CLAIMS

1. A system construction support tool that supports construction of a monitoring and control system in which a monitoring apparatus monitors and controls a plurality of apparatuses via a tag server and a PLC (Programmable Logic Controller), the system construction support tool comprising:

an input unit to which an apparatus list in which, concerning the plurality of apparatuses, attributes of apparatuses including apparatus types are specified is input;

a storing unit that stores a plurality of template information in which an apparatus type name and a plurality of setting data are respectively associated; and

an allocating unit that specifies an apparatus type concerning each of the plurality of apparatuses according to the input apparatus list and allocates one piece of template information selected from among the plurality of template information to each of the apparatuses according to the specified apparatus type, wherein

in each of the plurality of template information, the setting data are tied to one another using tag names in advance;

the setting data include monitoring screen setting data, PLC project setting data, and tag server setting data, and

the allocating unit allocates one piece of template information selected from among the plurality of template information to each of the apparatuses to perform, concerning each of the apparatuses, tying by tag names among the monitoring screen setting data, the PLC project setting data, and the tag server setting data.

2. The system construction support tool according to claim 1, wherein

the plurality of setting data further include a screen component,

the allocating unit allocates one piece of template information selected from among the plurality of template information to each of the apparatuses to perform, concerning each of the apparatuses, tying by tag names among the monitoring screen setting data, the PLC project setting data, the tag server setting data, and the screen component, and

the system construction support tool further comprises a generating unit that generates, concerning each of the apparatuses, a monitoring screen using the setting data and the screen component of the monitoring screen included in the allocated template information.

3. The system construction support tool according to claim 1, wherein

the plurality of setting data further include alarm setting data,

the allocating unit allocates one piece of template information selected from among the plurality of template information to each of the apparatuses to perform, concerning each of the apparatuses, tying by tag names among the monitoring screen setting data, the PLC project setting data, the tag server setting data, and the alarm setting data, and

the system construction support tool further comprises a registering unit that registers, concerning each of the apparatuses, setting information of alarm operations in association with identifiers of the apparatuses according to the alarm setting data included in the allocated

template information.

4. The system construction support tool according to claim 1, wherein

the plurality of setting data further include trend setting data,

the allocating unit allocates one piece of template information selected from among the plurality of template information to each of the apparatuses to perform,

concerning each of the apparatuses, tying by tag names among the monitoring screen setting data, the PLC project setting data, the tag server setting data, and the trend setting data, and

the system construction support tool further comprises a registering unit that registers, concerning each of the apparatuses, setting information of trend operations in association with identifiers of the apparatuses according to the trend setting data included in the allocated template information.

5. The system construction support tool according to claim 1, further comprising a registering unit that registers, concerning each of the apparatuses, tags in association with identifiers of the apparatuses according to the tag server setting data included in the allocated template information.

6. The system construction support tool according to claim 1, further comprising a generating unit that generates, concerning each of the apparatuses, according to the PLC project setting data included in the allocated template information, a PLC project in which label data, a PLC program, and a function block are used.

7. The system construction support tool according to claim 1, wherein each of the plurality of template information includes, as the plurality of setting data, setting contents that can be made common for each of types of the apparatuses.

8. The system construction support tool according to claim 1, wherein, the apparatus list extracted from a piping and instrumentation diagram of a monitoring target created in upstream design is input to the input unit, so as to enable effective utilization of an asset of a user.

9. The system construction support tool according to claim 1, wherein

the monitoring screen includes an overview screen and a face plate screen, and

the system construction support tool further comprises a display unit that displays, according to a selection of a monitoring information item desired to be displayed on the overview screen as well among monitoring information displayed on the generated face plate screen, the selected monitoring information item in the vicinity of a symbol of the overview screen.

10. A system comprising:

an upstream design tool that generates the piping and instrumentation diagram of a monitoring target according to a request from a user;

an extracting unit that extracts, as an apparatus list, information concerning apparatuses from the generated piping and instrumentation diagram; and

the system construction support tool according to claim 8 that supports construction of a monitoring and

control system using the extracted apparatus list.

11. A system comprising:

an upstream design tool that generates a piping and instrumentation diagram of a monitoring target according to a request from a user;

an extracting unit that extracts, as an apparatus list, information concerning apparatuses from the generated piping and instrumentation diagram; and

the system construction support tool according to claim 9 that supports construction of a monitoring and control system using the extracted apparatus list.

CLAIMS

1. A system construction support tool that supports construction of a monitoring and control system in which a monitoring apparatus monitors and controls a plurality of apparatuses via a tag server and a PLC (Programmable Logic Controller), the system construction support tool comprising:

an input unit to which an apparatus list in which, concerning the plurality of apparatuses, attributes of apparatuses including apparatus types are specified is input;

a display unit that displays the input apparatus list;

a storing unit that stores a plurality of template information in which an apparatus type name and a plurality of setting data are respectively associated; and

an allocating unit that specifies an apparatus type concerning each of the plurality of apparatuses according to the input apparatus list and allocates one piece of template information selected from among the plurality of template information to each of the apparatuses according to the specified apparatus type, wherein

in each of the plurality of template information, the setting data are tied to one another using tag names in advance,

the setting data include monitoring screen setting data, PLC project setting data, and tag server setting data,

the allocating unit allocates one piece of template information selected from among the plurality of template information to each of the apparatuses to perform, concerning each of the apparatuses, tying by tag names among the monitoring screen setting data, the PLC project setting data, and the tag server setting data,

the display unit displays a system design support tool screen having a tree display section and an item-setting display section,

the apparatus list extracted from a piping and instrumentation diagram of a monitoring target created in upstream design is input to the input unit, so as to enable effective utilization of an asset of a user,

the display unit hierarchically displays a list of a plurality of apparatuses at multiple stages in the tree display section and hierarchically displays a plurality of template information in the tree display section according to the input apparatus list,

the display unit displays, when there is any missing in the extracted apparatus list, the extracted apparatus list in a display mode urging an input of the missing information, and

the completed apparatus list is input to the input unit through the input of the missing information according to the display mode urging an input.

2. The system construction support tool according to claim 1, wherein when there is any missing in the extracted apparatus list the display unit highlights a field of the missing information.

3. The system construction support tool according to claim 2, wherein the display unit displays a plurality of setting item fields of an apparatus selected in the tree display section in the item-setting display section and, when there is any missing in displayed setting items, highlights a setting item field of the missing information.

4. The system construction support tool according to claim

1, wherein the apparatus list is input to the input unit according to a drag and drop operation of an icon indicating a file of the apparatus list to the tree display section of the system design support tool screen.

5. The system construction support tool according to claim 1, wherein

the plurality of setting data further include a screen component,

the allocating unit allocates one piece of template information selected from among the plurality of template information to each of the apparatuses to perform, concerning each of the apparatuses, tying by tag names among the monitoring screen setting data, the PLC project setting data, the tag server setting data, and the screen component, and

the system construction support tool further comprises a generating unit that generates, concerning each of the apparatuses, a monitoring screen using the setting data and the screen component of the monitoring screen included in the allocated template information.

6. The system construction support tool according to claim 1, wherein

the plurality of setting data further include alarm setting data,

the allocating unit allocates one piece of template information selected from among the plurality of template information to each of the apparatuses to perform, concerning each of the apparatuses, tying by tag names among the monitoring screen setting data, the PLC project setting data, the tag server setting data, and the alarm setting data, and

the system construction support tool further comprises a registering unit that registers, concerning each of the apparatuses, setting information of alarm operations in association with identifiers of the apparatuses according to the alarm setting data included in the allocated template information.

7. The system construction support tool according to claim 1, wherein

the plurality of setting data further include trend setting data,

the allocating unit allocates one piece of template information selected from among the plurality of template information to each of the apparatuses to perform, concerning each of the apparatuses, tying by tag names among the monitoring screen setting data, the PLC project setting data, the tag server setting data, and the trend setting data, and

the system construction support tool further comprises a registering unit that registers, concerning each of the apparatuses, setting information of trend operations in association with identifiers of the apparatuses according to the trend setting data included in the allocated template information.

8. The system construction support tool according to claim 1, further comprising a registering unit that registers, concerning each of the apparatuses, tags in association with identifiers of the apparatuses according to the tag server setting data included in the allocated template information.

9. The system construction support tool according to claim

1, further comprising a generating unit that generates, concerning each of the apparatuses, according to the PLC project setting data included in the allocated template information, a PLC project in which label data, a PLC program, and a function block are used.

10. The system construction support tool according to claim 1, wherein each of the plurality of template information includes, as the plurality of setting data, setting contents that can be made common for each of types of the apparatuses.

11. The system construction support tool according to claim 1, wherein

the monitoring screen includes an overview screen and a face plate screen, and

the display unit further displays, according to a selection of a monitoring information item desired to be displayed on the overview screen as well among monitoring information displayed on the generated face plate screen, the selected monitoring information item in the vicinity of a symbol of the overview screen.

12. A system comprising:

an upstream design tool that generates the piping and instrumentation diagram of a monitoring target according to a request from a user;

an extracting unit that extracts, as an apparatus list, information concerning apparatuses from the generated piping and instrumentation diagram; and

the system construction support tool according to claim 2 that supports construction of a monitoring and control system using the extracted apparatus list.

13. A system comprising:

an upstream design tool that generates a piping and instrumentation diagram of a monitoring target according to a request from a user;

an extracting unit that extracts, as an apparatus list, information concerning apparatuses from the generated piping and instrumentation diagram; and

the system construction support tool according to claim 11 that supports construction of a monitoring and control system using the extracted apparatus list.