In the normally talking environment, some connected syllables seem to be the same one because of their continuous voice. In this paper, a method of speech segmentation using Quasi-periodic reconsidering based on Zero-crossing is proposed. By this method, the zero-crossing algorithm is performed as the first step syllable segmentation. After this step, since sometimes the continuous syllables are unregimented, the local maximum of the signal from the previous zero-crossing process is reconsidered as the candidate segmentation positions. Then the short-time autocorrelation is used to determine the Quasi-periodic of the signal around these positions. The Non-periodic signal will be considered as the other syllable segmented positions. The experimental results show that the segmentation accuracy is increased from 40.769% (Zero-crossing) to 73.846% (Zero-crossing with Quasi-periodic reconsidering).