This work presents an overview of several different methods for constructing ultrafilters. The first part contains constructions not needing additional assumptions beyond the usual axioms of Set Theory. K. Kunen's method using independent systems for constructing weak P-points is presented. This is followed by a presentation of its application in topology (the proof of the existence of sixteen topological types due to J. van Mill). Finally a new construction due to the author is presented together with a proof of his result, the existence of a seventeenth topological type: ω^* contains a point which is discretely untouchable, is a limit point of a countable set and the countable sets having it as its limit point form a filter.

The second part looks at constructions which use additional combinatorial axioms and/or forcing. J. Ketonen's construction of a P-point and A. R. D. Mathias's construction of a Q-point are presented in the first two sections. The next sections concentrate on strong P-points introduced by C. Laflamme. The first of these contains a proof of a new characterization theorem due jointly to the author, A. Blass and M. Hrušák: An ultrafilter is Canjar if and only if it is a strong P-point. A new proof of Canjar's theorem on the existence of non-dominating filters (Canjar filters) which uses the characterization is presented as is a new theorem characterizing Canjar filters (due to M. Hrušák and H. Minami). The second section investigates generic ultrafilters on $\mathcal{P}(\omega)/\mathcal{I}$ where $\mathcal{I}$ is a definable ideal on ω. It is shown how these ideals may be classified according to the properties of the generic ultrafilter. Several examples are presented including an example which answers a question of Laflamme about Canjar ultrafilters (due jointly to the author, A. Blass and M. Hrušák): It is consistent with ZFC that there is a P-point with no rapid Rudin-Keisler predecessors which is, nevertheless, not a strong P-point.