



SunGuide Software User's Group Meeting Minutes



Date: November 9, 2017

Time: 2:30pm-3:30pm EDT

Agenda:

Topic	Led By:
Item 1: Accurate Device Locations and Icon Groupings	Tucker Brown, SwRI

Attendees:

Robbie Brown, D1
Isaac Santos, D1
Justin Merrit, D1
Jason Summerfield, D2
Tanesha Sibley, D2
Christopher Jones, D2
Ryan Crist, D2
Amy DiRusso, D3
Kevin Mehaffy, D3
Greg Reynolds, D3
John McFadden, COT
Jacques Dupuy, D4
Shayla Khalilahmadi, D4

Marlon ChinShue, D4 (595)
John Hope, D5 (CFX)
Jay Williams, D5
Mark Laird, D6
Alex Mirones, D6
Ramona Burke, D7
Jared Roso, D7
Charles Keasler, D7
Vinny Corazza, D7
Mike Crawson, D7
Bryan Homayouni, CFX
Tucker Brown, SwRI
Derek Vollmer, CO
Mark Dunthorn, CO
Jennifer Rich, CO

Discussion:

ITEM 1 Accurate Device Locations and Icon Grouping

We are going to discuss accurate device location and icon grouping, it has been previously discussed at the SSUG meetings but it recently came up at the last CMB meeting.

Tucker: We have gone through several rounds of discussing this topic and have tried to capture all of the information. If we forgot anything, please let us know.

The initial request was to allow two sets of coordinates for devices. One set physical and the other to display coordinates to avoid icon crowding on the map. That spawned into discussing how we want to be able to view them, should they be grouped together? Which is a different issue so we will discuss them separately.

The current option here and what we would like to do is use the latitude and longitude for the actual device location. Then there would be a separate set of coordinates that would be used to show the display on the map. The reason is all of the reports are geared toward using the latitude and longitude and the display is more for the user. There are two methods of doing this:

- One would be a fixed position where you would give it another latitude and longitude.
- The other is an offset from the actual coordinates. Instead of displaying a latitude and longitude, we would specify a relative position and the amount of pixels and so forth. We would have to build in new ways to edit this and talk about what it would look like.
- We put on the slide that it might impact external systems because we are holding the same current latitude and longitude as the actual position. We are thinking that most of the external systems would like the actual positions not the display positions. Potentially that doesn't matter and it will continue to go to 511, C2C, or any third party application. It would give the devices actual location not the display location. If we need to expose that, we would expose it independently of the actual position. Also keep in mind as we go through the second part of this enhancement with icon grouping, it might not make sense to have the grouping but just keep it in mind as we go through the other changes.

Derek: Before we go onto the next slide, does anyone think that we need to share the display location with external systems at all? I'm inclined to think we don't and it is just a local configuration setting. We can just share the actual device locations.

District 2, 7 and Bryan: Agreed.

Derek: Okay, that is what I was thinking.

District 3: I need to get more information before I can answer that.

Derek: We have enough agreement that we do not need to share the display location and that it is just an internal preference.

Tucker: There are two options:

1. Independent Display Latitude/Display Longitude – this would remain consistent on the map of how you place these. There would be an option to place the device and then there would be another option to place the display of the device. The feel of it would be consistent of you place devices on the map now. We would also make this optional. So if your actual device location was good enough for you, you don't have to do a display latitude and longitude as well.
2. Pixel Offset – you would intentionally tell it you would want it to be "X" number of pixels (left to right or vertical). At every zoom level it would be the same amount. If you are looking at it at a state level and you say you want 5 pixels that is probably multiple miles. If you do it at the street level, and you say 5 pixels it might be a couple hundred feet. It would scale based on the zoom level you are on so it could shift the icons different places based on the different zoom levels.

The option 1 with the latitude and longitude position does not shift per zoom level. It would be a fixed location at every zoom level.

Both of these are not user level things, they are system wide. So once it is configured all of the users inherit it.

Does anyone have strong feelings on which way they want to go on this?

Mark Laird: I prefer latitude and longitude because when you focus on the more zoomed in layers and map scaling, there could be funny things if you have a fixed pixel offset when you go to wider zooms. I think it is more natural and more consistent with everything else to do latitude and longitude.

Jared: Would the display latitude /longitude be per device? And would the pixel offset be a per device setting?

Tucker: Both of these options are per device.

District 2: Leans towards option 1 and agrees with Mark.

Derek: Central Office leans towards option 1 as well. Jared, since you got clarification are you leaning towards option 1 as well?

Jared: I am not an official voter but yes, I do lean towards option 1.

Derek: So far I haven't heard any pros for option 2 and we have a few pros for option 1. If no one disagrees with this, I think we can just go with option 1. Bryan, what do you think?

Bryan: The issue comes to the zoom with the pixel option, I kind of like having one GPS coordinate entered per device and an offset with it. It makes the two very distinct from each other and there is no chance of the two getting mixed up between each other. There is typically always a chance for confusion when pulling data but I don't see that happening with using the pixel offset. But I understand what others are saying about not wanting to scale up as you zoom in and out. That was the only positive for option 2 but otherwise I am good with option 1.

Derek: The thing about the pixel offset is that it is also based on your screen resolution so it could look different depending on the screen.

Mark Laird: If you like the offset, the latitude and longitude can be an offset from the normal latitude and longitude. It would be small decimal numbers.

John: That would be confusing the two, right?

Tucker: That would be fixed position as well. I can better clarify on the next few slides.

In terms of editing, there are two different options.

1. Integrated with Device Configuration Dialogs – right now you are configuring a CCTV device with two columns for the latitude and longitude. In this option there would be two more columns that would say display latitude, display longitude. There is the potential issue of editing the wrong column. This option requires editing all of the configuration dialogs.
2. Standalone Display Location Dialog – you would have a completely different standalone dialog that only deals with display locations. It would have every device in the system in a single dialog. It would show: the devices by name and type it would also have a search filter. It is searchable and filterable just like it is now. It

would show the actual latitude and longitude then it would have an option to set a display latitude and longitude. The difference here is that all of it would be stored centrally. Right now we store system settings and preferences in SAA and we could store the display information with SAA. When the operator logs in they have to retrieve those kinds of settings anyway. This would just be another setting that they retrieve and it would say here are all of the display locations for the system. What that does is it centralizes it all to SAA.

From an implementation standpoint:

Option 1 touches every subsystem and just add two columns. It would be larger on the back end with the subsystem but smaller on the front end.

Option 2 is heavier on the UI side and less on the back end.

As it pertains to potential confusion of the coordinates, I think option 2 handles it a little better. But it is up to you on where we actually want to configure this.

John: Since the display one is something that is supposed to address something that looks good, I think you would want to look at a map while you are adjusting it.

Tucker: in both cases we have the option to place on map, whether you are doing it from a configuration dialog or an individual editor. You would be able to look at it on the map and pick the location and that will be in either case.

Mark Laird: What I would really like to see is Option 2 but on the map you can be able to go into a layout mode where you can drag things without having to go back and pick something and move it a bunch of times.

Tucker: So to be consistent, if I just put an option on this 2 dialog here, if there was an option to edit the display locations and you clicked on it and it would show all of the locations on the map and you could just move them around. Would that consistent with what you are saying?

Mark Laird: Yes, all the ones that you have selected in the icon configuration part of the map, I may choose to not show everything at once.

Tucker: So limiting the types of devices? That's an interesting thought. I think it would be similar to the new EM dialog to where if you are looking at event locations you can go and drag those around anywhere you want to. I think what you are saying should be perfectly fine. Whatever you are displaying on the map will show up and you can move them around to change the display locations.

Mark Laird: That would be great.

Derek: Would we have to do it at every zoom level? How would that work?

Mark Laird: I think it's one time because you have one set of offsets or one display. You have to pick where you want to do it and just do it.

Derek: Okay, I like that.

Tucker: The map does support changing zoom levels during those editing modes. So if you go in and place it and check out different zoom levels it would show you those as well.

Derek: So it sounds like we are leading towards option 2 with this one?

Group: Yes.

Tucker: This next set of slides are more towards the icon grouping concept. We are essentially trying to pull a bunch of different devices into a bubble and list the number of devices. As opposed to cluttering the map with hundreds of cameras or DMS, you would see these bubbles and then you could zoom in and they wouldn't group up as much. We currently have some equipment that is located in the same spot. A few examples are TSS and ramp meters, the TTS and the detector itself for a wrong way driving detector will sit on top of each other. One thing we are not including in these groupings are the TSS and FDOT traffic conditions. Anything you have drawn on your map that's a TSS link, we did not envision those wrapping up at any zoom level. Does anyone have any problems with that assumption?

Derek: No.

Tucker: Some of the things we've picked up from a previous discussion are:

- A configurable icon count or radius to limit the grouping. More on the lines of how far should that bubble extend when pulling in these devices.
- Doing it by zoom level. Figuring out if we want to group at zoom levels or how much we want to group at zoom levels.
- Different types; you want to group your cameras but not your DMS.
- Configurable per operator. It's essentially a user setting that is going to allow the operator to choose what they want to do (grouped or not).

When we are grouping together, is there a particular coloration you are looking for based on the icons that are there? Should it do something with events or event severity? We are looking for ideas on what you want.

One request that was made was if you hover over a particular bubble, you essentially get a picture in picture with the group of icons underneath it. It would be really difficult to implement but do have some options there. Some options are if you right click the group you can see what's in it. The ability to show the picture in

picture map and to interact in it would be something fairly costly and I am not sure if it provides you with a lot value.

Mark Laird: Will this mix device types into one icon? Or will there be an icon for each type?

Tucker: The intent is, if you are grouping one or more device types it will be easier to explain on the next slide.

Derek: I am not ready to go to the next slide. Going back to the severity one, do we see the need to group the events as well? Or do we just want to group devices? It would simplify severity if we didn't put events into a group. I think it would hide the events and that is not what we want.

Mark Laird: There aren't events but I think there are failed and error states on how to service right?

Tucker: There are two problems there, let's say you did include events and you had multiple devices (one error, service, fail or active) then you have a level 3 event. What would that bubble look like? Then the flip side, you remove the event from it and now you just have devices that have different off statuses. Does that bubble change color or do something different due to the off status? What does that bubble look like based on what is inside of it?

Derek: I personally don't think we should put events into the grouping. Does anyone agree?

Group: We don't want them grouped either.

Derek: That simplifies that a lot.

Tucker: So again, this would be per operator and it allows a configuration at every zoom level. The modes for each zoom level are enabling grouping on one level, disabling grouping on a level, would like to link the settings to the zoom level above and below. The linking to the level above or below, just copies the settings from that level. We have to use pixels as our units because pixels can't be converted into miles.

From a simplicity standpoint, I think removing link above or link below might be the best and just have the option to enable or disable and then copy the configurations down. It doesn't feel like a huge burden to set it up once and leave it how you want it. What are your thoughts on this?

Mark Laird: If you select a device to show up on map is it going to put a circle around the group icon?

Tucker: If it is grouped and then you do 'find on map', it would show up on the point where it is supposed to be on the map. I don't have any particular defined behavior right now so we can do whatever.

Jared: would it be possible to allow the specification to a default system wide setting and then the operators could be allowed to modify it individually? And have a fall back that everyone is initially set up with?

Tucker: So we discussed this a little bit and what we would have to do is when the upgrade occurs, we would have to get the particular settings we like as default as part of the database upgrade and push that setting to every user. Then they would get a default setting. Whatever do there will be configurable by District. Every District could have a different default setting but once it is made a default setting, there is no going back.

The option is to test it not at a user level and test it at a system level.

Ryan: Why was it decided to go with the user level not the system level?

Tucker: From my standpoint we were just throwing out a design option. We can change it like that. Our thought was that the users (depending on the area of the map they are working in) settings would vary from user to user. Based on the user preferences they could set their settings accordingly. At a system level they don't even that option.

Derek: So this is not set in stone, it is just part of the discussion.

Tucker: If you want it from system level and everyone agrees, it is probably easier to do it from a system level. On the system level, you don't do anything on the database upgrade and essentially all of the zoom levels will be disabled for grouping. An admin would go into the system and start tweaking it and everyone would start noticing the changes. From an upgrade standpoint, system level makes it easier.

Mark Laird: Does this affect the drawing speed of the map? Does it draw things faster because it isn't grouped or does it not have much affect?

Tucker: At higher zoom levels you might see some performance changes. One of the changes we did recently to help with map performance is it doesn't take anything to account that is not visibly on the screen at the moment. At lower zoom levels you don't have the icons anyway so even if you group them, you are not getting a significant amount of change. At higher zoom levels, yes, you might have more change.

Mark Laird: I am not sure how much we would use this if we had the offset capability.

Tucker: That is the other question, if people like the display locations vs the actual locations and they don't think people would use the grouping or people would use the grouping and not the display vs actual or people like both then you can chose between either one.

Mark Laird: Usually we don't have to see the devices unless we are going to access them. To do that we would have to break down the group to get into them so the latitude and longitude option is great and I'd be happy with that. I thought we originally discussed these as alternatives to some problem?

Derek: Let me make this note when we bring it to the CMB that we don't need device grouping if the offset works. But District 5 might have a different opinion on that since they could be zoomed out more and have device overlap. Keep in mind that District 5 is also bringing in a lot of arterials from local agencies into their system so they really do have a lot of device clutter.

Mark Laird: But do you actually access the devices without zooming into the point of accessing one of them? Is the group actually helping?

Bryan: Yea, I would think that would probably be one of the benefits. If you're not going to group the event you group the devices and it would make the event visibility better on a larger scale.

Mark Laird: On the other hand if you are hiding certain devices only showing cameras or something and then these groupings are only grouping a couple of cameras when there use to be a group there to include other devices that are not being shown right now. You might end up with more showing up on the map.

Derek: I think we have a District 5 representative on the call.

John Hope: I have been staying quite because I agree on the direction of what you're talking about.

Derek: So you are leaning towards we might not need device grouping if we just do the actual and display latitude and longitude?

John Hope: Yes.

Mark Laird: Maybe we can do the one with display offsets first and see if it solved the problem.

Bryan: John do you know if District 5 is looking at a two miles scale or do they leave it at that level a decent bit?

John Hope: I think it is going to vary a lot because there are some areas that is very cluttered because there are a lot of devices in that area. So even if you move devices around it will still vary.

Derek: Bryan, I think we captured the concerns and maybe we don't need device grouping if we do the offset because when you need to go to a device, you're going to zoom in and go to that device anyway. We can bring both options up to the CMB and let them know the concern and they can decide.

Bryan: John, maybe you can circle back with Jeremy to make sure we aren't missing anything. If not, and we think the offset addresses their concern then let's just move that one forward.

John Hope: The main push for Jeremy is to have the accurate latitude and longitudes in there. Having them displayed nicely is the next step but having an option of saving the accurate device locations (option 1) then the grouping of the icons can be the next step that is something that we don't necessarily have to implement now.

Derek: Okay. Since we are already talking about it, if we did do icon grouping is everyone okay with system wide configuration instead of user level?

District 2: System wide would be our preference.

Others: System wide.

Tucker: These are just some other features about what would happen if we did do the grouping. Again, you would be specifying at specific zoom levels what you wanted to do. We create a group icon within the radius. The circle size with the groups inside grows with the number of items and would be something we want to implement as well.

Could right click and get access to the icons underneath. It could have something like the type of the item and the name after it. Potentially, we could do it where you right click and see CCTV, DMS, etc. and you hover over it and get another menu off to the side and you could see all of the options. We need to know what kind of information you would want to portray with the group. Off status sticks out to me and we could change the color of the icons. But if you had 50 active devices and one that is not active, what would that look like? We could put the exact number or generalize it and not have an exact number. I think there is a wide variety of options but are not sure what people want to see.

Person: Don't have the icon on the map change color but have the ability to hover over it and see the status of the devices.

Mark Laird: Back to filtration I mentioned earlier about the configuration, If you were to drop out a few devices and the quantity dropped below the minimum, it

would then break the group apart of the individual icons. Is that where you think that would go?

Tucker: Essentially it is going to group those together and then it would just be a group of one and it would recalculate. It would probably recalculate when the device position changed.

Ryan: The people using this would be our power users (operators) so I am kind of against having the total number but would it be possible to have a percent active so we can see that at a quick glance? Get a glance of system help.

Tucker: So instead of having the number of devices, have the number of devices in an active state.

Ryan: That's the one bonus of looking at the map now, is being able to glance at it real quick and you can see where there are some problem areas with either the network or the devices.

John Hope: Even with the percentage, I would still think you would want some coloration in there based on the percentage to get your attention.

Bryan: I think that's a good point. I like John's suggestion and maybe we move forward with the offset and table the grouping for a future discussion. It seems like there are a lot of details we could still work on with the grouping. I think the grouping is more of a want than a need at this point and there are a lot of details that still need to be worked out. It makes sense to focus the CMB on the display latitude and longitude and bring up grouping at another SUGG meeting.

Derek: I agree with you. I think we should do that.

Bryan: Do you think we have enough information to get the cost estimate for the first subject to be included in the CMB?

Derek: I think so. Thank you to everyone for your contribution to this topic, we had some good discussions today.

Meeting adjourned around 3:30 PM

New Action Items:

Action:

Responsible Person:

CMB topic: We don't need device grouping if the offset works	Derek Vollmer
Touch base with District 5 before the CMB and see if we are on the right track.	John Hope
Get the cost estimates for the accurate device locations to be included in the CMB.	Derek Vollmer