This work continues in implementational and experimental project Morče, which aimed to create the best possible morphological Czech tagger based on hidden Markov model with averaged perceptron. Successfulness of algorithm depends mainly on a selected set of features describing a context, which determines choice of a tag. The work describes briefly the algorithm and its implementation. Main part of the work consists of a lot of experiments which explore possible feature sets, their successfulness and their relationships. Few clear rules are defined for comparison of versions. Fivefold crossvalidation with t-test is used for verification of statistical significance. After the work was started, new Czech data became available, so all experiments used data from PDT 2.0. Side effect of this work was statistical significant improvement of successfulness. However, the best Czech tagger was obviously not overwhelmed. Some modifications were made in order to perform automatic version development. It was executed in small extent and also described.