Abstract. Key abilities for robots deployed in urban search and rescue　tasks include autonomous exploration of disaster sites and recognition of　victims and other objects of interest. In this paper, we present related　open source software modules for the development of such complex capabilities　which include hector slam for self-localization and mapping in　a degraded urban environment. All modules have been successfully applied　and tested originally in the RoboCup Rescue competition. Up to　now they have already been re-used and adopted by numerous international　research groups for a wide variety of tasks. Recently, they have　also become part of the basis of a broader initiative for key open source　software modules for urban search and rescue robots.