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| **Class Name:** Action | |
| **Description:** Contains the operations to perform with a Formatter’s Rule(s) | |
| **Contracts:**  1. Manage Action  *Add Action to Rule*  addAction(Rule<>, Action)  Description: Receives a Rule and an Action, adds a new Action to the Rule.  Pre: The action belongs to one of hiding, renaming, annotating or creating a hook.  Post: The addition of the specified action to the rule.    *Delete Action from Rule*  deleteAction(Rule<>, Action)  Description: Receives an action and deletes it.  Pre: The Action is in the Rule and is the last added to the Rule.  Post: The deletion of the Action.  2. Manage Field  *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.    *Unhide 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.  *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 belongs to one of A.  Post: The field element value gets changed to the new value.  **Private Responsibilities:** | **Collaborations:**  Rule (23), Hook (13)  Rule (23), Hook (13)  Field (5)  Field (5)  Field (6), Hook (15) |
| **Comments:**  Contains the steps by which to: Hide, Rename, Annotate, Create Hook | |

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| **Class Name:** GUI | |
| **Description:** Interfaces to PFS functionality | |
| **Contracts:**  28. Visualize Script Requests  *Accept Script Modifications*  modifyScript(Hook)  Description: Accepts the user input to modify the Script for this Hook  Pre: This Hook exists  Post:  *Accept Input Parameters*  addInputParameters(Hook, String)  Description: Accepts the user input to add input parameters to run this Hook’s Script  Pre: This Hook exists  Post:  *Accept Link to Script*  modifyScriptLink(Hook, String)  Description: Accepts the user input to modify the link to this Hook’s Script  Pre: This Hook exists and this String is a valid system path  Post:  29. Visualize PDML Modifications  *Revert PDML to Historical Copy*  revertToOriginal(PDML)  Description:  Pre: This PDML has a Historical Copy  Post: The Historical Copy remains unmodified.  *Accept PDML Changes*  acceptChanges(PDML)  Description: Saves edits to this PDML File.  Pre:  Post: The Historical Copy remains unmodified and PDML File is saved.  **Private Responsibilities:**  - Accept input  - Visualize changes | **Collaborations:**  Hook (14)  Hook (14)  Hook (14)  PDML (18)  PDML (18) |
| **Comments:**  Accepts inputs and outputs to display | |

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| **Class Name:** PDML | |
| **Description:** Allows by subtype to modify and analyze network data within PFS | |
| **Contracts:**  17. Apply Formatter  *Apply Formatter Rules*  applyFormatter(Formatter)  Description: Formatter to apply its rules to the current PDML  Pre: The Formatter is not currently being edited and the current PDML has Protocol(s) for this Formatter.  Post: The modified PDML will be saved and the Historical Copy will remain unedited.  *Update Field*  updateField(Action, Field)  Description: Receives a Field and an Action to be applied to this Field  Pre: The Field exists within the PDML’s Protocol.  Post: Only this Field will be modified according the specifications of this particular Action.  18. Revert to Historical Copy  *Visualize Changes from PDML and Historical Copy*  findChanges(HistoricalCopy)  Description: Returns a list of the differences between this PDML and itsHistorical Copy.  Pre: This PDML’s Historical Copy does exist within PFS.  Post: The PDML and Historical Copy will not be changed.  *Accept or Reject Changes*  acceptChanges()  Description: Saves the changes applied to this PDML in the PFS  Pre: The Formatter has been applied.  Post: Only this will be saved in the PFS.    rejectChanges(HistoricalCopy)  Description: Reverts the modified PDML to its Historical Copy  Pre: The Historical Copy exists in the PFS.  Post: The modified PDML copy is a deep copy of its Historical Copy.  **Private Responsibilities:**  - Save Changes | **Collaborations:**  Formatter (10)  Field (6)  Historical Copy (12)  GUI (29) |
| **Comments:**  Attributes include identification as modifiable and metadata; type of File | |

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| **Class Name:** ProtoElement | |
| **Description:** Element of each Packet in a PDML File | |
| **Contracts:**  21. Manage ProtoElement  *Edit Action*  addAction(Rule, Action)  Description: Receives a rule and an action, adds a new action to the rule.  Pre: The action is hiding, renaming, annotating or creating a hook.  Post:    deleteAction(Action)  Description: Receives an action and deletes it.  Pre: The action is hiding, renaming, annotating or creating a hook.  Post:  *Edit Filter*  addFilter(Rule, Filter)  Description: Receives a filter and a rule, adds the filter to the rule.  Pre: The Filter does not already exist in the Rule  Post:  deleteFilter(Rule, Filter)  Descritpion: Receives a filter and deletes it.  Pre: The Filter is the last added to the Rule.  Post:  *Edit 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 belongs to one of A and the string is unique.  Post:  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.  addAnnotation(Action, Annotation)  Description: Receives an action and an annotation, adds a new annotation to the action.  Pre: The action is hiding, renaming, annotating or creating a hook.  Post:  deleteAnnotation(Annotation)  Description: Receives an annotation and deletes it.  Pre: The annotation exists with this ProtoElement  Post: Only the annotation is removed from this ProtoElement  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 in the PDML.  Post:  *Visualize Field*  hideField(Field)  Description: Receives a field currently displayed and hides it.  Pre: The field exists in the Protocol of the PDML and is not hidden.  Post:    showField(Field)  Description: Receives a field currently hidden and displays it.  Pre: The field exists in the protocol of the PDML and is not hidden.  Post:  **Private Responsibilities:** | **Collaborations:**  Rule (23)  Rule (22)  Field (6)  Rule (23), Field (6) |
| **Comments:**  Contains one Field and the following attributes: name (String), longname (String), size (Bytes), and pos (Bytes) | |