

# Programming Tools

## GPS\_R Project Layout

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### **Modules**

#### **General Utility**

1. Function to line up the times in the video with the GPR recordings.
2. Printing program to print out combined depth information on top of video frame.

#### **GPR Related**

1. Function that finds depth in GPR file and assigns it as GPR\_depth.
2. Function that locates the GPS coordinates in the GPR file and assigns them as lat and lon.
3. Function that finds the time in the GPR csv file.
4. Correlate GPR printed time to real time from video file.

#### **Video Related**

1. Extract GPS coordinates from video.
2. Capture frame from video.
3. Read video into program.
4. Search algorithm to match video GPS to corresponding GPR GPS.

#### **Distribution of Work**

Colton - GPR related modules & item 2 of general utilities.

Peter - Video related modules & item 1 of general utilities.