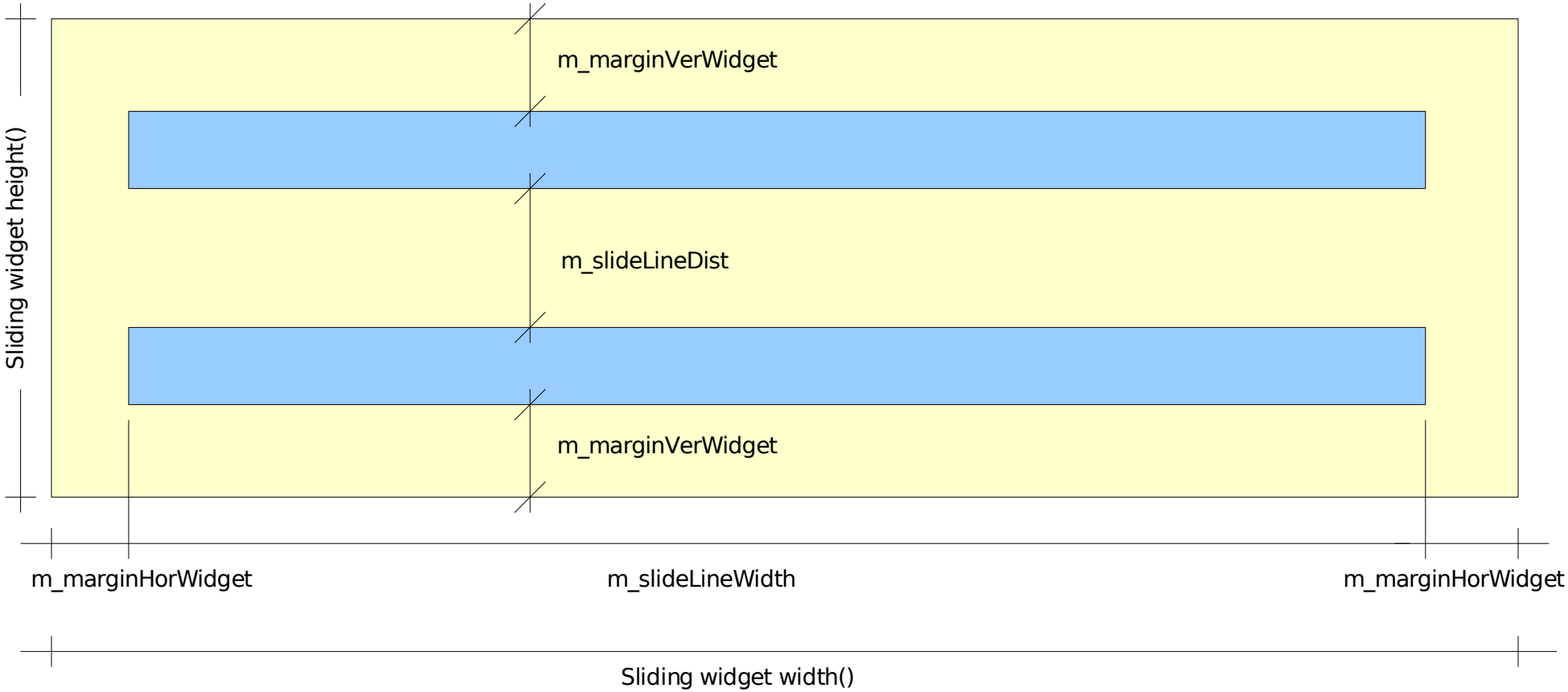
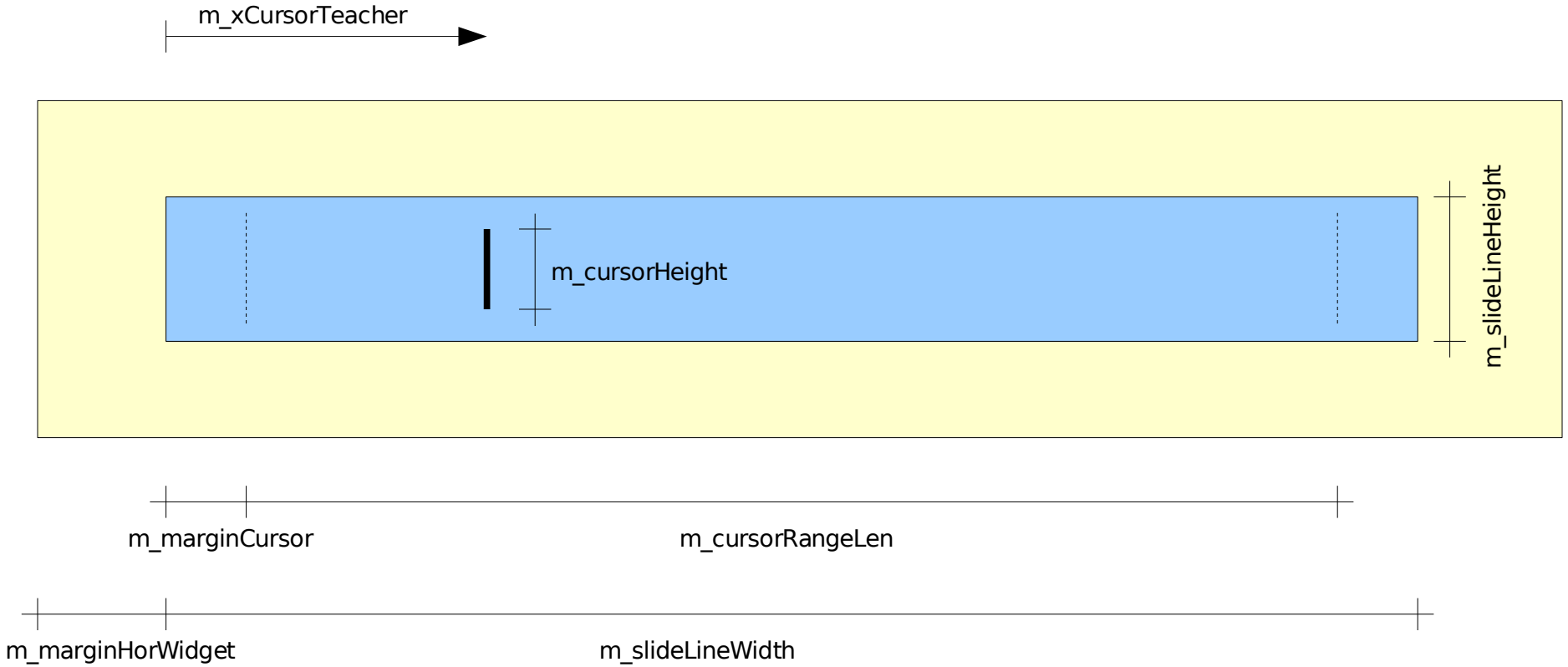
Slide line widget geometry and corresponding member variables



The slide line widget has essentially two rectangles inside, the upper one for the teacher text, the lower one for the students text. The teacher's text, which will typically be longer then the rectangle, will slide from left to right (or right to left for languages like hebrew) while the text is typed through. The sliding is done in such a way that at the begin, when nothing has been typed yet the cursor is at the left side of the rectangle, and just reaches the right side when the last character has been typed correctly. The students line slides similarly.

Geometry and variables specific for a sliding line

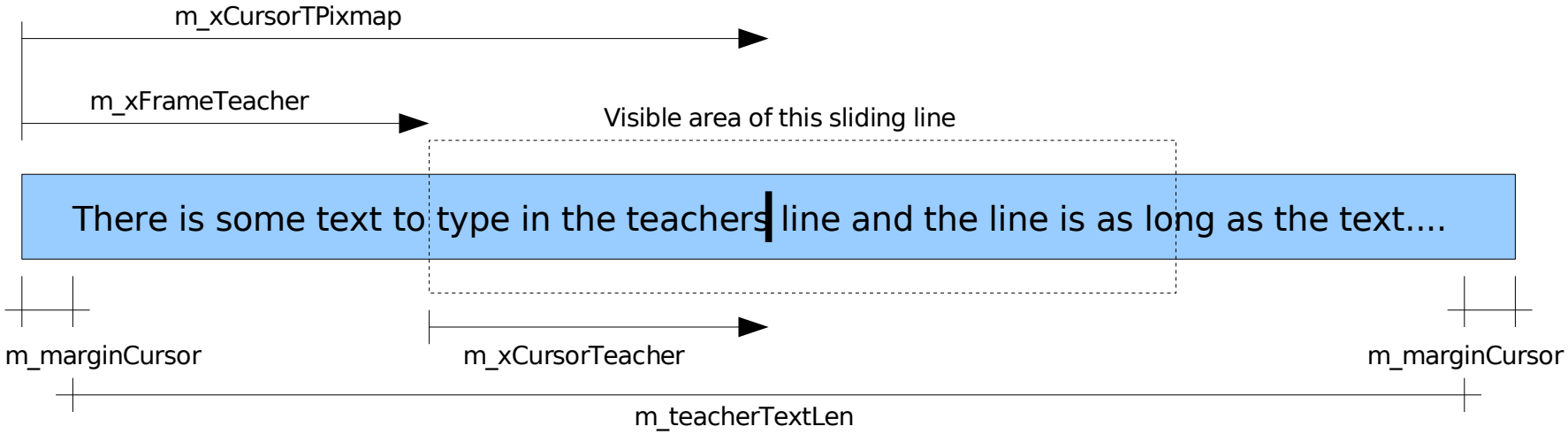


This is the visible area of this sliding line and essentially the part that is copied from the complete Teachers/Students text into the widget.

The dotted vertical lines show the range where the cursor is allowed to move between. This ensures that there is always at least one character to be seen to the left (right) of the cursor, in case one has to erase it by hitting backspace.

The coordinates need to be transformed for right-to-left writing, as explained later.

Geometry and variables for the teacher sliding line pixmap



When the teacher's line is created, at the end and begin of the text a space of size m_maringCursor is added. Note that the cursor is actually not drawn in the teacher's line, but directly below in the students line. However, the teacher's line is used to determine the position of the cursor depending on how much has been typed so far.

m_xFrameTeacher = m_xCursorTPixmap - m_xCursorTeacher

is the coordinate inside the pixmap of the frame that is copied to the widget when the sliding is done (resting position)

Sliding the teacher text into place...

Only part of the teacher's text is copied onto the widget. The final position is given by:

m_xTeacherFrame = m_xTeacherPixmap - m_xCursorTeacher

and is updated whenever something is typed or the texts are changed. The old/current position is stored in m_xTeacherFrameCurrent.

Whenever m_xTeacherFrame != m_xTeacherFrameCurrent, the sliding function slide() is called that gradually moves the frame from m_xTeacherFrameCurrent to m_xTeacherFrame.