1126-13-250 **Warren Wm. McGovern*** (warren.mcgovern@fau.edu), Jupiter, FL 33458. *Applications of Ultrafilters to Commutative Rings with Identity.* Preliminary report.

Let R be a commutative ring with identity. Furthermore, we impose the condition that R is Jacobson semi-simple, that is, the intersection of the maximal ideals of R is 0. Denote the set of maximal ideals of R by $\mathrm{Max}(R)$. Given an ideal $I \subseteq R$, define

$$V(I) = \{M \in \mathrm{Max}(R) : I \subseteq M\}.$$

The collection $Z = \{V(I) : I \text{ is a f.g. ideal}\}$ is closed under finite unions and finite intersections. Thus, it is a bounded distributive lattice of sets. Moreover, Z is a Wallman lattice. Therefore, the collection of Z-ultrafilters, $\mathrm{Ult}(Z)$, is a compact T_1-space when equipped with the Wallman topology. There is a one-to-one correspondence between the collection of z-ideals of R and the collection of Z-filters. In particular, $\mathrm{Max}(R)$ and $\mathrm{Ult}(Z)$ are homeomorphic.

Our goal is to generalize this to the lattice $Z^{\#} = \{cl\ int\ V(I) : I \text{ is f.g. ideal}\}$. The goal is to describe $\mathrm{Ult}(Z^{\#})$ as well as the corresponding maximal $Z^{\#}$-ideals. (Received January 15, 2017)