User Stories

1. As a production manager, I want to have a plan for the long term production so that we can estimate the cost and profit from the amount of bikes produced.[1]
2. As a production manager, I want a plan for the schedules of each machine for the production of bikes so that I can know the amount of time that a machine will run and cost.[2]
3. As a vendor, I want to know when items are procured so that I know when a product is available to be sold to a customer.[3]
4. As a production manager, I want an inventory of the parts and materials so that I can keep track of the input and output.[4]
5. As a production manager, I want an option to build bikes so that I can visualize the parts that will be used and left in inventory.[4]
6. As a production manager, I want a simulation of the assembly line so that I can approximate the time and cost for the whole process.[4]
7. As a quality assurance manager, I want to track the defects in the assembly line so that quality is maintained during production.[5]
8. As a quality assurance manager, I want to verify the quality of the parts that are obtained from the vendors so that the bikes are from good quality material and customers are satisfied.[5]
9. As a packaging manager, I want to know the size of each shipment so that each shipment can be assigned a box of the proper size.[6]
10. As a transportation manager, I want to know where items are being shipped so that each item has a destination.[7]
11. As a transportation manager, I want to know when items reach their destination so that we can confirm their delivery with the customer.[7]
12. As a sales manager, I want to be able to keep track of Quotes and Sales Orders Acknowledgements so that I can easily access them when needed.[8]
13. As an accountant, I want to see reports on the income and expenses of the production so that I can make informed decisions of where inefficiencies are.[9]
14. As a customer, I want to select specific attributes of a bike so that I can define a product.[10]
15. As an production manager, I want to create a material list so that I can track parts that are needed to assemble a product.[11]
16. As an administrator, I want to track an inventory item so that I am aware of the number of items remaining at a location.[12]
17. As a production manager, I want to interact (define, order, track) with raw materials from the vendor so that I can optimize the production process.[13]

18. As a business accountant, I want an accounting page that can follow all costs associated with production like accounts payable, accounts receivable, and charge number so that I can manage any finance flow.[14]
19. As a production manager, I want to connect to the production machines using web service, COM ports and CSV formats so that I can ensure that the machines are working properly.[15]
20. As a quality manager, I want a data tracker so that when an event is triggered from the user or the system I can track its quality.[16]
21. As a system director, I want to limit the permissions of different users so that the information is not overbearing or no privileged information shows.[17]
22. As any user of the system, I want to have a personal account with a username and a password so that I can keep any layout preferences and other options.[17]
23. As a system developer, I want to display errors, logs, and statuses so that I can debug any issues that arise.[18]
24. As a business manager, I want to generate audit trails so that accountability can easily be attributed to the correct users.[18]
25. As a production manager and an accountant, I want to be able to export documents to Adobe PDF or Excel so that it is easy to communicate what I am seeing on my screen for presentations.[19]
26. As a user of the system, I want tooltips on the icons so that I can know what a specific icon means by hovering over it.[20]
27. As a user of the system, I want a help page so if I get an error message during my usage of the system I can properly act and not waste time contacting help officials.[20]
28. As a user of the system, I want the system to load in under 5 seconds when using localhost, and under 10 seconds when using the cloud service so that I am not annoyed at the time delay and so I do not lose customers.[21]
29. As a database manager, I want sensitive data to be encrypted so that no information can identify a user if it is leaked.[22]
30. As a database manager, I want a user to be logged out after 30 minutes of inactivity so that the server does not have stale users holding the system.[23]
31. As a user of the system, I want the system to work well on any common screen resolution so that I can use the system on any mobile device.[24]
32. As a system developer, I want the model-view-controller design pattern so that multiple sections of the system can be developed simultaneously.[25]
33. As a system developer, I want at least 50% of test coverage in the Controller classes of the MVC design pattern so that a majority of the interface works properly and is not buggy.[25]

34. As a customer, I want to be notified by email about any actions performed on my account such as, purchasing, signing up, or changing password so that I can have a permanent record of my account activities.[26]
35. As a database, I want to be able to support process driven work-flow messaging to allow different activities to be triggered by pre-configured business rules.[27]
36. As a transportation manager, I want the transportation inventory to attach to the production backend so that I can move inventory between locations and in/out of production inventory.
37. As a customer, I want a dashboard after I log in to quickly access any other tab that I have access to.
38. As a system developer, I want to have the UI tested so that the system front end works and all the functionalities are properly tested.
39. As a transportation manager, I want the transportation inventory to attach to the production backend so that I can move inventory between locations and in/out of production inventory.

Requirements

1. Planning
2. Scheduling
3. Vendors (Procurement)
4. Production (Running through different processes)
5. Quality Management
6. Packaging
7. Transport Planning/Shipping
8. Sales (Customers)
9. Accounting
10. The system must allow defining products: sizes, colors, finishes, grades etc. For example a bike has a Frame Size (18, 21, 26, etc.), a Color (Blue, Red), a Finish (Matt, Chrome), a Grade (Aluminium, Steel, Carbon).
11. The system must allow creating, editing, and tracking material lists, which define what other parts are needed to assemble/create a product. A part itself may have its own material list. For example, a bike Seat is itself composed of a Rawhide Ornament, Springs, Frame, etc.
12. The system must allow tracking inventory, which contains the numbers of things in the plants available and necessary to create parts and products. The inventory depends on a location, current orders, backlogs, forecast of production, etc.
13. The system must allow defining, ordering, and tracking raw material and final products. Possibly, it should allow optimizing production (use of machines, time of use, etc.).
14. The system must allow following all and any cost: Accounts Payable, Accounts Receivable, and Cost/Charge Number.
15. The system can connect to production machinery via different communication modes, including but not limited to Web services, COM ports, and CSV/XML format files.
16. The system should track quality data. It needs to support manually triggered rules and-or system generated rules.
17. The system should allow only registered users to access the information, possible with different accesses for different roles.
18. The system must generate logs and audit trails for the sake of debugging and accountability.
19. The system can generate documents, like reports, in different formats, including MS Excel spreadsheets and Adobe PDF. It can also link to some Cloud storage service, e.g. Google Drive, to push/pull documents there.
20. The system should follow “good” UI principles, like help, tooltips, etc.
21. The system should take less than 5 seconds to load (on localhost), and no more than 10 seconds in normal network condition (on the cloud).
22. Sensitive data must be encrypted (credential details, personal information), so in case of a data leak, the leaked information can not be traced back to any identity or user.
23. The system should support automatic logout, after a certain time of inactivity.
24. The system shall be mobile friendly web (work well on any common screen resolutions).
25. The system shall follow the MVC design pattern and at least 50% test coverage for Controllers classes.

26. The system sends e-mails to certain roles according to certain rules depending on events occurring within the system, e.g., production stopped.
27. The system should support process driven work-flow messaging. Different activities (emails, transaction holds, approval requests, etc.) can be triggered by pre-configured business rules.