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| **Class Name:** Field | |
| **Description:** Element of ProtoElement that is editable Rule(s) in a given Protocol | |
| **Contracts:**  5. Visualize Field  *Show Field*  showField(Field)  Description: Receives a field currently hidden and displays it.  Pre: The field belongs to one of A and is not hidden.  Post: The field is displayed.  *Hide Field*  hideField(Field)  Description: Receives a field currently displayed and hides it.  Pre: The field belongs to one of A and is not hidden.  Post: The field is hidden.  6. Modify Field  *Rename Field*  renameField(String, Action, Field)  Description: Receives a string and a field to rename using the provided string, adding to the Action  Pre: The Field exists within the PDML  Post:  *Add Hook to Field*  addHook(Action, Field)  Description: Adds a Hook to this Field in this Action.  Pre: The Field is editable by this Formatter.  Post: The Hook is added to the Action for this Field with a Script attached to it.  *Annotate Field*  addAnnotation(Action, Annotation)  Description: Receives an action and an annotation, adds a new annotation to the action.  Pre: The action is either hiding, renaming, annotating or creating a hook.  Post: The addition of the specified annotation to the action.  *Update Field*  updateField(String, Field)  updateField(Boolean, Field)  Description: Receives either a string or a Boolean along with a field, and updates a field value according to the value provided.  Pre: The Field exists within the PDML  Post:  **Private Responsibilities:** | **Collaborations:**  Action (2)  Action (2)  Action (1)  Action (1)  AnnotationAction (3)  Hook (15) |
| **Comments:**  Contains the following optional and required attributes:  Optional attributes – hidden (Boolean), mask (Bytes), showdtl (String), showmap (String), showvalue (Integer)  Required attributes – longname (String), name (String), pos (Bytes), show, showname (String), size (Bytes), unmaskedvalue (*required only if the length of the current field is not an integer number of bytes*), value (Hex, String) | |

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| **Class Name:** Formatter | |
| **Description:** Allows to apply rules to Fields in a Protocol for inspection | |
| **Contracts:**  10. Manage Formatter  *Create Formatter*  createFormatter(Rule<>)  Description: Receives a list of rules to build a new formatter.  Pre: The list of rules is empty  Post:  *Apply Rules*  applyRules(Formatter, Rule<>)  Description: Receives a Formatter and a set of Rules and applies the Rules to the Formatter.  Pre: Rule<> is not empty, and the Formatter exists  Post:  11. Manage Rules  *Add a New Rule*  addRule(Formatter, Rule)  Description: Receives a formatter and a rule, adds the rule to the formatter.  Pre: The Rule is not empty and the Formatter exists.  Post:  *Delete the Last Rule*  deleteRule(Rule)  Description: Receives a rule and deletes it.  Pre: The Rule is the last one added to the Formatter  Post: | **Collaborations:**  PDML (17)  Rule (22, 23)  Rule (22, 23) |
| **Comments:**  Contains Filter and Action rules specific to one Protocol; type of File | |

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| **Class Name:** Script | |
| **Description:** Subtype of File Class which contains the Python algorithm by which to update Field(s) | |
| **Contracts:**  24. Manage Script  *Create a New Script*  createScript(Hook)  Description: Creates a Script for this Hook  Pre:  Post: The Script Python File will be created if it does not already exist.  *Delete Script*  deleteScript(Hook)  Description: Deletes the Script from this Hook  Pre: The Script is associated with this Hook.  Post: The Script File is not deleted.  25. Modify Script  *Update Algorithm*  updateAlgorithm(String<>)  Description: Overwrites the existing algorithm to contain this String<>  Pre: The Script Python File exists.  Post:  *Update File Path*  updatePath(String)  Description: Sets the path to this Script to be this String  Pre: This String is a valid file system path to this Algorithm  Post: The Script is not deleted.  26. Run Script  *Get Return Value*  getReturnValue()  Description: Gets the return value from the Script’s execution  Pre: The Script has completed execution and has a return value  Post:  *Update Field*  updateField(Field)  Description: Updates the Field associated with this Hook  Pre: The Script’s return value type matches the Field’s value type  Post:  **Private Responsibilities:** | **Collaborations:**  Hook (13, 14)  Hook (14)  Hook (14)  Hook (14)  Hook (15)  Hook (15) |
| **Comments:**  Contains editable algorithm and file path; type of File | |