For a real valued function defined on a compact set $K \subset \mathbb{R}^m$, the classical Whitney Extension Theorem from 1934 gives necessary and sufficient conditions for the existence of a $C^k$ extension to $\mathbb{R}^m$. In this talk, we will see a version of the Whitney Extension Theorem in the case of $C^1$, horizontal extensions for mappings defined on compact subsets of $\mathbb{R}$ taking values in the Heisenberg Group $\mathbb{H}^n$. (Received September 03, 2015)