

Data: A text with annotations, stored as a String-Array
Result: A Graph (as described above)

```

1 initialization
2 foreach w in words do
3   if w is annotation then
4     v ← new Vertex(previousWord.getCenter())
5     v.setAnnotation(w)
6     Graph.addVertex(v)
7     UpperVerticesList.addVertex(v)
8   else
9     if w is too big for the line then
10      startNewLine()
11      connectBasedOnPosition(UpperVerticesList)
12      UpperVerticesList ← LowerVerticesList
13      emptyList(LowerVerticesList)
14    end
15    v1 ← new Vertex(w.getTopLeft())
16    v2 ← new Vertex(w.getTopRight())
17    v3 ← new Vertex(w.getBottomLeft())
18    v4 ← new Vertex(w.getBottomRight())
19
20    Graph.addA11(v1,v2,v3,v4)
21    UpperVerticesList.addA11(v1,v2)
22    LowerVerticesList.addA11(v3,v4)
23    Graph.createEdgeBetween(v1,v3)
24    Graph.createEdgeBetween(v2,v4)
25  end
26 end

```

Algorithm 1: TODO

Data: A single annotation's source and its Graph
Result: A List of vertices describing the Leader's Path

```

1 initialization
2 while currentVertex not at right text border do
3   if
4     (Graph.getTopNeighbourOf(currentVertex)  $\neq$  null)  $\wedge$   $\neg$ backtracking
5     then
6       Path.addVertex(currentVertex)
7       currentVertex  $\leftarrow$  Graph.getTopNeighbourOf(currentVertex)
8     else if Graph.getRightNeighbourOf(currentVertex)  $\neq$  null then
9       Path.addVertex(currentVertex)
10      currentVertex  $\leftarrow$  Graph.getTopNeighbourOf(currentVertex)
11      backtracking  $\leftarrow$  False
12    else
13      backtracking  $\leftarrow$  True
14      repeat
15        oldVertex  $\leftarrow$  currentVertex
16        currentVertex  $\leftarrow$  Path.getLastEntry()
17        Path.RemoveVertex(currentVertex)
18      until currentVertex's Position is below oldVertex or
19        Path is Empty
20      if currentVertex not below oldVertex then //No path found
21        break
22      end
23    end
24  end

```

Algorithm 2: TODO