What is File Carving?

File carving is a forensics technique that recovers files based on file structure and content without any matching file system meta-data. When carving the file the program will first look for unallocated space within the memory. The program will then look for the headers and footers that are unique to the different types of files. As an example the header for a JPEG is the hex sequence FFD8, and the footer is FFD9. Once the header and footer have been determined the program then must find out if the file is fragmented. If it is determined that the file is not fragmented then the file is recovered as everything between the header and footer. If it is determined that the file is fragmented a few extra steps are required to recover the file. As an example, smart carving first preprocesses all of the fragmented data, and then collates the data into similar file types. These similar fragments are then reassembled into the desired file.