App: Flow velocity and runoff

With this app, you can estimate the flow velocity and discharge of a river or stream. The discharge is the volume of water that flows through a given cross-section in a given time and is therefore expressed in m^3/sec.

You can determine the flow velocity as:

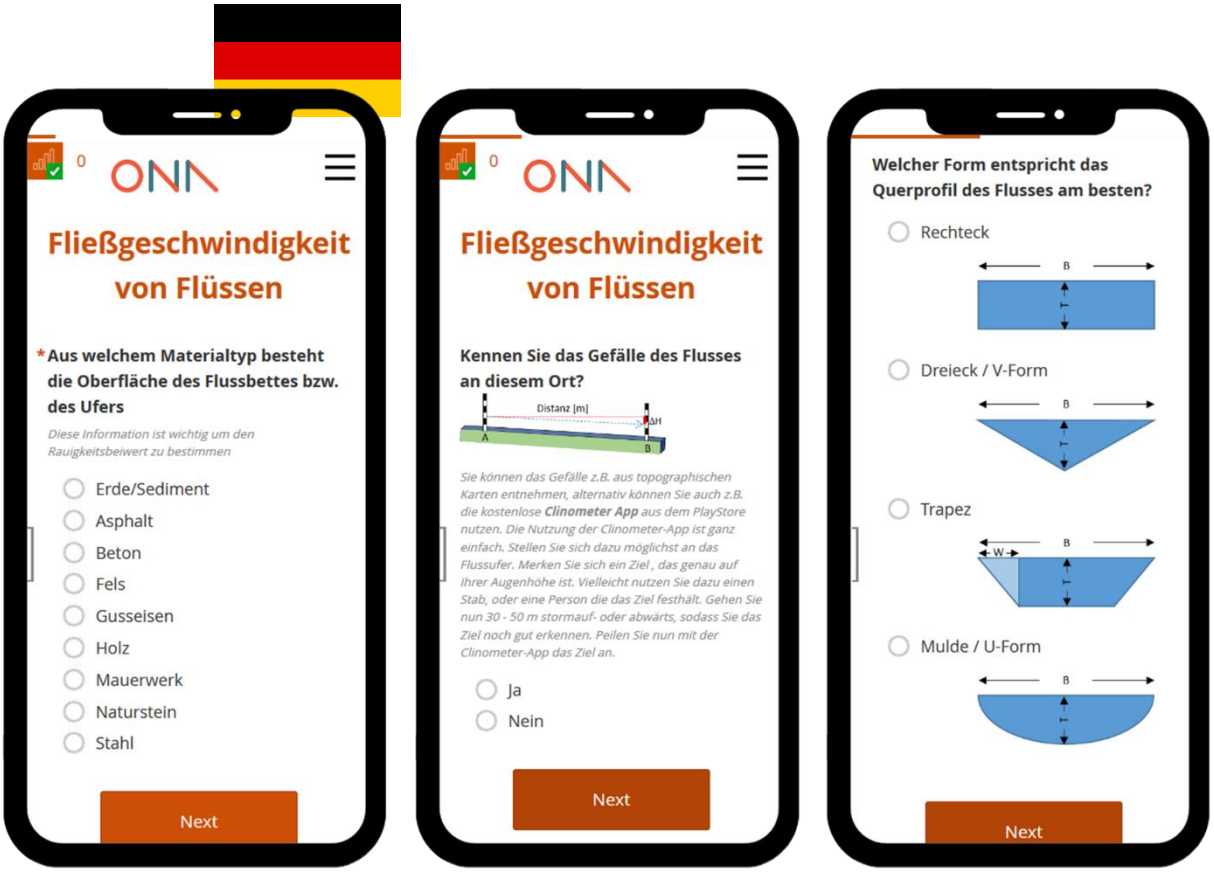
flow velocity = potential difference / flow resistance.

The driving potential is gravity.

The potential difference is therefore the slope (S) of the river or stream. The flow resistance results from the roughness of the surface (n) and the ratio of the cross-section (A) through which the river or stream passes to the length of the waterway (P). A/P is also called hydraulic radius (R). The mean flow velocity (v) is calculated here according to the Manning-Strickler method as: $v = 1 / n * R^{2/3} * S^{1/2}$. There is an illustrative drawing for this in the app.

This app is available at https://enketo.ona.io/x/#p0xf

Languages (other language versions will be added in the course of the project):



Smartphone image cut out from http://www.pngall.com/?p=35820, license CC 4.0 BY-NC