

SmartMug

The smart way of drinking

Martin Dold, Larraitz Orio,
Gürkan Karacocuk, Dennis Tritschler
Albert-Ludwigs-Universität Freiburg



UNI
FREIBURG

Architecture

Android App: Connects to the SmartMug

Wifi access: Wireless Communication

Mug: Standard Mug

Smart mug: Extension to make your mug smart

Functions

Connection to mug via **bar code reading**

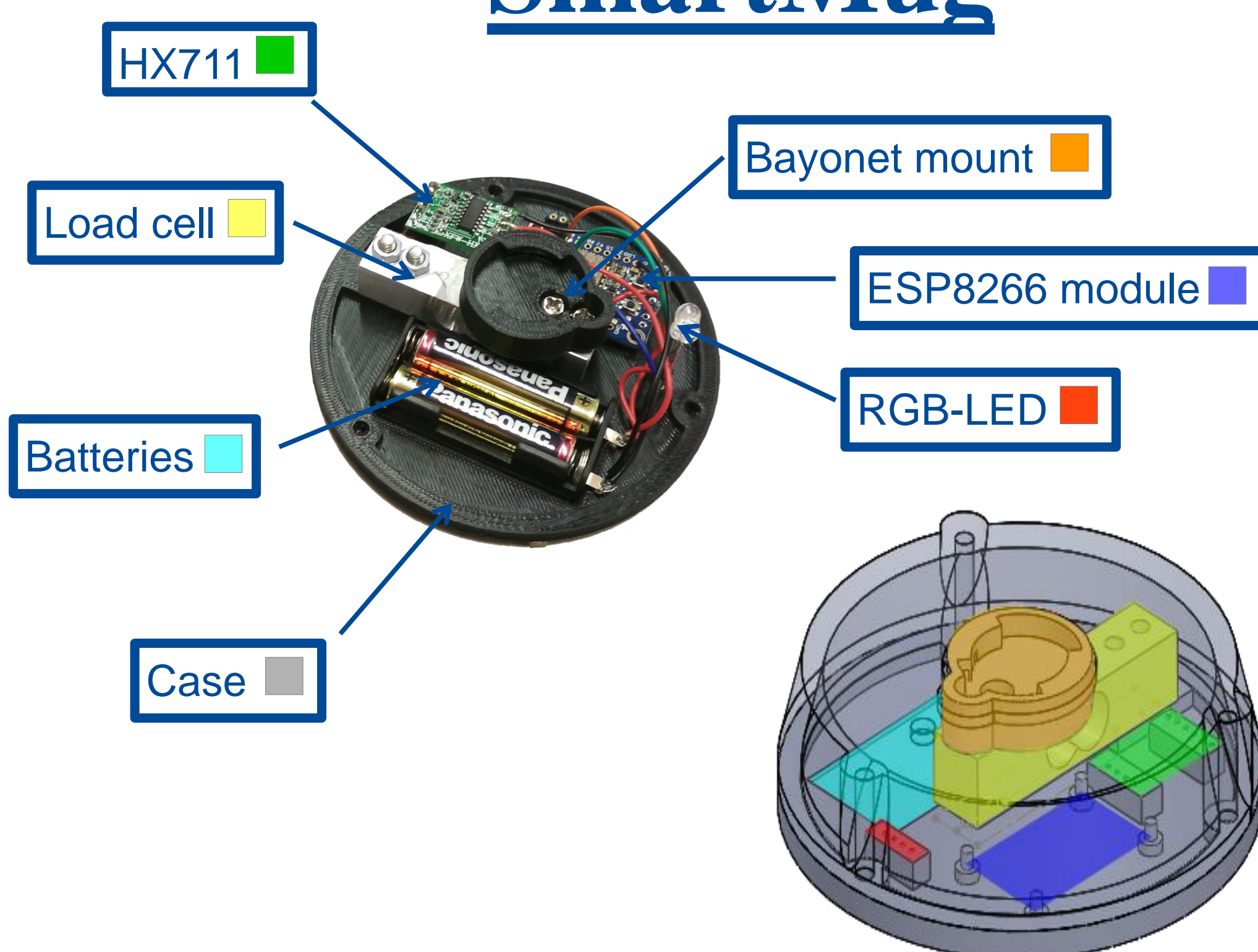
Liquid level sensing via weight (HX711 circuit)

Drinking **statistic analysis** via app

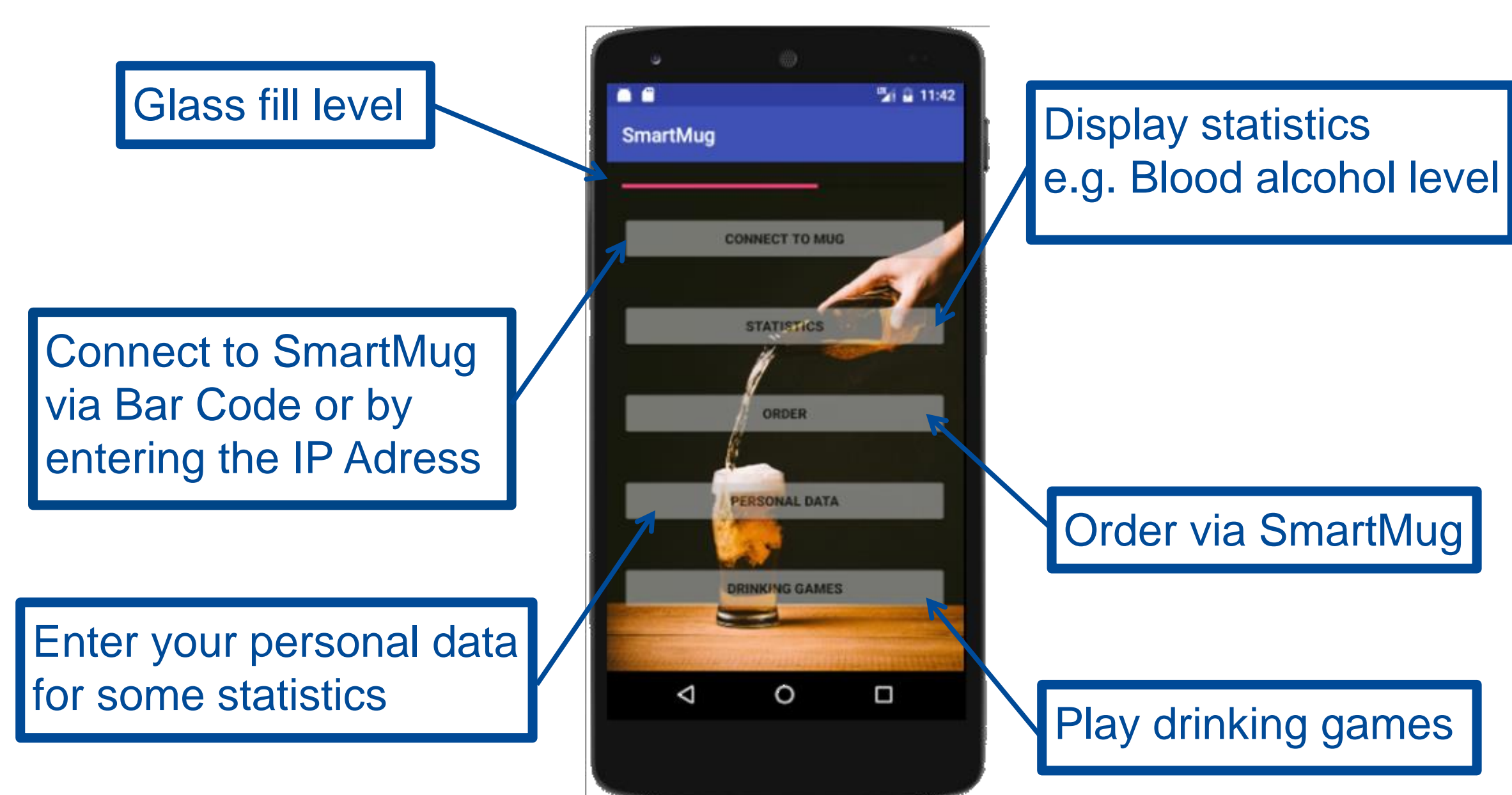
Interactive **drinking games** via app

Waitress communication by changing mug color

SmartMug



SmartMug App



Connection

SmartMug Protocol

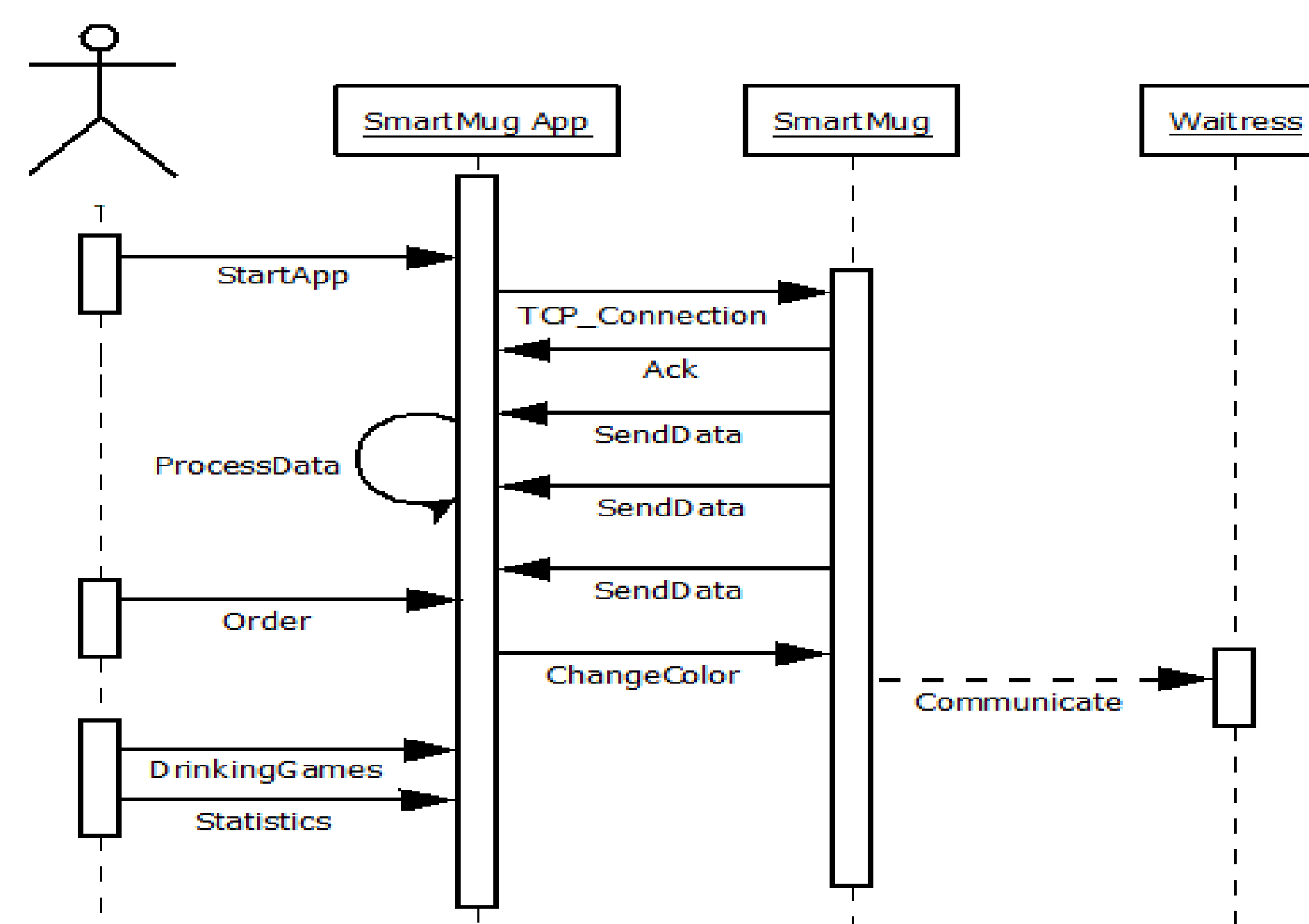
Tag 1byte	Length 1byte	Value n bytes	End of Frame 1 byte
--------------	-----------------	------------------	------------------------

TCP/IP → Wireless LAN according to IEEE802.11b/g standard

Multicast DNS:

Service name: smartmug
Service type: _smartmug._tcp

Sequence diagram



Outlook

- Connection to the barkeeper → Live data for the barkeeper, direct re-order function
- Payment via app
- Capacitive measurement instead of weight
- Connection between taps and SmartMug for automated and exact measuring of the filling level

More Details under:
<https://github.com/martin-dold/smartMug>

