abstract We describe a quantum error correction scheme aimed at protecting a flow of quantum information over long distance communication. It is largely inspired by the theory of classical convolutional codes which are used in similar circumstances in classical communication. The particular example shown here uses the stabilizer formalism, which provides an explicit encoding circuit. An associated error estimation algorithm is given explicitly and shown to provide the most likely error over any memoryless quantum channel, while its complexity grows only linearly with the number of encoded qubits.