Answers to the initial set of project requirements questions. Note: If a question was about implementation rather than requirements, was too broad, or I didn’t understand it, it may not be listed here.

1. What exactly are we automating and what should the user interface include?
   a. You are automating the process for generating the reports. This should remove the need to have paper diagrams (which are used to create the reports). It is up to your team to design the user interface.

2. Do each of the three different GM plants need a unique system? Or will one system be used across all three plants?
   a. All three plants will use the same system.

3. Are the templates and reports created the same for all three GM plants?
   a. You may assume that each plant will generate the same types of reports.

4. Should the system centralize data on paint defects from all locations it is being used at and analyze trends across different manufacturing plants?
   a. You should be able to identify which plant was the source of each defect. In general, reports will usually be for a specific plant.

5. What information does an analyst need to enter into the system when filling out reports?
   a. The user will input the location and severity of the defects for particular vehicles.

6. How many cars are used for each report? Is this a number that stays the same?
   a. 10 cars is the minimum for a good sampling. The analyst may choose to use more. Thus this amount should be variable.

7. What are the thresholds for determining whether something is a flaw?
   a. What constitutes a flaw and its severity is decided upon by the analyst.

8. Is it necessary to do research and understand what each of the fault means? How are each of the faults generated?
   a. The analyst will determine what kinds of faults exist.

9. Are there any other time ranges reports can be run on, beyond the daily and weekly reports?
   a. The analyst should be able to generate reports for whatever time interval that they want.

10. How often should a problem exist before our system alerts the client to a potential “chronic” problem such as the body shop ball of paint described in the description?
    a. The analyst decides if and when a problem needs attending too.

11. What requirements will be needed for reporter identification (e.g. thumbprint scanner, employee pin, etc.)?
    a. You will need to decide for yourself how to authenticate users.

12. What happens when the client analyst completes the daily report?
    a. They print it out, show it to their supervisor, and tape it to the wall.

13. To record the presence of paint defects, does the user enter the information into a web form?
    a. The user will enter the information in a manner that you prescribe.

14. Do we need to generate the same figures that are in the quality analysis report, or are we looking for only quantitative output?
    a. The reports should include both figures and quantitative numbers.

15. How far back should the system keep records of the defects overtime?
    a. The data should be kept indefinitely.

16. What method are we using to store the data, cloud storage or physical servers?
    a. You can decide how the data is stored.
17. What are the analysts currently looking for in the interface of the data entry? Something similar to the current paper diagrams?
   a. The analysts should be able to enter the location, type, and severity of the defects and then generate reports similar to the ones that they currently do.
18. How do the analysts currently review the reports for their analysis?
   a. The analysts currently record defects on paper. They count the number of defects from each of the vehicles into a form which they use to track the ongoing totals.
19. What reports are desired to be output from the program?
   a. There are three types of reports. Daily reports focus on defects per unit. Weekly reports focus on defects per surface. Monthly reports focus on trends.
20. What types of flaws are there? Is there a definitive list of flaw types?
   a. You should include the flaws listed in the audits. More flaws could be added later.
21. What is DPU?
   a. Defects per unit
22. What is VSI?
   a. Not important, don’t need to include it in the reports.
23. How is the flaw determined to be a Sev 1 over a Sev 5 if there is a range of severities between the two?
   a. The analyst determines how severe a defect is.
24. How is each car identified in the reports? How are the abbreviations for each car model determined? How does the paper diagram differ based on the model of the car?
   a. Car names and abbreviations are determined by humans. Different models will have different wireframes.
25. What is the Polish Deck report analyzing/visualizing?
   a. The tables summarize the quantity and severity of the defects at each location. The pie chart quantifies the causes of each defect.
26. How does the Polish Deck report differ from the Prime Review report?
   a. The two reports come from different checkpoints.
27. How are the different security restrictions between the three plants?
   a. The three plants have similar security restrictions
28. How the data of past checks are currently stored and are they confidential?
   a. Past reports are stored on paper in a filing cabinet.
29. What level of specificity must our system have compared to a diagram of the vehicle covered in colored pencil marks?
   a. Your system should have a similar level of specificity.
30. How many different output forms should we expect to support, and what does each convey?
   a. The audit presents the location, type, and severity of defects and averages this over several vehicles. The QA report summarizes these results. The Defect Analysis Summary summarizes the number of defects based on location, type, or severity. The weekly chart shows how these values change over time.
31. What cars does this need to support, per plant?
   a. You may assume that all of the plants handle the same types of vehicles.
32. What are the possible defect types per inspection area and their associated marking colors?
   a. You should start with the defects listed in the existing reports, but more defects could be added later. The colors used are arbitrary, but should be visually distinct.
33. What are the possible severity levels of defects and how are they decided?
You can assume that there are three levels of severity. The analyst decides how severe a defect is.

34. The E-Coat Audits give a number of units but only display one vehicle diagram. Is the audit a total of all the units? How does an analyst decide which units to include?
   a. The report is a composite of several audits. Each audit will cover one vehicle. Several of these are then combined into the report shown. You should allow the analyst to decide which audits to include in the report.

35. Does the area of a dot correspond to the severity of the paint defect? What does the size of markings indicate?
   a. The area of the dot corresponds to the physical size of the defect. Most defects are physically pretty small: the size of a pinhead.

36. Does the system need to account for mistakes made during data entry?
   a. There should be some way for the analyst to correct mistakes.

37. Should permissions vary between users? Should all users be able to add, modify, read, and delete all reports?
   a. Having different permissions for different users would be a good feature.

38. Is the defect detection process still to be done manually, or is the detection process to be automated (i.e. cameras/sensors along the assembly line) in addition to the report generation process?
   a. The user or another human will detect the defects.

39. Which report is the desired report?
   a. The user may want to generate different reports for different situations

40. To what extent should this process be automated? For example, should reports be generated automatically or on-demand by a user?
   a. Reports should be generated on demand by the user, but scheduling automatic report generation would be a nice feature.

41. Does the system need to be extendable if the make and model of the supported vehicles change? If so, what should the process be for adding or removing supported models?
   a. There should be some method to support future models.

42. What is the severity threshold for a defect to need to be corrected? Do different plants have different criteria?
   a. The user determines the response to each type of defect.

43. Some defects are varying in size, is that a cluster of small defects or is there a sized attached with each defect?

44. How do we determine whether a defect is on a “Horizontal” or a “Vertical”?
   a. The sides of the vehicle are vertical, while the roof and hood are horizontal.

Non-requirements questions
1. Are there a required number of meetings a group must have per week/overall?
   a. You must have at least one meeting a week. These need to go on your team website.

2. How much time will we be given for the presentation, and how much detail are we expected to go into during the presentation?
   a. Each team will have about 15 minutes to present, including time for questions.

3. Do we need to implement the system we create, or simply design it?
a. You will need to implement a throwaway prototype. As a prototype, not all of the features will need to be fully implemented.

4. What’s the purpose of the website?
   a. The website conveys information about your team and project. It helps keep all of the resources in one place.

5. Are we hosting our own prototypes?
   a. Yes. It must be available from your team website.

6. What are the minimum requirements for each prototype deadlines?
   a. The first deadline needs to show all the UI elements. The second needs to also implement the functionality.

7. Are we going to be given car models to draw on or will we come up with our own?
   a. Some models have been included in the materials already provided for you (in one of the zip archives).