The S.M.A.R.T. Helmet

Old Dogs and New Tricks?
The Motorcycle has long been a simple pass-time for many individuals. However in recent years this singular method of transportation has steadily grown into a reliable method of regular commute. The technology behind the motorcycle however, has yet to catch up to that of the modern vehicle until now.

The S.M.A.R.T. Helmet helps to bridge the gap between modern vehicles and this beloved pass-time by adding GPS Navigation and Video Recording.

What Did We Use?

<table>
<thead>
<tr>
<th>Components</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Raspberry Pi R3</td>
<td>Controls navigation display and records secondary video</td>
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<tr>
<td>Raspberry Pi Zero</td>
<td>Controls primary video</td>
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<tr>
<td>Raspberry Pi Camera</td>
<td>Performs high definition video recording at 1080p 30fps</td>
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<tr>
<td>Brookstone Pico Projector</td>
<td>Projects navigational instructions onto HUD visor</td>
</tr>
</tbody>
</table>

What is it?
The Helmet displays directional arrows on the HUD (as seen below). Simultaneously the two raspberry pi Cameras continuously record video (as seen to the top right). In the bottom left corner the overall system diagram can be seen demonstrating the overall circuit.

What are we planning for the future?
Improving upon this prototype version yields many possibilities. If a new display can be found, with higher quality resolution, more detailed instructions can be added.

References

- [2]
- [3]
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