```
- int size_v
                   - T * elem
                   - int space
                   + vector()
                   + vector(int s)
                   + vector(const vector
                      &other)
                   + vector & operator=
                     (const vector &other)
                   + vector(vector &&other)
                      noexcept
                   + vector & operator=
                     (vector &&other) noexcept
                   + ~vector()
                   + T & operator[](int n)
                   + const T & operator
                     [](int n) const
                   + int size() const
                     and 10 more...
                                            < QTreeWidgetItem * >
                                       alpha::vector< QTreeWidget
                                                 Item * >
                                       - int size_v
                                       - QTreeWidgetItem ** elem

    int space

                                       + vector()
                                       + vector(int s)
                                       + vector(const vector
                                          &other)
                                       + vector(vector &&other)
                                          noexcept
                                       + vector & operator=
                                         (const vector &other)
                                       + vector & operator=
                                         (vector &&other) noexcept
                                       + ~vector()
                                       + QTreeWidgetItem *&
                                          operator[](int n)
                                       + const QTreeWidgetItem
                                          *& operator[](int n)
                                          const
                                       + int size() const
                                         and 10 more...
                                                       #brushItems
                                                       #childItems
                                < Shape * >
                                                       #penItems
                                                       #pointsItems
                                                    Shape
                                     + static int nextTracker
                                     + static bool trackersInUse
                                     # QTreeWidgetItem * parentItem
                                     - const int shapeld

    int trackerld

                                     - string shapeType
                                     - QPen pen
                                     - QBrush brush
                                     - QPoint coords
                                     - QPainter painter
                                     - bool isSelected
                                     + Shape(int shapeld,
                                       string shapeType, QPoint
                                        coords, QPen pen, QBrush brush)
                                     + virtual ~Shape()
                                     + virtual void Draw(QWidget
                                        *renderArea)=0
                                     + virtual void Move(int
                                       x, int y)
                                     + virtual double Perimeter
                                       () const =0
                                     + virtual double Area
                                       () const =0
                                     + virtual bool isPointInside
                                       (const QPoint &point) const =0
                                     + void CreateParentItem()
                                     + void CreatePenChild()
                                     + void CreateBrushChild()
                                       and 36 more...
                                     - Shape(Shape &shape)
                                       =delete
                                       Shape & operator=(Shape
                                        &object)=delete
                                             -elem
                         alpha::vector< Shape *>
                        - int size_v

    int space

                        + vector()
                        + vector(int s)
                        + vector(const vector
                          &other)
                        + vector(vector &&other)
                          noexcept
         QWidget
                        + vector & operator=
                          (const vector &other)
                        + vector & operator=
                          (vector &&other) noexcept
                        + ~vector()
                        + Shape *& operator[]
                          (int n)
                        + const Shape *& operator
                          [](int n) const
                        + int size() const
                          and 10 more...
                                 -renderShapes
           RenderArea
- int shapeSelectedIndex
- bool allowEditing
+ RenderArea(QWidget
   *parent=nullptr)
+ void mousePressEvent
  (QMouseEvent *event)
+ void mouseMoveEvent
  (QMouseEvent *event)
+ void mouseDoubleClickEvent
  (QMouseEvent *event) override
+ void mouseReleaseEvent
+ void updateShapeDisplayCoords
  (Shape *item, const QPoint
```

alpha::vector< T >

(QMouseEvent \*event) override + void resetSelection()

override

override

&position) const + const alpha::vector

< Shape \* > & getShapes () const + int getShapeSelected

() const

() const

+ void setRenderShapes (const alpha::vector < Shape \* > \*renderShapes)

+ int getShapeSelectedIndex

+ void setShapeSelectedIndex (int newIndex)

+ void setEditPrivileges (bool edit) # void paintEvent(QPaintEvent

\*event) override \* int shapeSelectedIndex

\* bool allowEditing void mousePressEvent (QMouseEvent \*event)

override \* void mouseMoveEvent

(QMouseEvent \*event) override

void mouseDoubleClickEvent (QMouseEvent \*event) override void mouseReleaseEvent

(QMouseEvent \*event) override void resetSelection()

void updateShapeDisplayCoords (Shape \*item, const QPoint &position) const

\* const alpha::vector < Shape \* > & getShapes

() const \* int getShapeSelected () const

int getShapeSelectedIndex () const void setRenderShapes

(const alpha::vector < Shape \* > \*renderShapes)

void setShapeSelectedIndex

(int newIndex) void setEditPrivileges

(bool edit)