

04-06 Consulting Meeting: Smart Home Technology Integration

Action Items

- @[Matthew Roller] - Investigate moving the projector to a center point and acquiring a new, clearer screen if the projector setup is kept.
- @[Matthew Roller] - Connect the client with Paul to get clickers working for the main gate.
- @[Matthew Roller/Adam Zell's team] - Provide Larry Solis with a list of Control4-compatible HVAC systems.
- @[Matthew Roller] - Discuss furniture plans with the designer to ensure new technology can be blended effectively into the space.
- @[Matthew Roller] and @[Adam Zell] - Provide dimensions and a mock-up of what the proposed ceiling box for the projector would look like.
- @[Matthew] - Sketch the proposed projector setup.
- Create a dedicated iCloud account for the property (e.g., [address]@[gmail.com](mailto:address@gmail.com)) to use as the Apple ID for all in-home devices.

Key Decisions

- Handheld remotes will be provided specifically for controlling televisions. - Client confirmed this preference.
- All speakers in the house will be replaced. - Client approved this action.
- A large TV that can display art or television content will be installed on the main wall. - This will serve as the primary display in the room.
- If the projector setup is to be used, the projector must be moved to a center position. - Matthew Roller stated this is a non-negotiable fix.
- One gate will be designated the "family entrance" and will primarily use clickers.
- The other gate will serve as the "staff and visitor entrance," using a call system and dedicated codes for staff access.
- The current setup is unacceptable and will not be kept as-is; it will either be moved and repaired or replaced entirely.
- A new TV will be purchased and installed in the kitchen's current television location.

Detailed Minutes

[00:06-01:00] **The team decided to use AT&T as the primary internet service and Breezeline as a redundant backup, prioritizing reliability over maximum speed.**

- The primary internet provider will be AT&T due to its lower latency, which results in faster website load times.
- Breezeline will serve as the backup internet service. If cable TV service is desired, it will be through Breezeline.
 - Breezeline's cable boxes are compatible with any internet service, allowing for dual capability.
- The client confirmed that keeping Breezeline for cable TV is acceptable.
- The cost for dual services is estimated to be approximately \$160 per month (\$80 for AT&T and \$80 for Breezeline after introductory rates), which is expected to provide 99% uptime.
- Matthew Roller noted that setting up AT&T can be difficult as it requires personal information that they may not be able to provide, whereas they have more flexibility with Breezeline.

[01:20-02:59] **The primary goal is to simplify the home's technology by integrating multiple systems into a single Control4 (C4) platform.**

- The proposed approach is to mimic the simple setup used in the client's Boston property, leveraging Adam Zell's familiarity with that system.
- The Control4 app will be used to integrate various systems, such as music, gates, doorbells, and the pool system, into a single user interface.
- The client expressed concern about Control4's past bugginess but was reassured that the new system, released about a year ago and subsequently patched, is now stable.
 - Adam Zell validated this by stating he uses the recommended system in his own home.
 - The client noted that their other property's system has become more stable recently, without the frequent malfunctions it used to have.
- A key feature of the C4 platform is the ease of switching between controlling different homes with a single button press, which aligns with the goal of simplification.

[02:59-03:23] Integrating the proprietary Lennox air conditioning system into Control4 is identified as a potential challenge.

- The Lennox AC system is more proprietary than other components, which may complicate integration.
- The team will investigate the feasibility of connecting the Lennox system to Control4.
- The house contains multiple AC zones: three in the main house and one in the kitchen area.

[03:23-04:13] The client outlined user interface preferences, prioritizing simplicity, removal of unused electronics, and specific controller types.

- The main goal is simplicity and decluttering. The client requested that any unused electronics be physically removed.
- Wall-mounted iPads are acceptable if they are functional and integrated with the Control4 system, such as the one in the kitchen.
- The client is comfortable with wall-mounted controls and primarily uses their phone for control (~90% of the time).
- Key Decision: Handheld remotes will be provided specifically for controlling televisions. - Client confirmed this preference.

[04:13-05:38] The group discussed the AV setup in the main living area, focusing on integrating the existing art TV and replacing speakers.

- The client confirmed they want a new TV in the kitchen.
- The team will coordinate with the interior designer to align the technology layout with the design plan.
- The existing art TV in the living room needs to be properly controlled and integrated to play its audio through the room's speakers.
 - Currently, the TV's speakers are not suitable for primary viewing; the system should be connected to the main ceiling speakers.
 - The control box for the TV should be located in the wall behind it.
- The existing art TV is new enough (within the last two years) and does not need to be replaced.
- Key Decision: All speakers in the house will be replaced. - Client approved this action.

[05:39-07:07] The client prioritized serviceability and accessibility of technology components over aesthetics like hiding speakers.

- The team discussed the option of installing invisible, plastered-in speakers for a cleaner look.
- The client stated they are not concerned with seeing white, blended-in speakers and do not want to undertake extra work just to hide them.
- The client strongly emphasized that all system components must be designed for easy access and serviceability if they break down.
- This preference stems from negative experiences at another property in Boston where poor planning led to inaccessible components, such as drivers behind elevator shafts or requiring the removal of a washer/dryer to access.

[07:08-10:48] The client plans to install a large, permanent TV on the main wall instead of using a projector, and discussed a modular video wall as a high-end option.

- **Key Decision:** A large TV that can display art or television content will be installed on the main wall. - This will serve as the primary display in the room.
- The room will be reoriented to face this new TV wall. A piece of furniture currently on that wall will be kept but moved.
- The client wants a “wow effect” for this room.
- Adam Zell proposed a modular, panelized video wall as an alternative to a standard large TV.
 - These walls are built on-site from smaller LCD panels, allowing for very large custom sizes (e.g., 168 inches).
 - They are extremely bright, making them suitable for use in sunlit rooms.
 - When not in use, the screen can display art, wood slat patterns to blend in, or other images. The unit can be framed like a piece of art.
- The client was receptive to the video wall idea and planned to show it to his wife, Ellica, for final approval.
- Adam offered to show the client a physical example at their design studio in Norwood or at local showrooms.
- The client confirmed they will not be using a projector and screen in this room, despite previous discussions.

[10:48-14:06] The team analyzed the existing projector setup’s flaws and discussed Ambient Light Rejection (ALR) screens as a potential solution if a projector were to be used.

- The room was originally a media room with three TVs, later changed to a projector setup.
- The primary issue with the current setup is that the projector is positioned too far off-center, causing significant image distortion (keystoning).
- The team discussed using an ALR screen to mitigate the high ambient light in the room.
 - ALR screens use a grayish, polarized material that only accepts light from the projector's angle, rejecting light from other sources like windows. This prevents the image from washing out.
 - An ALR screen would require a very bright projector to overcome the remaining ambient light.
- Action Item: @[Matthew Roller] - Investigate moving the projector to a center point and acquiring a new, clearer screen if the projector setup is kept.
- Adam Zell shared a personal example of using an ALR screen and a bright outdoor projector successfully in a sunlit pavilion.

[14:07-16:35] Infrastructure requirements, projector placement, and wiring quality are discussed, confirming wiring is sound.

- The team confirmed that adding more displays (like a TV wall and projector screen) would not require getting numerous extra cable boxes from Breezeline.
- The existing infrastructure is sufficient to share sources between rooms, which is the overall goal.
- Key Decision: If the projector setup is to be used, the projector must be moved to a center position. - Matthew Roller stated this is a non-negotiable fix.
- The group affirmed that the difficult work of wiring is already complete, so no demolition will be necessary.
- It was noted that interior commercial-grade wiring does not degrade unless corroded, meaning the current infrastructure is sufficient for any speaker swaps or relocations.
- The focus will be on relocating wires and replacing components like speakers, not on running new lines.

[16:35-17:51] The A/V system will be designed to replicate the client's Boston setup, featuring multiple cable boxes accessible from any room.

- The previous media setup in the unit was described as a large TV with two smaller TVs above it for sports viewing, controlled by a Control4 system.

- The client (Adam Portnoy) confirmed their Boston home uses a Control4 system to select from one of four cable boxes from any room.
- Replicating this multi-box setup was proposed for two key reasons:
 - It creates redundancy, so if one inexpensive cable box fails, another can be used immediately.
 - It allows a user to continue watching the same program (e.g., a sports game) as they move between different rooms in the house.
- The existing wiring infrastructure is sufficient to support this multi-box configuration.

[17:52-20:15] The feasibility of integrating voice control with the existing cable boxes is extremely low, but it will work for streaming services via Apple TV or Roku.

- The client (Adam Portnoy) expressed a preference for the Control4 voice-activated remotes, which they use frequently in their Boston home to launch systems and services like Netflix.
- The consultants warned that while voice control works well with Comcast, Apple TV, and Xfinity systems, it is highly unlikely to work with the existing Evo boxes that use an old TiVo interface.
 - "I am just going to say probability is less than one percent." - Matthew Roller
- Comcast is noted as one of the few cable companies that actively partners with integrators to enable this level of control.
- While voice commands won't be able to change channels on the cable box, they will work for launching streaming apps (e.g., Netflix, HBO Max) if those services are run through an Apple TV or Roku device.
- The system can be configured so that a voice command to Control4 (e.g., "watch Netflix") will automatically switch to the correct source (Apple TV/Roku) and launch the app.

[20:15-21:25] The client's viewing habits will be split between cable for sports and streaming services (via Roku/Apple TV) for other content, with different levels of voice control for each.

- The client (Adam Portnoy) confirmed they primarily use cable for sports and streaming services for most other content.
- It was clarified that the Control4 remote's on-screen list of services (Netflix, Disney+, etc.) will be managed through a Roku device, not an Apple TV, based

on the description of the Boston setup.

- The team will integrate the three existing cable boxes.
- Full voice activation, as experienced in the Boston home, will only be available for the streaming services, not for the local cable service due to integration limitations. The team will integrate as much as possible.

[21:26-21:31] Two back-to-back entertainment spaces will be created as per the client's request.

- Adam Portnoy confirmed the plan for two entertainment spaces positioned back-to-back, acknowledging it is an unusual layout but is what "she wants."

[21:33-24:03] The Control4 system will integrate with the home's alarm, doorbell, and electronic door lock systems.

- The client (Adam Portnoy) wants the Control4 system to manage the house alarm and provide easy access to door controls.
- The existing electronic locks, installed by the consultant's team previously, are confirmed to be compatible with Control4.
- The system can be configured to provide notifications to the Control4 app when the doorbell is pressed.
- It can also interrupt music in designated audio zones to play a doorbell chime, ensuring staff or residents are alerted.
- The discussion covers access points at the main street gate and the front door, noting the existing "2N" brand hardware is a good product that can be integrated.
- The client expressed a desire for keypad access to eliminate the need to carry a key, which was confirmed as possible.
- A redundant thumbprint reader, likely installed by the previous "crypto tech guy" owner, was identified and will be removed.

[24:03-24:35] The previous owner removed enterprise-grade systems and replaced them with lower-quality "prosumer" versions.

- It was noted that the previous owner, described as a paranoid "crypto tech guy," removed superior systems.
- He replaced a better lighting control system with a cheaper prosumer version.
- He also ripped out an enterprise-grade network and replaced it with a lower-grade prosumer network.

[24:42-26:56] A new keypad with a camera will be installed at the front gate to provide scheduled, code-based access for staff.

- The existing “2N” brand intercom and electronic strike at the gate will be integrated into the Control4 system, allowing remote buzzing for entry.
- The current device at the gate entry point will be replaced with a “2N” model that includes a keypad, matching the one at the house door.
- Keypad codes can be created for staff (e.g., cleaning crew) and programmed to work only during specific days and times (e.g., Mondays from 9 a.m. to noon).
- Codes can be revoked instantly if needed.
- While the new keypad will have a camera, its primary function is for identifying visitors at the gate, not for general security, as the angle is not ideal.
- The team will investigate modern security cameras with AI features (person detection, vehicle/license plate recognition) for general surveillance to avoid searching through hours of footage.

[27:05-27:52] The client desires interior cameras, and the house is already pre-wired for a private, client-controlled system.

- The house currently has no interior cameras.
- The client (Adam Portnoy) confirmed they want a “couple” of cameras inside the house.
- The house is already pre-wired for interior cameras from a previous installation for the original owners, who had kids and used Ring cameras. The locations are known.
- A camera system can be set up that is exclusively controlled by and accessible only to the client.
- It was suggested to use Google Nest cameras to allow the client to easily switch between viewing their properties (condos and this home) within a single app. The client agreed this “would be nice.”

[27:52-28:12] The team confirmed the existing technology wiring and infrastructure provides a good foundation for future upgrades.

- Matthew Roller stated they could replicate a previously discussed setup without issue.
- The existing wiring and structure are considered to have “good bones for technology,” simplifying future installations.

[28:12-29:12] The current gate entry system, which relies on a mobile app (iSmartGate), is considered inconvenient and will be upgraded to include traditional clickers.

- The gate currently opens for exiting vehicles via a pressure sensor but requires a mobile app for entry, which is considered a “huge pain.”

- Matthew Roller will connect the client with a gate company, "Paul," to implement clicker functionality.
- Action Item: @[Matthew Roller] - Connect the client with Paul to get clickers working for the main gate.
- The gate with the call station is designated as a "visitor's gate," explaining the station's placement. The other gate will be the primary "family entrance."

[29:12-30:10] A solution for visitor gate access is needed, with discussion around integrating the call system with Control4 and providing guest access.

- A "visitor walkie talkie thing" (call system) exists and there is a question of whether it can be connected to Control4.
- The primary desire is for a clicker for personal vehicles, but a solution is also required for guests who will not have one.
- The group discussed moving the call station so visitors do not have to exit their vehicles to use it, potentially seeking forgiveness for the modification later if it violates an ordinance.

[30:13-30:26] The team defined separate access protocols for family, staff, and visitors for the two gates.

- A proposed visitor workflow is for a guest to press a button at the gate, which would then trigger a notification on a Control4 app.
- Key Decision: One gate will be designated the "family entrance" and will primarily use clickers.
- Key Decision: The other gate will serve as the "staff and visitor entrance," using a call system and dedicated codes for staff access.

[30:28-31:41] A system will be implemented to grant delivery services (e.g., Amazon, FedEx, UPS) access codes for package drop-offs inside the gate.

- The current signage directs packages "through the gate," but the mechanism is unclear.
- The proposed solution is to provide major delivery companies with their own unique access codes to open the gate and leave packages inside.
- This method is currently used successfully in apartment buildings managed by Bridget Cahill and at Adam Zell's personal home.
- The codes can be deactivated if necessary, and deliveries can be monitored via camera.

[31:41-31:56] The team briefly discussed dealing with potential ordinance violations for moving gate equipment.

- It was noted there might be an ordinance against moving certain equipment.

- The suggested approach is to proceed with the modification and, if a fine is issued, to pay it as a one-time “permit fee.”

[32:07-32:29] The team confirmed that any patching and plastering work resulting from technology removal will be handled by the client’s team.

- Adam Zell noted that his team does not have a “paint plaster crew on staff” to handle patching holes, especially for high-end (Level 5) finishes.
- Speaker 6 confirmed their team would be responsible for this work.

[32:43-34:19] The HVAC control system is not integrated and inconvenient, requiring a new solution like discreet sensors.

- The group decided to discuss lighting and shades after concluding the current topic.
- The existing HVAC pads are not integrated with Control4 and are not functioning correctly. For example, the bedroom’s HVAC must be controlled from a downstairs pad.
- A good HVAC vendor is needed to address this.
- Larry Solis requested a list of Control4-compatible HVAC systems to research replacements for the current Lennox stats.
- Action Item: @[Matthew Roller/Adam Zell's team] - Provide Larry Solis with a list of Control4-compatible HVAC systems.
- The goal is to bring HVAC control into the Control4 system.
- One suggestion is to replace bulky thermostats with a small Control4 screen that could also manage cameras and other functions.
- A Nest thermostat was considered, but it may not be compatible with the existing air handler.
- A preferred alternative is to use small, paintable, recessed temperature sensors (the size of a quarter) on the walls. The actual thermostat would be relocated to the air handler location as a backup or for technician access.

[34:37-36:32] The homeowners want a smart home system integrated with Control4 but also require simple, physical controls for essential functions.

- The system should allow for both integrated control via a platform like Control4 and direct manual operation.
- Essential functions that must have physical wall controls include temperature, lighting, and potentially window shades.
- Door and gate access will feature both a physical key and a keypad for passcode entry, all of which will also be integrated into the Control4 system.

- The current HVAC system is proprietary, which presents a challenge for integration.
 - An HVAC contractor must be brought in to assess the situation.
 - Research will be conducted to determine if the existing system can be made compatible with Nest, which would then allow integration with Control4.

[36:35-38:15] The existing projector and screen setup in the living room is non-functional and improperly positioned, requiring either a fix or a complete replacement.

- The current projector screen is off-center because of its angled deployment, which distorts the image.
- A physical build-out or “box” may be necessary to correctly position a new setup.
- The existing system is also partially broken, with half the speakers not working and a layered screen.
- Key Decision: The current setup is unacceptable and will not be kept as-is; it will either be moved and repaired or replaced entirely.
- Action Item: @[Matthew Roller] - Discuss furniture plans with the designer to ensure new technology can be blended effectively into the space.

[38:16-40:40] A modular video wall is proposed as a superior alternative to the projector for the living room due to high ambient light.

- The proposed solution is a video wall composed of interlocking tiles, allowing for a custom-sized screen.
- This technology produces a very bright image, making it suitable for a room with significant sunlight.
- When turned off, the video wall can display artwork, and it can be framed or integrated into architectural details like wood slats to blend with the decor.
- The new location on a different wall provides more shade past 11:00 AM, which will improve the viewing experience regardless of the technology used.
- Showrooms to view this technology are available in Fort Lauderdale and Norwood.

[40:40-42:58] The current state and history of the living room entertainment systems are reviewed, revealing multiple non-functional components.

- The previous owners had a different setup with three TVs on the wall (one large, two small) for watching sports, which was later replaced with the current projector system.

- The reason the current projector was not centered is unknown but is suspected to be due to the previous owner's unwillingness to do the work correctly.
- The projector's current video source is an Apple TV, which is unreliable; it frequently fails when switching inputs, causing the projector to shut down and lock up.

[46:53-48:37] A plan is formulated to properly install a new, centered projector in the living room.

- A new, centered projector can be concealed within a small, custom-built box or soffit on the ceiling, finished to match the drywall.
- A projector lift is a secondary, more complex option that would hide the unit completely, but its feasibility depends on the available ceiling space above the deck.
- The existing screen is positioned correctly for viewing ergonomics, with viewers' heads in the bottom third of the screen, but lowering it further could be problematic for sightlines.
- Action Item: @[Matthew Roller] and @[Adam Zell] - Provide dimensions and a mock-up of what the proposed ceiling box for the projector would look like.
- Action Item: @[Matthew] - Sketch the proposed projector setup.

[48:57-50:22] The decision is made to replace the old TV in the kitchen while keeping its current location.

- The existing TV is old but its location is considered good for morning viewing.
- The plan is to get a new TV, likely a 42-inch model, and install it in the same spot.
- Power and television connections are already in place, making the replacement straightforward.
- Key Decision: A new TV will be purchased and installed in the kitchen's current television location.

[50:36-51:18] A dedicated iCloud account will be created for the house to manage its integrated smart devices.

- All iPads in the house will be new Minis with new sleeves and chargers, running the Control4 app.
- Action Item: Create a dedicated iCloud account for the property (e.g., [address]@gmail.com) to use as the Apple ID for all in-home devices.
- This will prevent personal photos, texts, and other data from syncing to the house's shared iPads.

[51:27-54:51] **Lutron shades are recommended to replace the existing Hunter Douglas shades due to superior reliability and integration capabilities with Control4.**

- The current Hunter Douglas shades have seen better days, and while the brand is generally good, their integration with a whole-home system like Control4 is a reliability concern.
 - Integration reliability is estimated at 75-80%, which is below the desired 95%+ threshold.
 - One of the current issues is dead batteries in some of the shades.
- Lutron shades are presented as a more reliable alternative (99% reliability), ensuring commands like “close all shades” are executed successfully, even when the owner is away.
- Lutron offers more granular control, allowing shades to be set to a specific percentage (e.g., “lower to 33%”) on a schedule, which helps protect furniture and manage sunlight throughout the day.
- Lutron shades can be controlled via wall-mounted keypads, likely placed at main entrances, in addition to the Control4 app, satisfying the user’s need for physical controls.