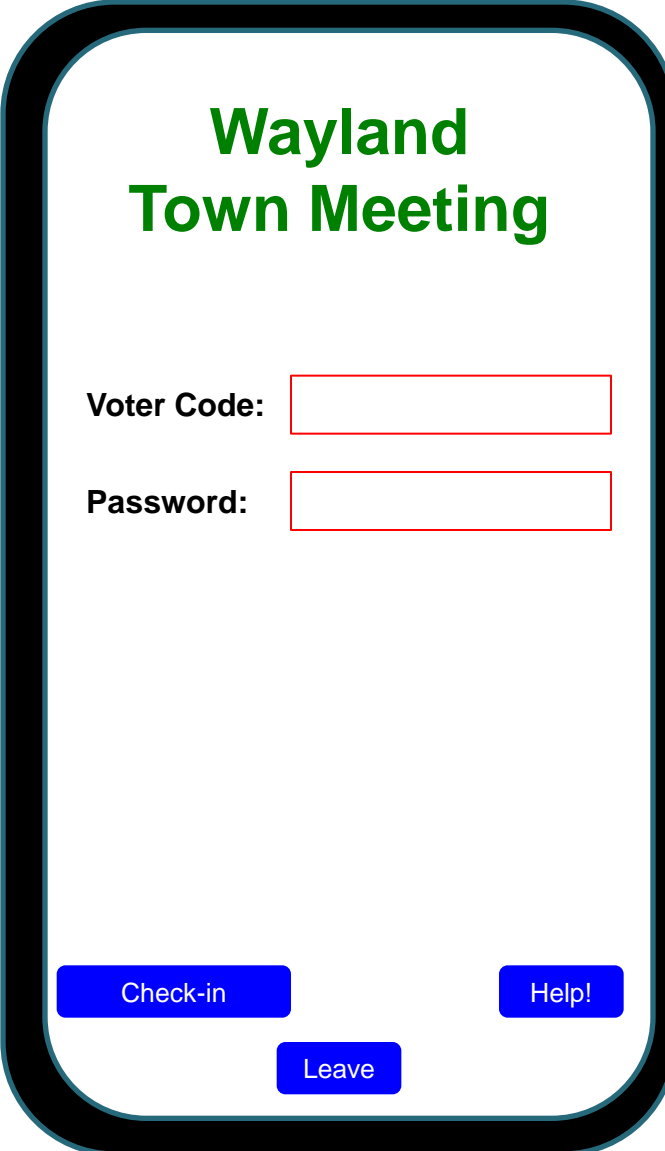
Technical Impediments to Remote Participation

- How to make remote participation simple?
- How to detect a widespread Internet outage?
- How to secure votes cast via the Internet?
- How to detect and deter proxy voting (one person casting votes on behalf of another)?

How to Make Remote Participation Simple?

- Each remote participant uses their own smartphone or tablet
 - Desktop computers are not appliances
 - Desktop computers may not have a microphone and video camera
 - Sharing devices would create time pressure when voting
 - Smartphones or tablets can be provided to participants who do not own one
- Register with Town Clerk to participate remotely
 - Receive **Voter Code** and Password
 - Reservation system to avoid last minute rush?
- Remote participation only requires logging in to a web page
 - Downloading and installing an application is not required
 - Same URL for everyone
 - One button for each activity
 - Check In (using **Voter Code** and Password issued by Town Clerk)
 - Request to Speak
 - Vote
 - Audit Vote
 - Obtain Help
 - Leave

How to Make Remote Participation Simple?



**Wayland
Town Meeting**

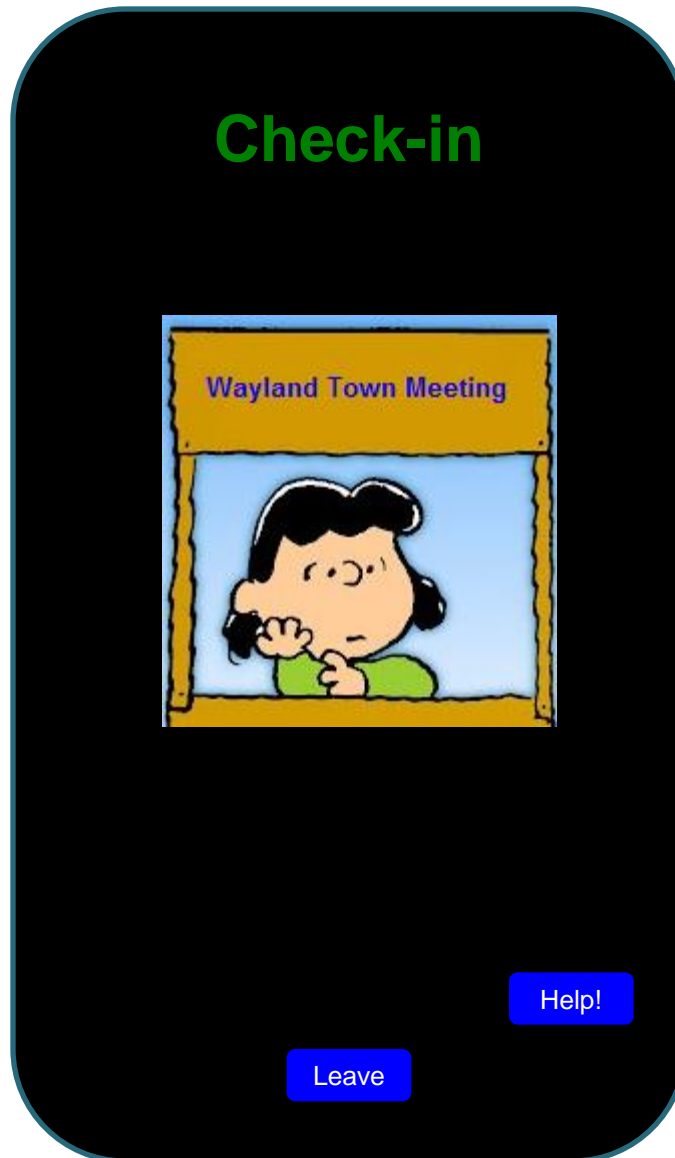
Voter Code:

Password:

The image shows a mobile application interface for a town meeting. It features a title, two input fields for credentials, and three action buttons at the bottom.

for illustrative purposes only

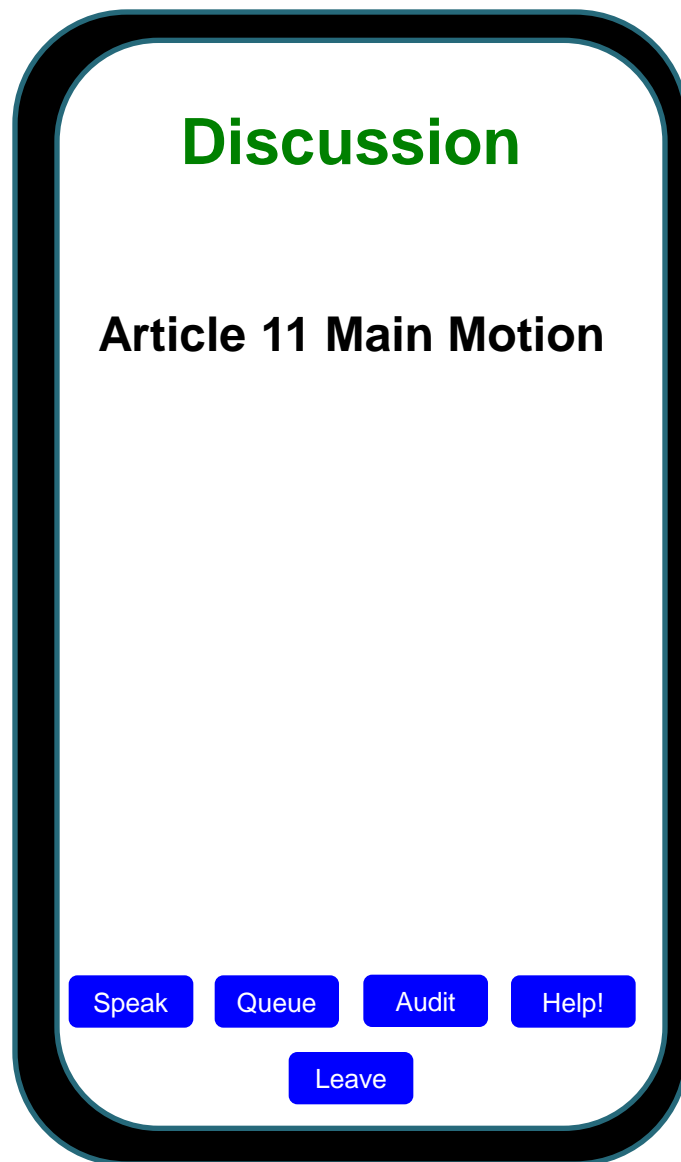
How to Make Remote Participation Simple?



Electronic Voting System captures a still image and retains it for the duration of the session

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How to Make Remote Participation Simple?



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How to Make Remote Participation Simple?

Discussion

Article 11 Main Motion

Madame Moderator, I
move you ma'am that
thirty thousand dollars
be allocated to improve
the

Speak

Queue

Audit

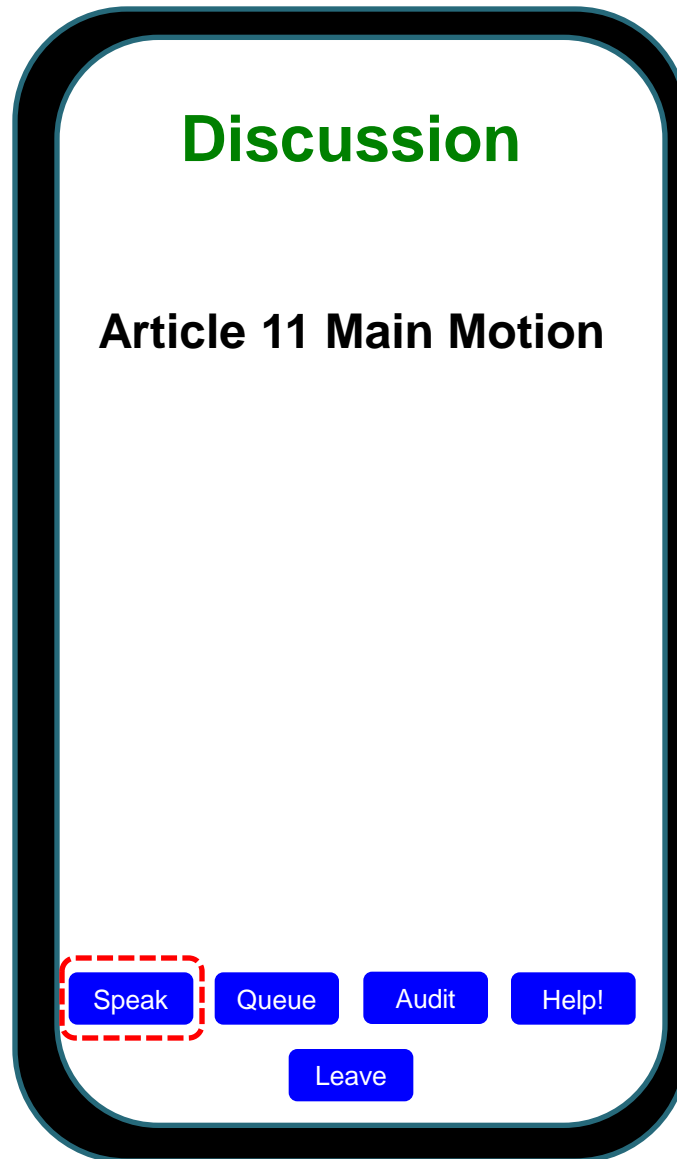
Help!

Leave



Real-time transcription

How to Make Remote Participation Simple?



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How to Make Remote Participation Simple?

The image shows a mobile application interface for remote participation in a discussion. The interface is displayed within a rounded rectangle with a thick black border. At the top, the word "Discussion" is written in green. Below it, the text "Article 11 Main Motion" is in black, followed by "Request to Speak" in blue. A red instruction "choose one" is centered below the title. There are seven buttons: "Pro" (green), "Con" (red), and "Question" (black) in a top row; "Amend" (purple) and "Terminate Debate" (purple) in a second row; "Withdraw Request" (brown) in a third row; and "Help!" (blue) and "Leave" (blue) in the bottom row.

Discussion

Article 11 Main Motion
Request to Speak
choose one

Pro Con Question

Amend Terminate Debate

Withdraw Request

Help!

Leave

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How to Make Remote Participation Simple?

Discussion

Article 11 Main Motion
Request to Speak
choose one

Pro Con Question

Amend Terminate Debate

Withdraw Request

Help!

Leave

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How to Make Remote Participation Simple?

Discussion

Article 11 Main Motion

Your Request to Amend
Awaits Moderator
Recognition

Withdraw
Request

Queue

Audit

Help!

Leave

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Moderator's Display: Speaker Queue

Article 11 Speaker Requests

- | | |
|--------------------|----------|
| 1. Boris Johnson | Con |
| 2. Emmanuel Macron | Pro |
| 3. Angela Merkel | Amend |
| 4. Scott Morrison | Con |
| 5. Jacinda Andern | Question |

Articles

Speakers

Vote

Help!

Moderator's Display: Recognizing a Remote Speaker

Article 11 Speaker Requests

1. Boris Johnson
2. Emmanuel Macron
3. Angela Merkel
4. Scott Morrison
5. Jacinda Andern

Con

Pro

Amend

Con

Question

Articles

Speakers

Vote

Help!

How to Make Remote Participation Simple?

Discussion

Article 11 Main Motion

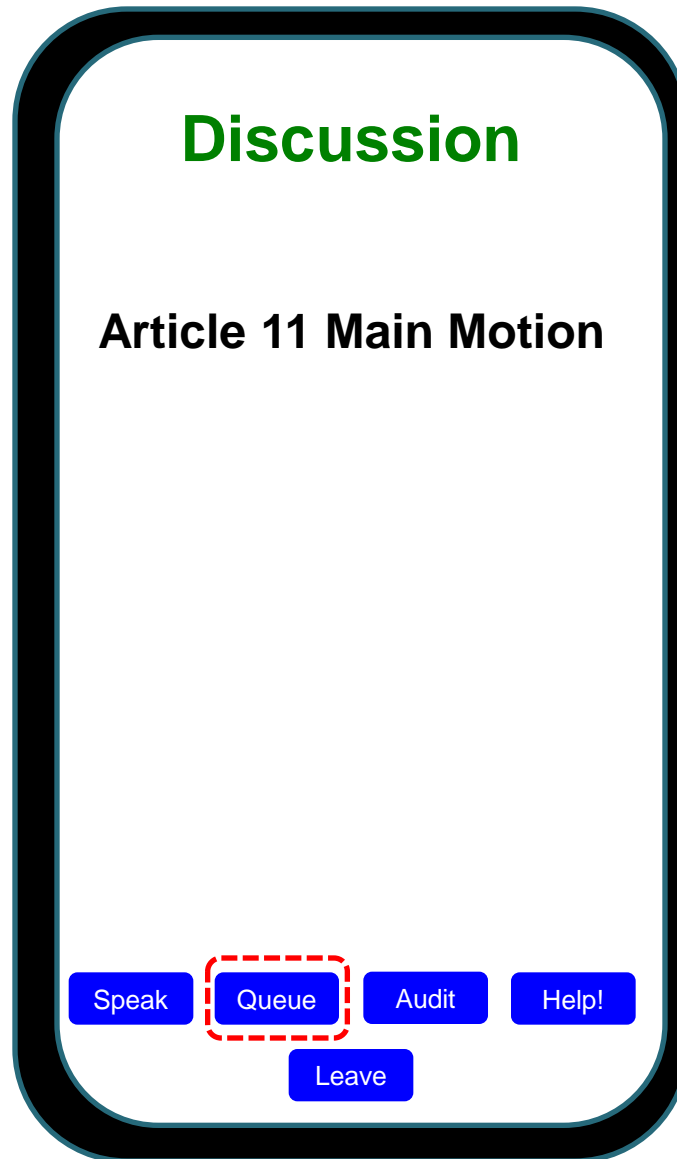
Offer your Amendment
by Speaking into Your
Device's Microphone

Help!

Leave

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How to Make Remote Participation Simple?



for illustrative purposes only

How to Make Remote Participation Simple?

Discussion

Article 11 Main Motion

Speaker Queue

Boris Johnson	Con
Emmanuel Macron	Pro
Angela Merkel	Amend
Scott Morrison	Con
Jacinda Andern	Question

Speak

Return

Audit

Help!

Leave

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Moderator's Display: Current Article

Article 11 Main Motion

Update Personnel Bylaws

Proposed by: Select Board

Quantum of Vote: Majority

To determine whether the Town will vote to amend the Code of the Town of Wayland...

Articles

Speakers

Vote

Help!

Moderator's Display: Current Article

Article 11 Main Motion

Update Personnel Bylaws

Proposed by: Select Board

Quantum of Vote: Majority

To determine whether the Town will vote to amend the Code of the Town of Wayland...

Articles

Speakers

Vote

Help!

How to Make Remote Participation Simple?

The image shows a mobile application interface for a voting system. It features a white background with rounded corners and a thick black border. At the top, the word "VOTE" is displayed in large, bold, green capital letters. Below this, the text "Article 11 Main Motion" is shown in bold black font, followed by "30 seconds remaining" in blue italicized font. Three buttons are arranged horizontally: a green "Yes" button, a red "No" button, and a black "Abstain" button. Below these, the text "Your Vote?" is centered in bold black font. At the bottom, there are two blue buttons: "Leave" on the left and "Help!" on the right.

VOTE

Article 11 Main Motion
30 seconds remaining

Yes No Abstain

Your Vote?

Leave Help!

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How to Make Remote Participation Simple?

The image shows a mobile application interface for a voting system. It features a large green 'VOTE' button at the top. Below it, the text 'Article 11 Main Motion' is displayed, followed by a blue timer indicating '16 seconds remaining'. Three large buttons are arranged horizontally: a green 'Yes' button, a red 'No' button, and a black 'Abstain' button. Below these, the text 'You Voted Yes' is shown. At the bottom, there are three blue buttons: 'Audit', 'Help!', and 'Leave'.

VOTE

Article 11 Main Motion

16 seconds remaining

Yes No Abstain

You Voted Yes

Audit Help!

Leave

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How to Detect a Widespread Internet Outage?

- Causes of widespread outages
 - Power failure
 - Internet Service Provider failure (e.g. Comcast, Verizon)
 - Denial-of-Service attack by an adversary
- Design the remote participation web page so that each connected participant's device sends an "I'm here" message to the voting system at frequent intervals
- Design the voting system to
 - Continuously track the number of connected participants
 - Inform the Moderator if the number of connected participants suddenly drops

How to Secure Votes Cast via the Internet?

- Encrypt all messages
- After each vote, display each vote received on a public web page by **Voter Code**, and enable voters to report discrepancies

Voter Code	Vote
AYOTLEMUSTORACTA	yes
DFULTYRABACUOUSE	no
EADAVITYPORESTAU	yes
LINATICITICHORA	yes
NTIUMPREURYARENT	abstain
OCTABROPEFISLUKD	no
REDICEFURYSTRADR	no
STATHOESERNEXTED	no

Report Discrepancy

- Inform the Moderator of discrepancy reports

How to Secure Votes Cast via the Internet?

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LINATICITICHORA	yes
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OCTABROPEFISLUKD	no
REDICEFURYSTRADR	no
STATHOESERNEXTED	no

Report Discrepancy

Designated Auditors

- Recruited by Moderator
- Known to Voting System
- Audit every vote
- Discrepancies reported separately

- Inform the Moderator of discrepancy reports

Auditing Your Last Vote



for illustrative purposes only

Auditing Your Last Vote

Audit

Voter Code	Vote
AYOTLEMUSTORACTA	yes
DFULTYRABACUOUSE	no
EADAVITYPORESTAU	yes
LINATICITICHORA	yes
NTIUMPREURYARENT	abstain
OCTABROPEFISLUKD	no
REDICEFURYSTRADR	no
STATHOESERNEXTED	no

Report Discrepancy

Speak

Queue

Audit

Help!

Leave

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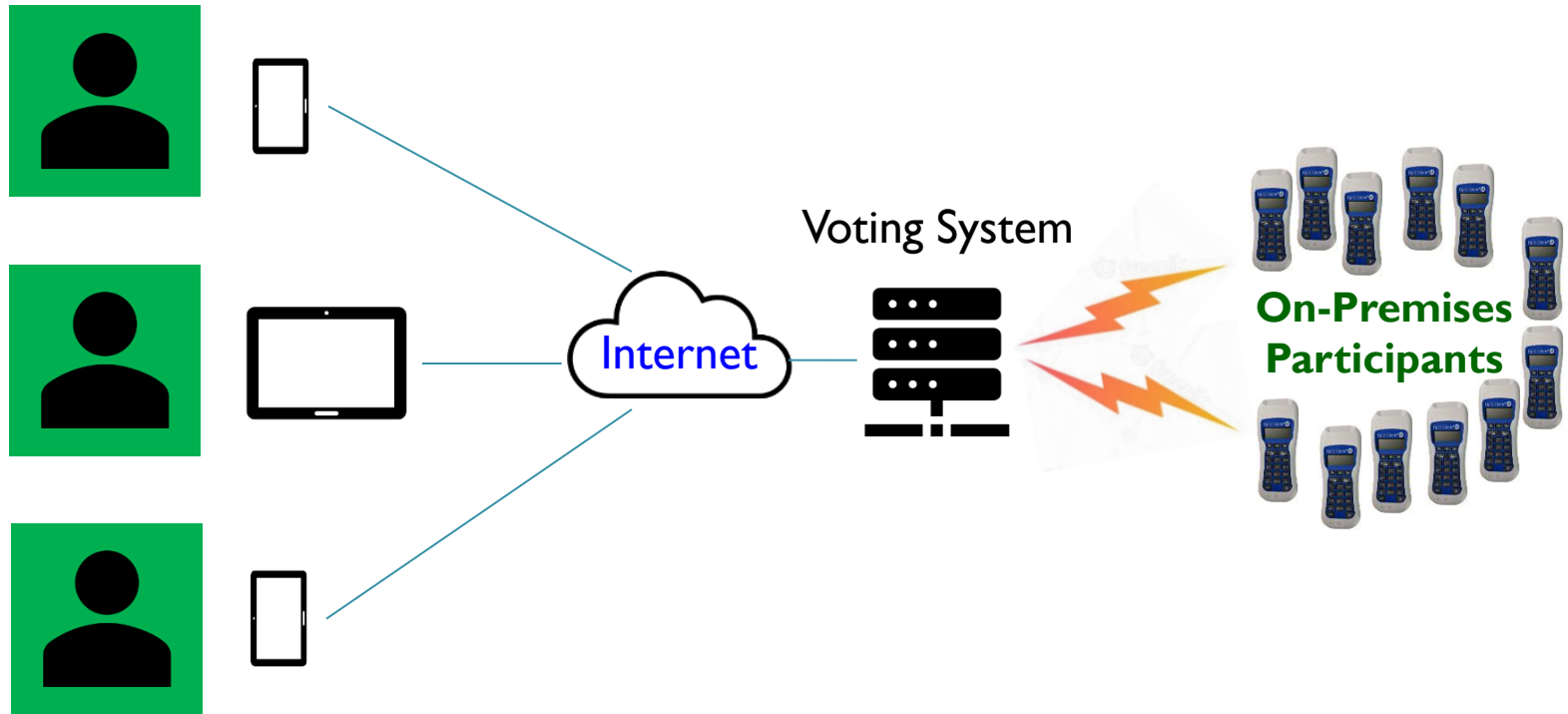
How to Detect and Deter Proxy Voting?

- Why?
 - Wayland voters were concerned that on-premises Electronic Voting would enable proxy voting from Town Meeting floor
 - Remote participation enables proxy voting on a broader scale, e.g. hundreds of “borrowed” devices used to pass a re-zoning Article
- To detect proxy voting
 - Enable Town Staff to employ an audio-video connection to confirm each voter’s name and address when they check in to a Town Meeting Session, capturing a still image of each voter
 - Throughout the Session, enable Town Staff to employ an audio-video connection to reconfirm the name and address of randomly chosen voters while viewing the still image captured at check-in
 - Images captured at check-in are deleted at the end of each session

Technical Solutions for Remote Participation



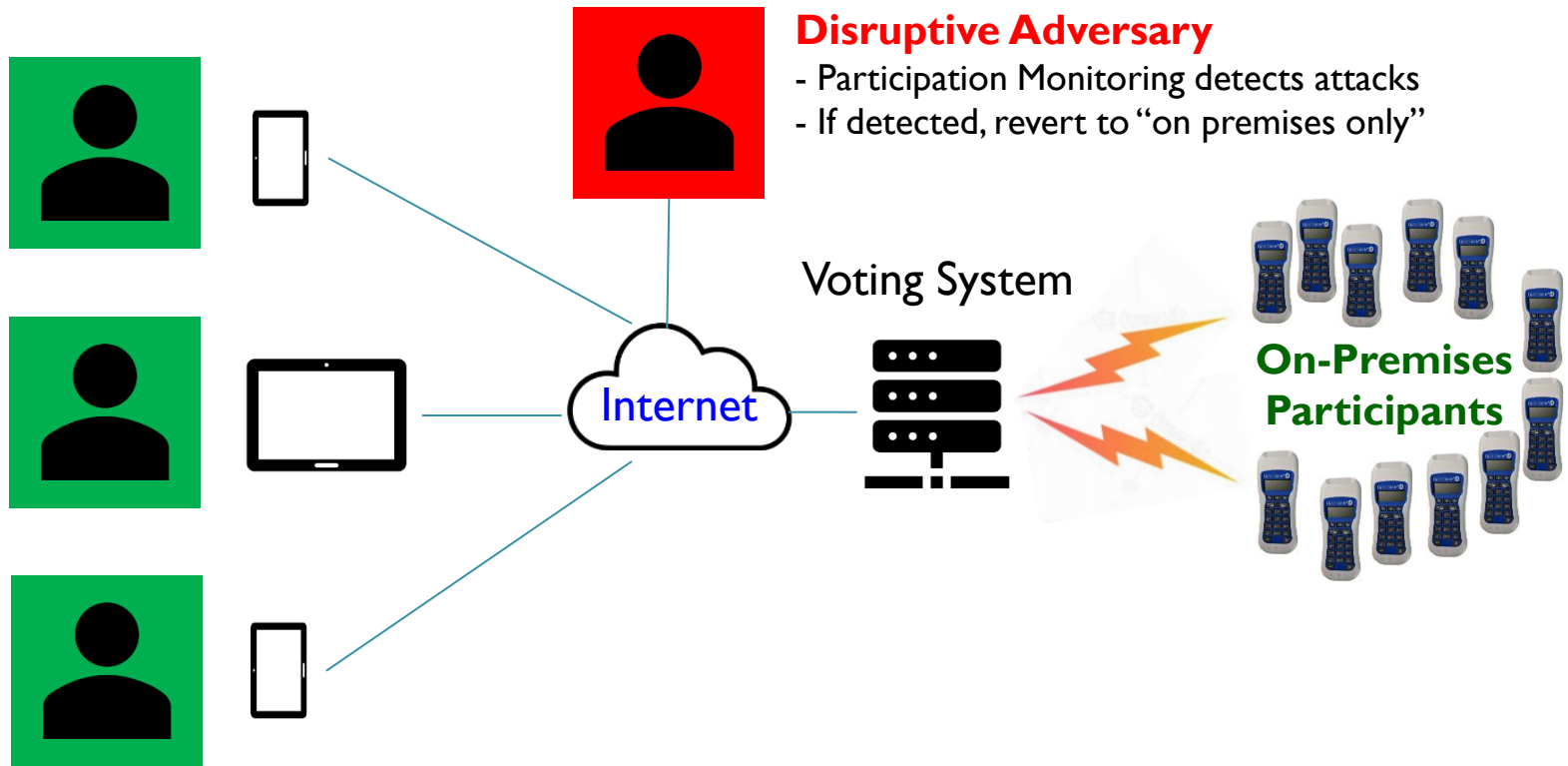
Technical Solutions for Remote Participation



Remote Participants

- Friction-free user experience

Technical Solutions for Remote Participation



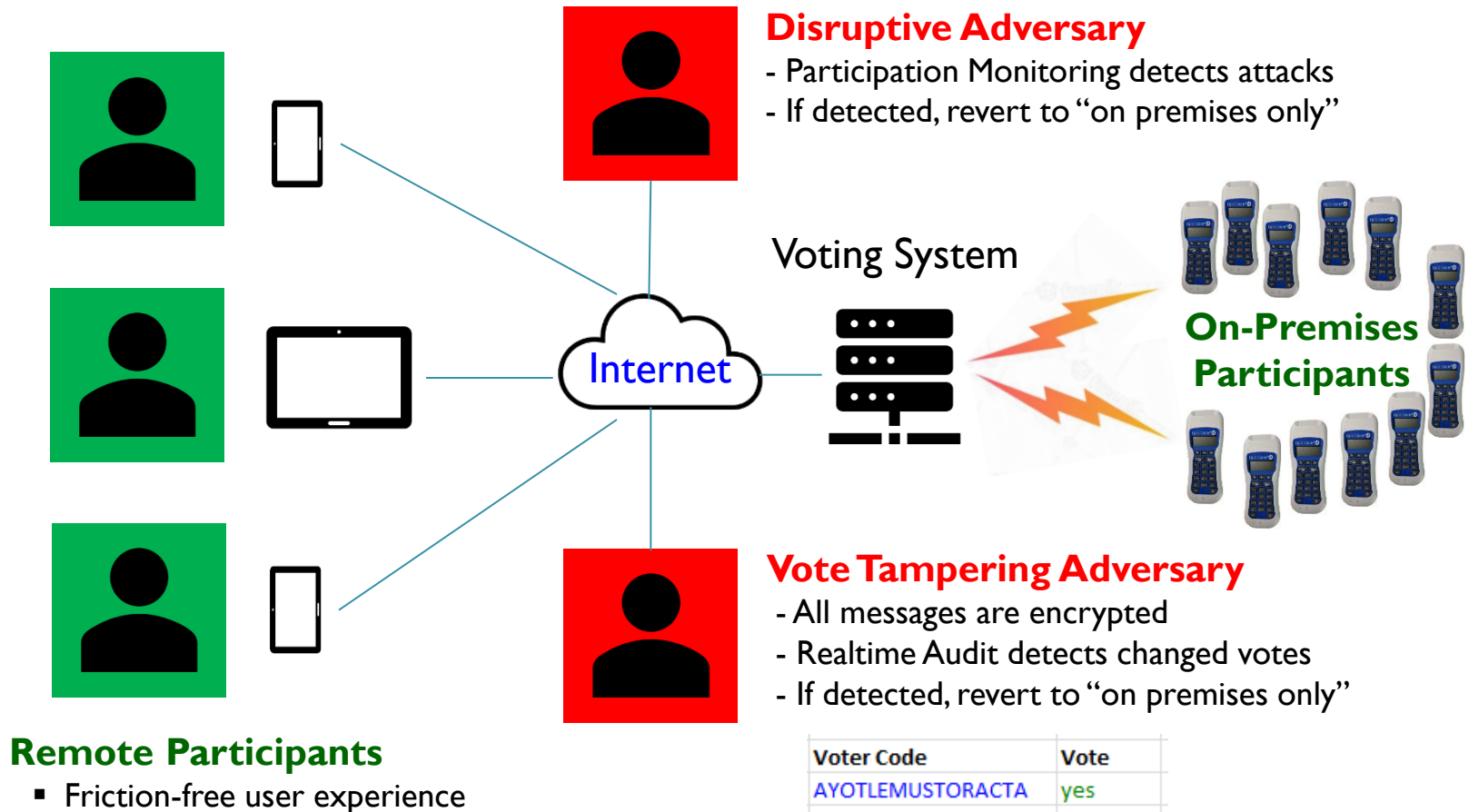
Disruptive Adversary

- Participation Monitoring detects attacks
- If detected, revert to “on premises only”

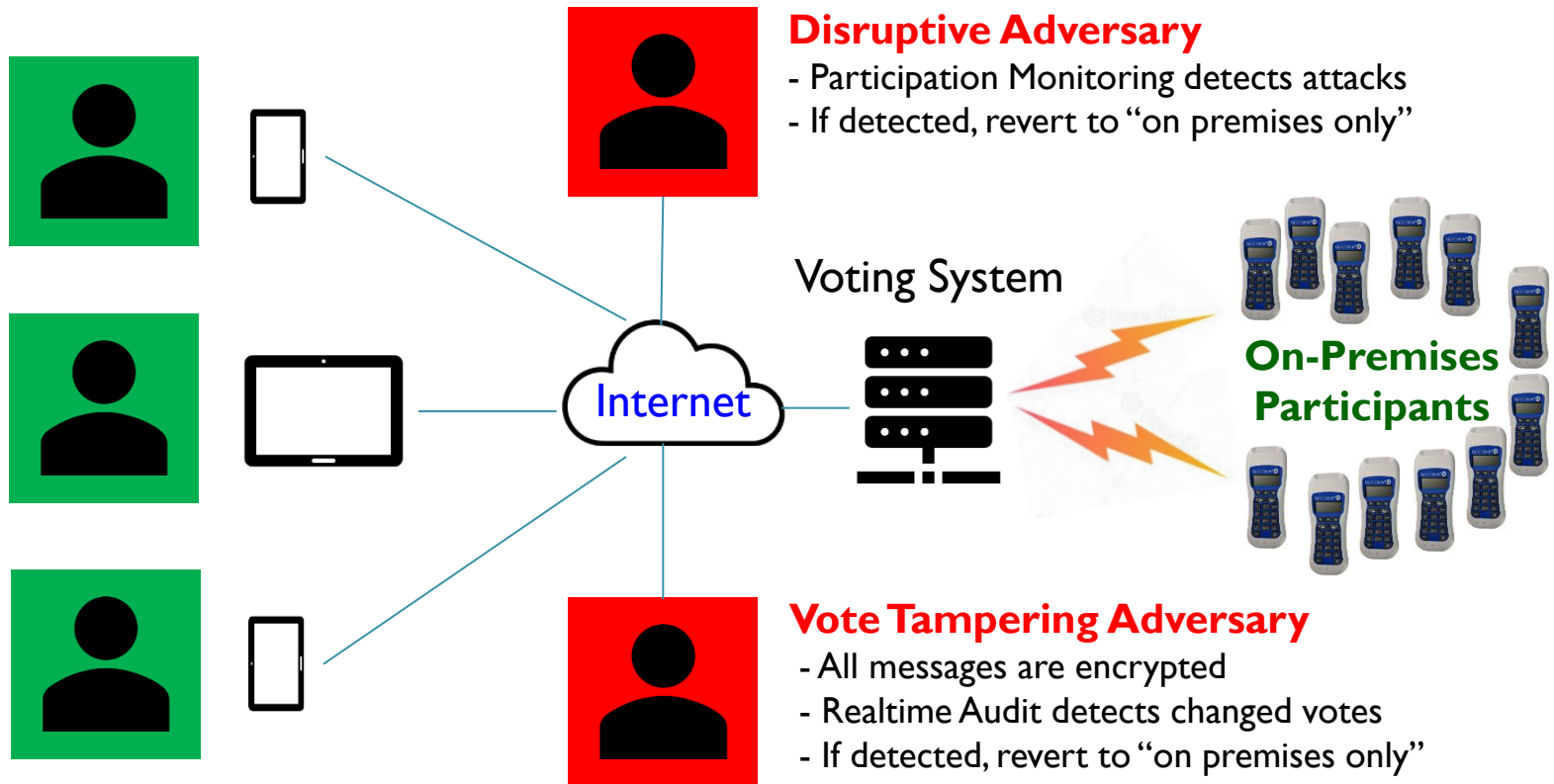
Remote Participants

- Friction-free user experience

Technical Solutions for Remote Participation



Technical Solutions for Remote Participation



Remote Participants

- Friction-free user experience
- **Deter Proxy Voting**
 - Audio-Video connection detects proxy voters

Voter Code	Vote
AYOTLEMUSTORACTA	yes
DFULTYRABACUOUSE	no
EADAVITYPORESTAU	yes
LINATICITICHORA	yes
NTIUMPREURYARENT	abstain
OCTABROPEFISLUKD	no
REDICEFURYSTRADR	no
STATHOESERNEXTED	no

Legal Impediments to Remote Participation

- Remote participation in Representative Town Meeting has been made legal
- Remote participation in Open Town Meeting is not legal

Next Steps

- Petition the Massachusetts Legislature to make Remote Participation legal in Wayland's Town Meetings
- Identify other Massachusetts towns interested in remote participation, and encourage at least two to petition the Legislature to make Remote Participation legal in their Town Meetings
- Identify voting system providers that can implement Remote Participation, and convince at least one to do so
- Test the implementation of Remote Participation
- Use Remote Participation in Wayland Town Meetings
- Petition the Massachusetts Legislature to legalize remote participation in Open Town Meetings state-wide

Petition the Legislature to Legalize Remote Participation in Wayland

- Article 16 of Wayland's May 2021 Annual Town Meeting, authorized Wayland's Board of Selectmen to so petition the Legislature
 - Presented Remote Participation to
 - Lauren Goldberg, Managing Attorney, KP Law (Town Counsel)
 - Ann Landry, Assistant Attorney General
 - Rep. Carmine Gentile
 - Rep. Alice Peisch's staff
 - Rep. Denise Garlick
 - Sen. Jamie Eldridge
 - Sen. Jacob Oliveira
- Wayland's Petition was submitted to the Legislature in July 2022, but was not passed before the legislative session ended
- A modified version of Wayland's Petition was submitted in January 2023
- Article 19 of Wayland's May 2023 Town Meeting affirmed the language of the submitted Petition

Petition the Legislature to Legalize Remote Participation in Wayland

THE 193RD GENERAL COURT OF THE COMMONWEALTH OF MASSACHUSETTS

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★ BILL H.2053 *193rd (Current)*

AN ACT AUTHORIZING REMOTE PARTICIPATION AT TOWN MEETINGS IN THE TOWN OF WAYLAND

By Representatives Gentile of Sudbury and Linsky of Natick, a petition (accompanied by bill, House, No. 2053) of Carmine Lawrence Gentile, David Paul Linsky and James B. Eldridge (by vote of the town) that the town of Wayland be authorized to hold annual and special hybrid town meetings. Municipalities and Regional Government. [Local Approval Received.]

[View Text](#)[Print Preview](#)[Download PDF](#)

Presenters: [Carmine Lawrence Gentile](#) , [David Paul Linsky](#)

Status: [Referred to Joint Committee on Municipalities and Regional Government](#)

City/Town: [Wayland \(Local Approval Received\)](#)

Identify other towns interested in Remote Participation

- Have presented Remote Participation to personnel from
 1. Andover
 2. Barre
 3. Boxboro
 4. Carlisle
 5. Concord
 6. Groton
 7. Lincoln
 8. Longmeadow
 9. Nantucket
 10. Rockport
 11. Sharon
 12. Westboro
 13. Westford
 14. Weston
- Each of the above towns are monitoring Wayland's progress with the Massachusetts Legislature

Identify Voting System Providers

- Town Meeting Electronic Voting Providers

- IML
- Meridia
- Options Technologies
- Qwizdom
- ubiQus

- Online Voting System Providers

- Assembly Voting
- Audience Alive
- Avante International Technology
- BallotReady
- Benel Solutions
- BigPulse
- Clear Ballot
- CLICKAPAD
- Democracy Live
- Dominion Voting Systems
- EasyQuorum
- eBallot
- ElectionBuddy
- Election Runner
- Ezvote
- Hart InterCivic
- Insightrix Research
- nVotes
- OpenMeeting Technologies
- Padgett Communications
- PollEverywhere
- POLYAS
- SimplyVoting
- Skypunch Technology
- Smartmatic
- Survey & Ballot Systems
- Votebox
- Votem Corp

Identify Voting System Providers

- Options Technologies, Wayland's Electronic Voting System provider, has informally reviewed the "Technical Impediments" section of this presentation
- Develop a Technical Requirements document
- Conduct an RFP
 - No up-front development fee
 - Establish cost per voter

Test the Implementation of Remote Participation

- Conduct mock Town Meetings with on-premises voters and increasing numbers of remote participants
- Test with increasing numbers of mock remote participants (e.g. high school students) during real Town Meetings

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