

Urban Nature Project

(Stadtnatur entdecken)

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INTRODUCTION

- Conservation has an educational mandate
- **Urban areas** offer the opportunity to give a large number of people an understanding of environmental processes and nature conservation
- Especially important for those who seldom visit conservation areas
- Effort to foster a positive emotional relationship with nature where citizens live and work is still too little

INTRODUCTION

- **Mobile devices** have become almost ubiquitous
- Opportunity to make learning a part of everyday life
- Freedom to choose what, where and when to learn
- Information can be used in the individual context, is available at the point where it is needed and can be shared with others

INTRODUCTION

- **Urban nature project** shows how to foster nature experience in everyday life in an urban context
- Application for mobile devices which provides contextualized information about urban nature in Berlin
- Motivate citizens to discover their city from a new perspective and to experience urban nature in everyday life



NATURBLICK
Stadtnatur entdecken

MOBILE APP: NATURBLICK

A tool to:

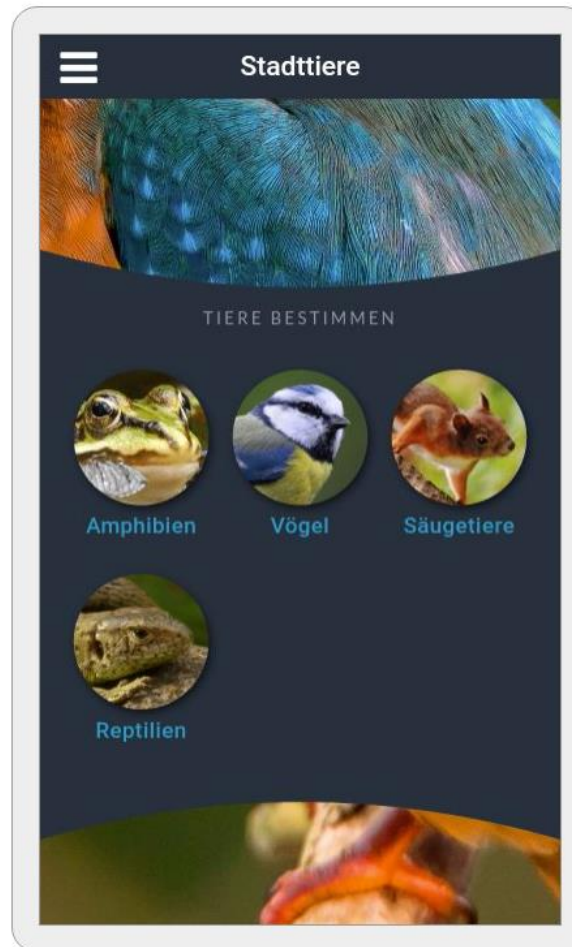
- Discover and identify plants and animals
- Get information about nature spots in urban surroundings

MOBILE APP: NATURBLICK



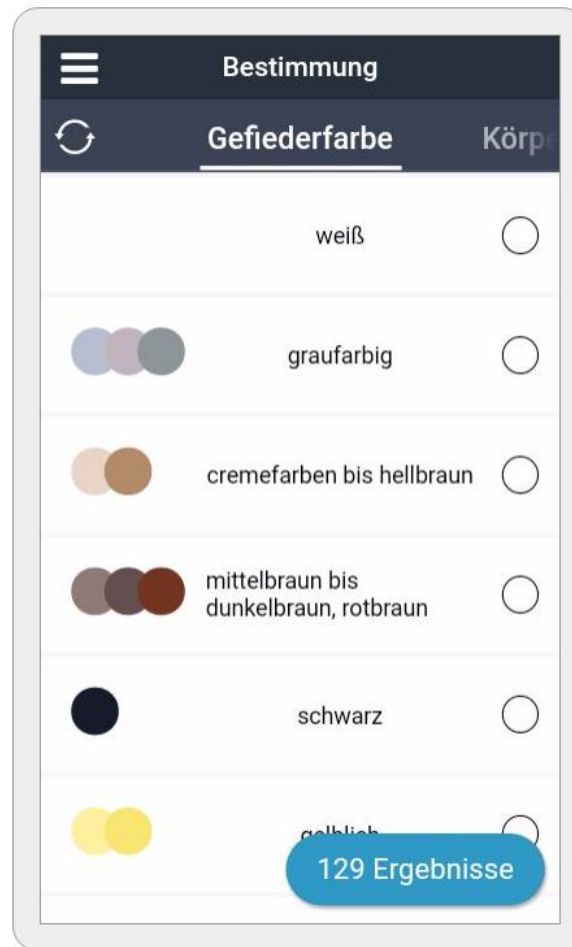
MOBILE APP: NATURBLICK

> Species Identification via Visual Keys



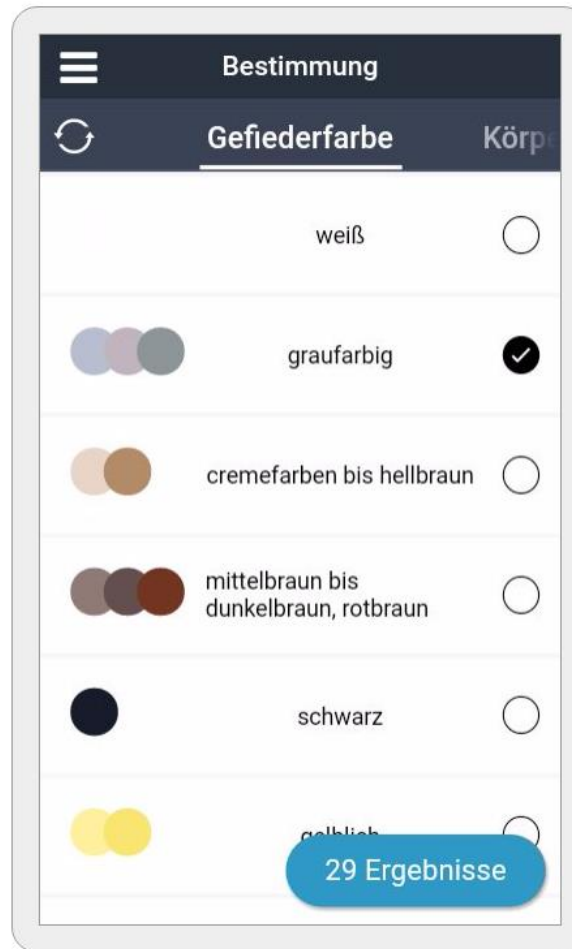
MOBILE APP: NATURBLICK

> Identification Key: Plumage Color



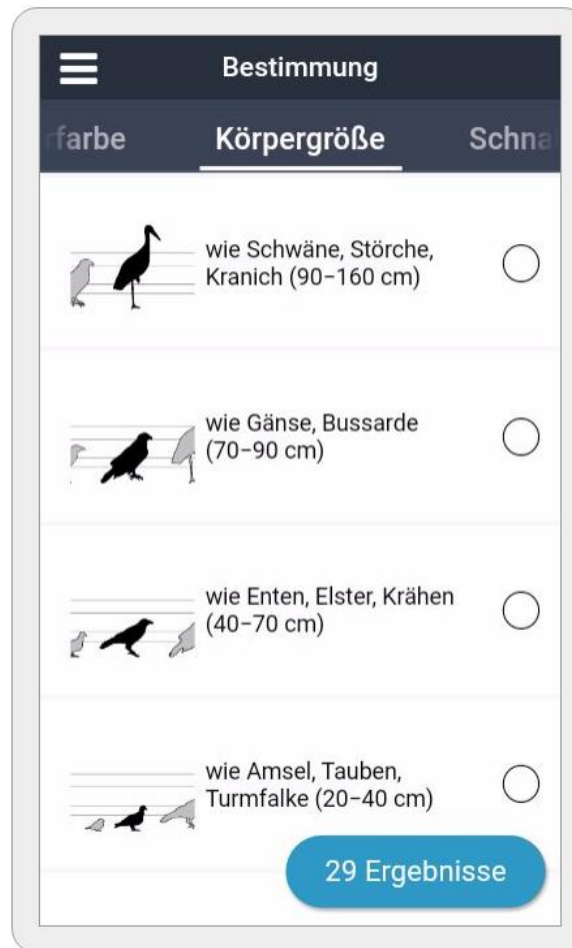
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> Identification Key: Plumage Color



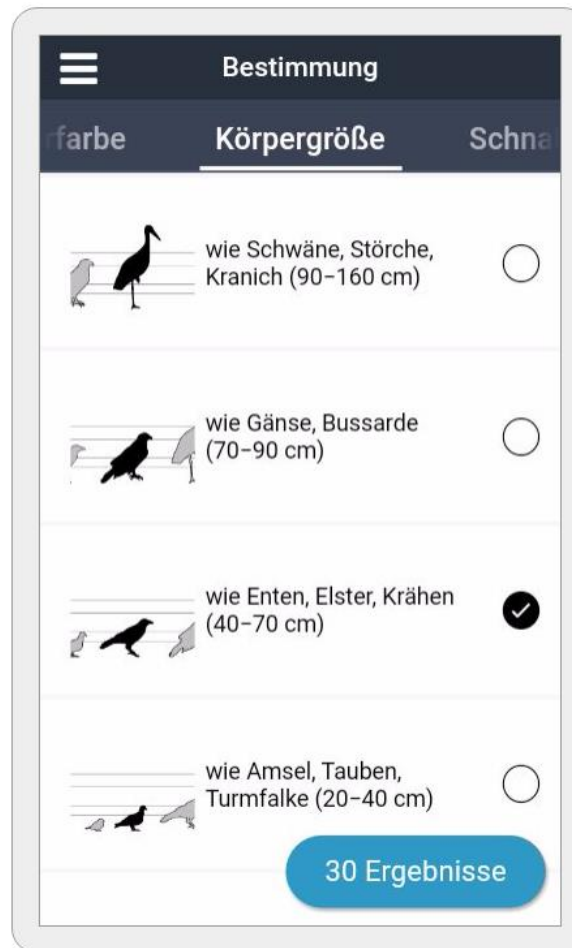
MOBILE APP: NATURBLICK

> Identification Key: Body Size



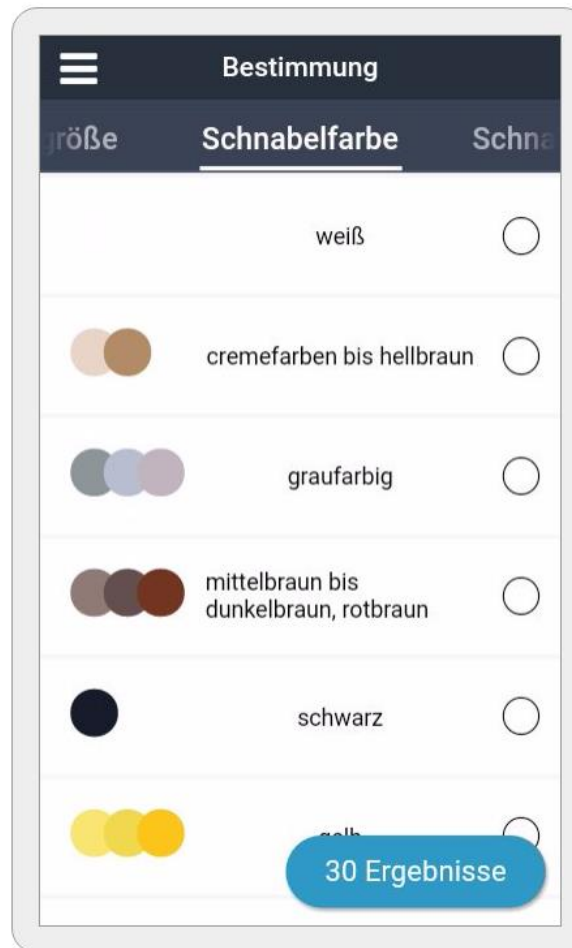
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> Identification Key: Body Size



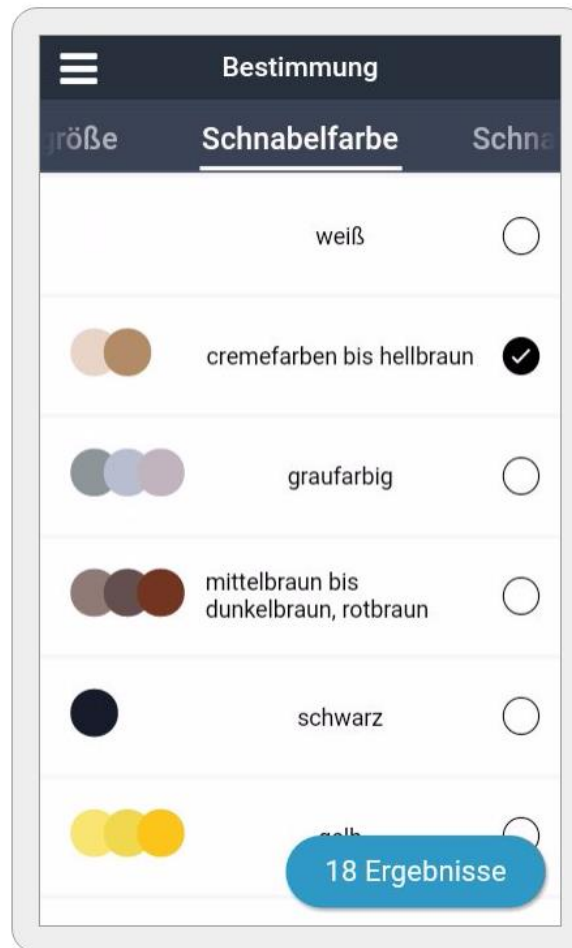
MOBILE APP: NATURBLICK

> Identification Key: Beak Color



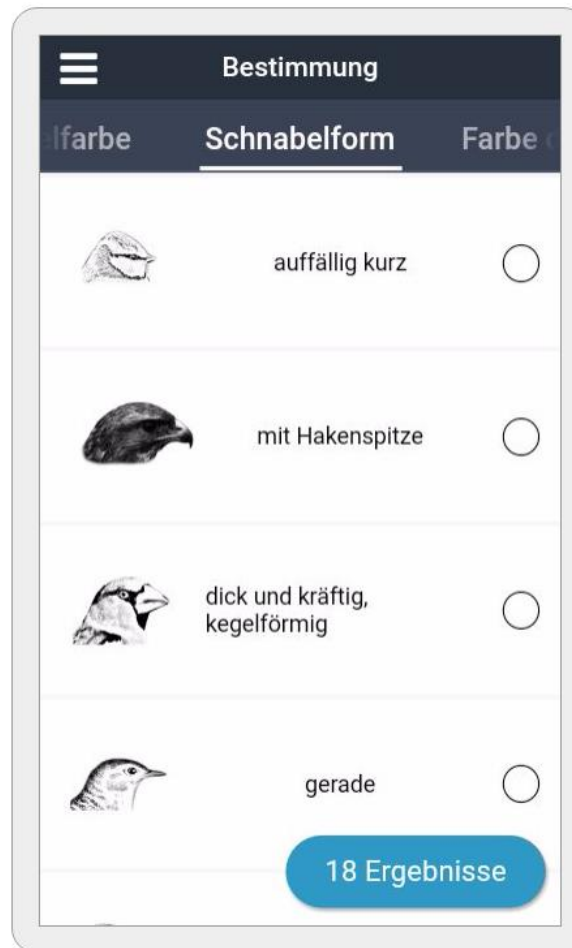
MOBILE APP: NATURBLICK

> Identification Key: Beak Color



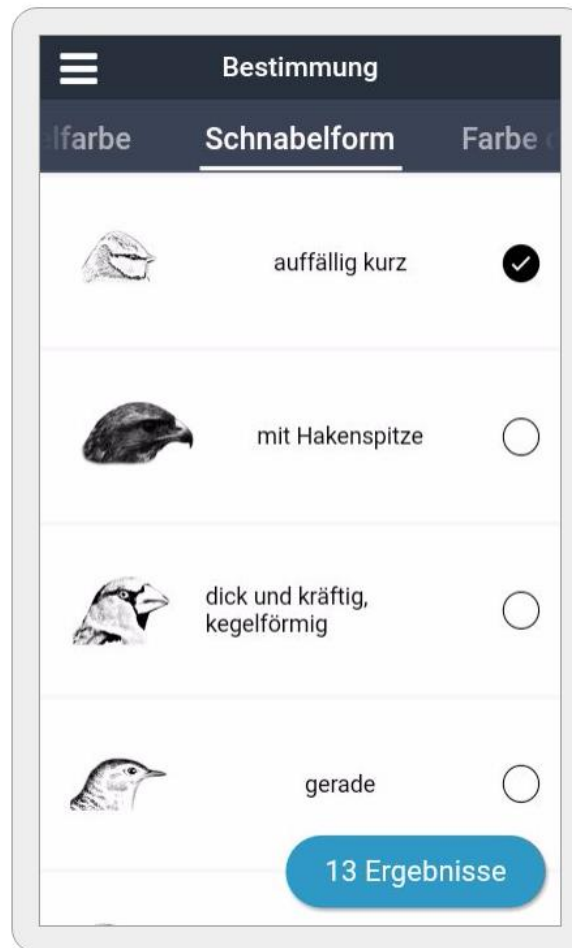
MOBILE APP: NATURBLICK

> Identification Key: Beak Shape



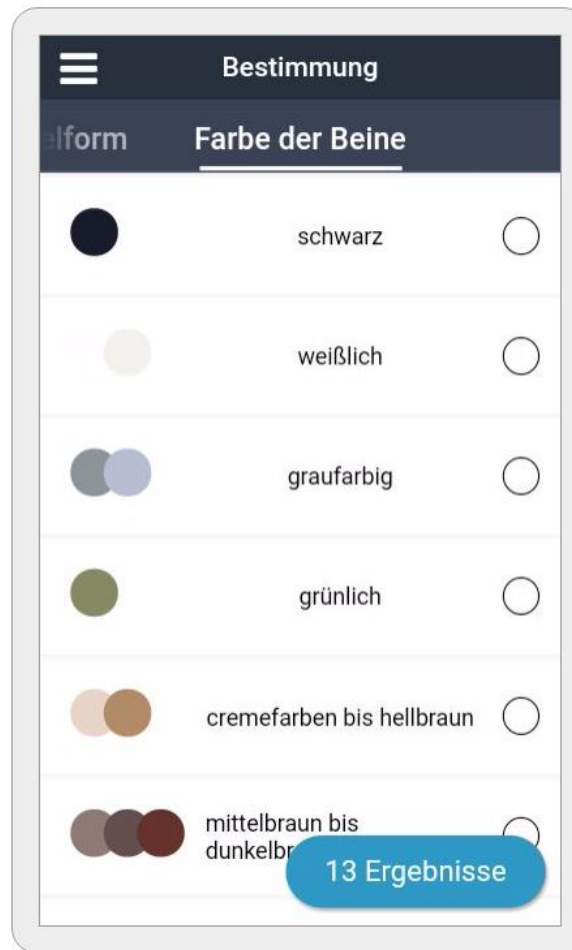
MOBILE APP: NATURBLICK

> Identification Key: Beak Shape



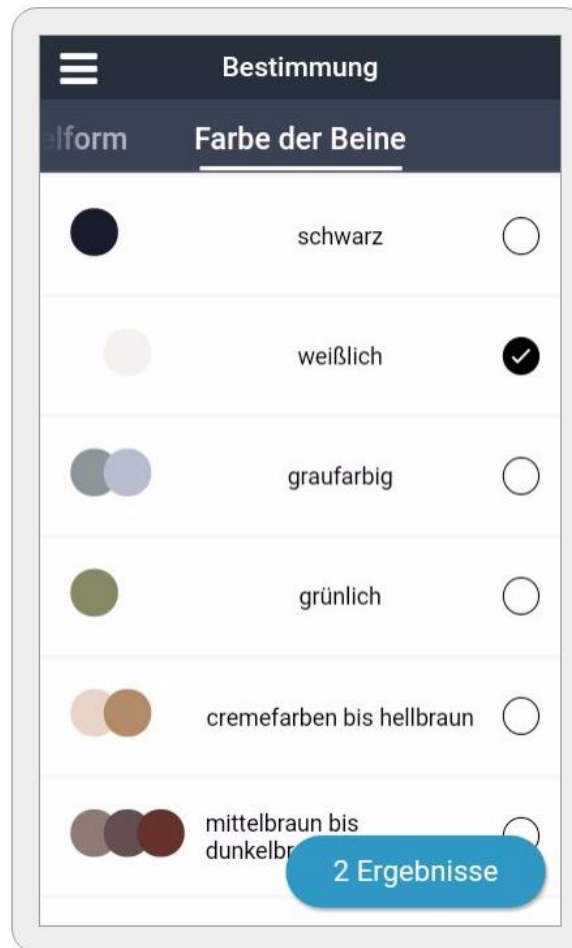
MOBILE APP: NATURBLICK

> Identification Key: Color of Legs

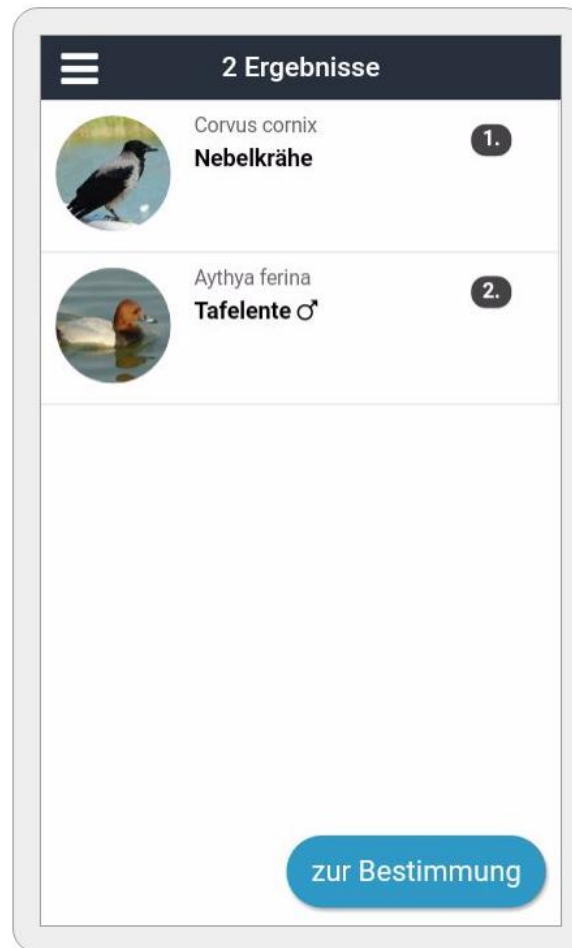


MOBILE APP: NATURBLICK

> Identification Key: Color of Legs

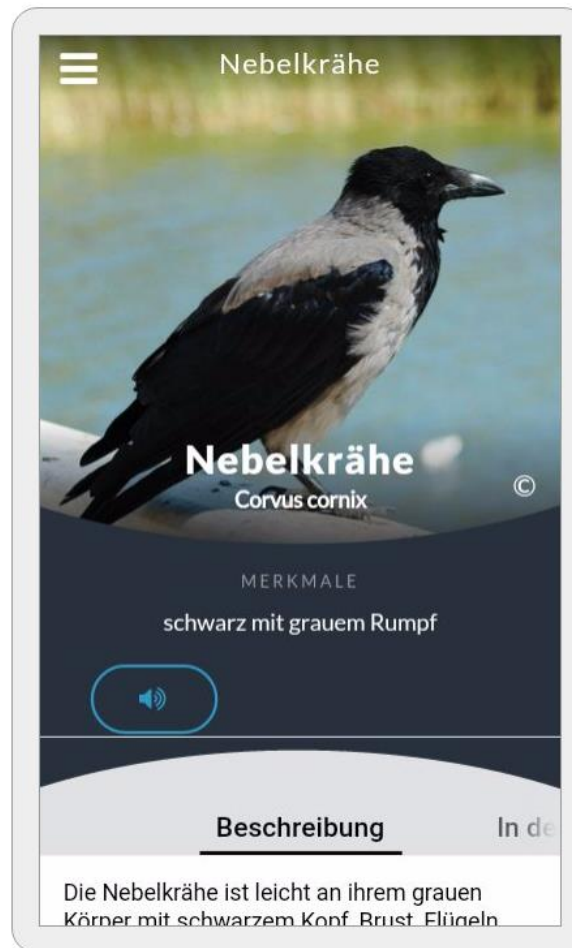


MOBILE APP: NATURBLICK



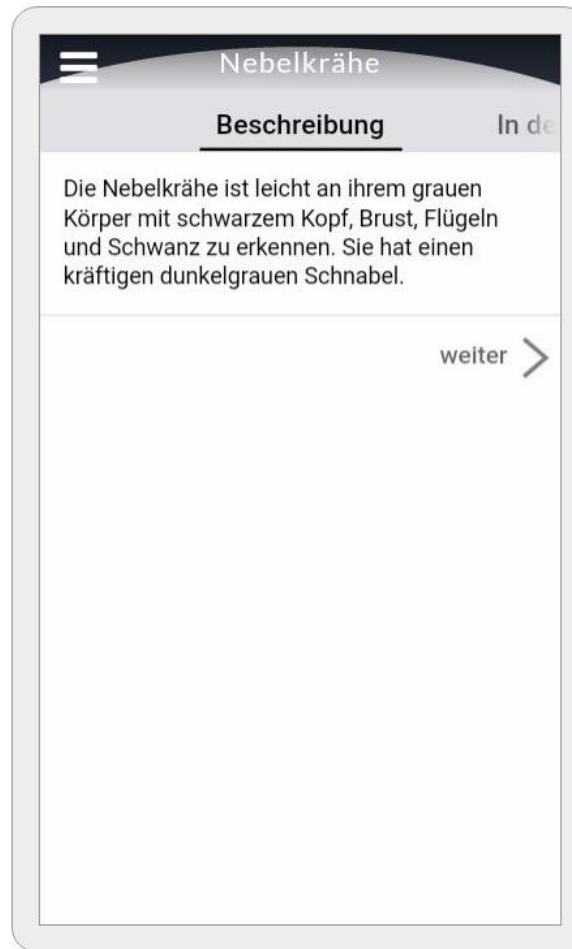
MOBILE APP: NATURBLICK

> Species Info: Characteristics



MOBILE APP: NATURBLICK

> Species Info: Description



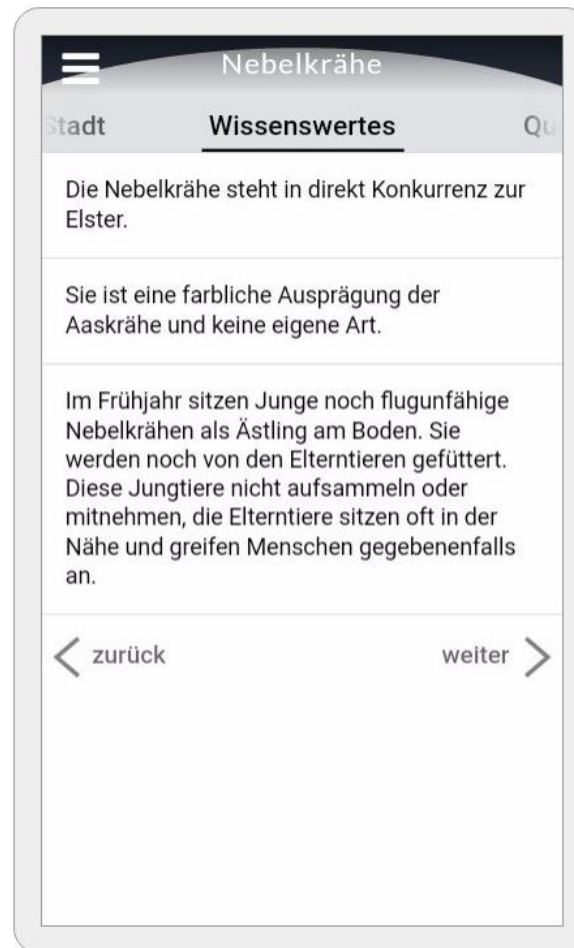
MOBILE APP: NATURBLICK

> Species Info: Habitat



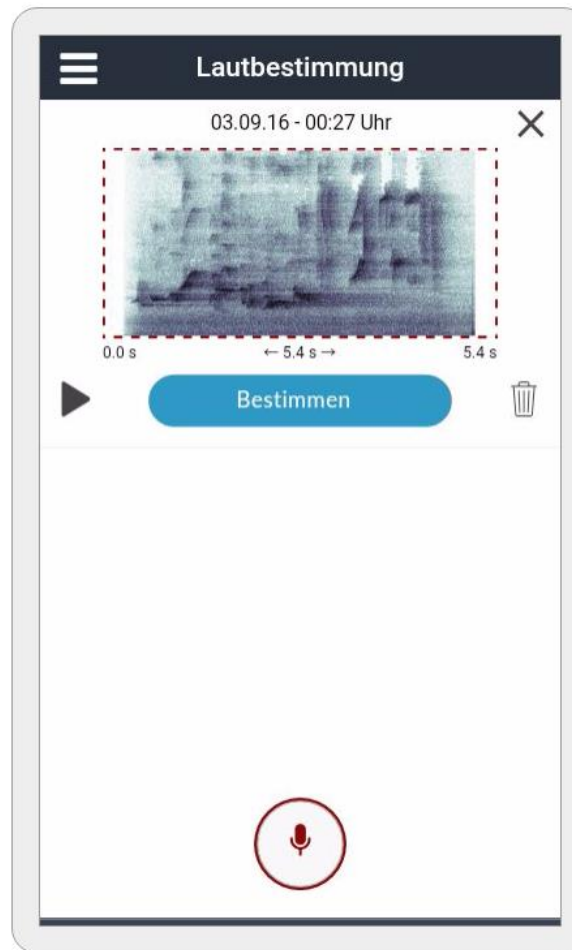
MOBILE APP: NATURBLICK

> Species Info: Interesting Facts



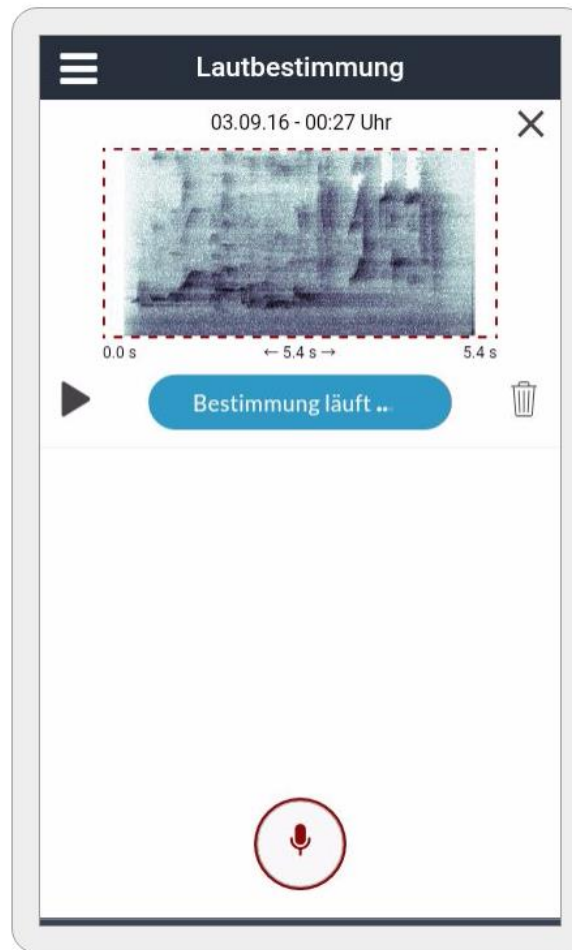
MOBILE APP: NATURBLICK

> Automated Bird Identification by Sound



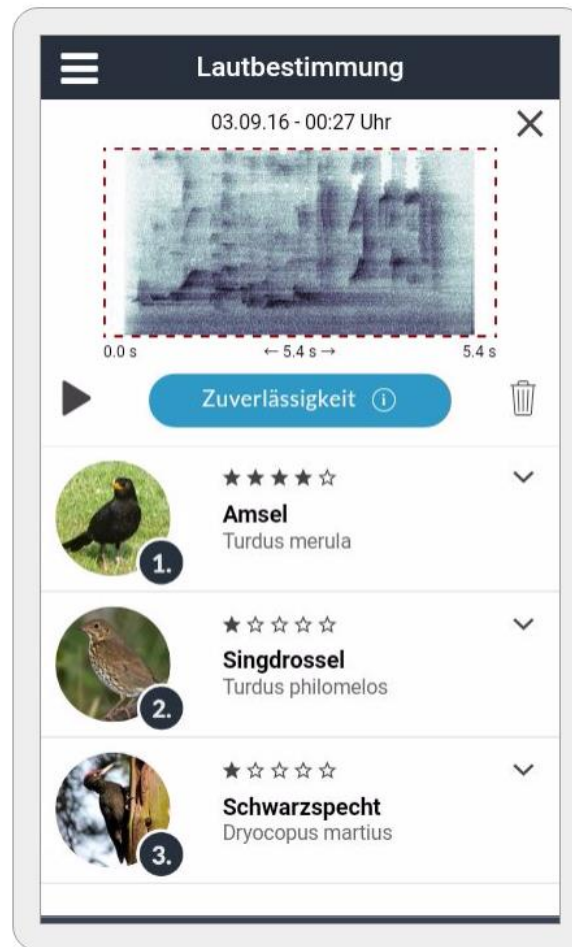
MOBILE APP: NATURBLICK

> Automated Bird Identification by Sound



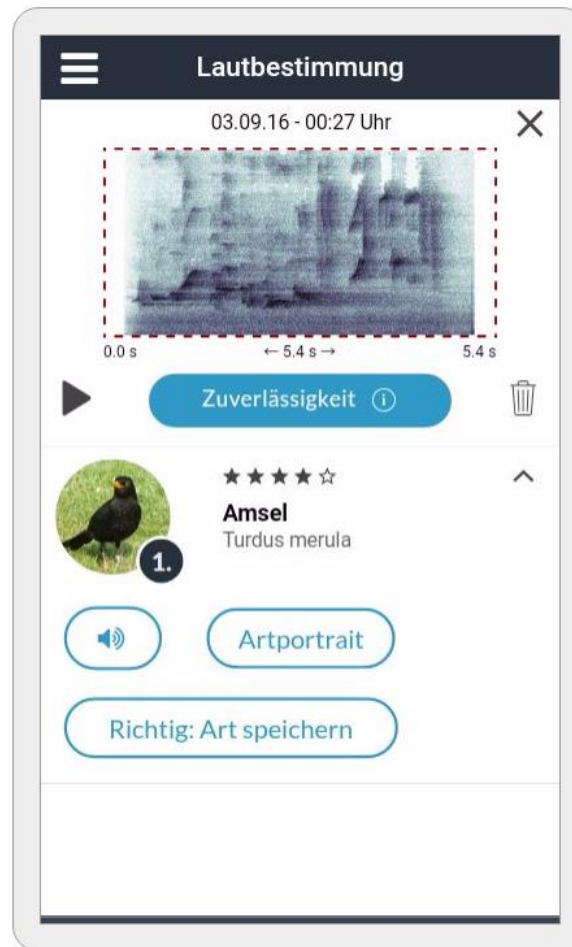
MOBILE APP: NATURBLICK

> Automated Bird Identification by Sound



MOBILE APP: NATURBLICK

> Automated Bird Identification by Sound



MOBILE APP: NATURBLICK

> Automated Bird Identification by Sound

- Algorithms developed and improved during LifeCLEF Bird Identification Tasks
- Training material mainly from Animal Sound Archive, XenoCanto
- Features: matching probabilities of typical sound elements
- Classification: randomized decision trees (RF)

MOBILE APP: NATURBLICK

> Automated Bird Identification by Sound

- Typical sound elements from reference library used for feature engineering (via template matching)

www.animalsoundarchive.org/RefSys

MOBILE APP: NATURBLICK

> Automated Bird Identification by Sound

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Reference Animal Vocalisations



Preview
Vocalisations
Statistics
Settings
Register
Download
Metadata
Species
Identification

Order: Passeriformes Family: Finches Species: Common Chaffinch

lat dt en

Search Options

Keyword
Audio file Upload



Fringilla coelebs LINNAEUS, 1758
Buchfink | Common Chaffinch

Ordo: Passeriformes. Familia: Fringillidae
[Google -Images](#) & [-Maps](#)

Project
Description



In cooperation with

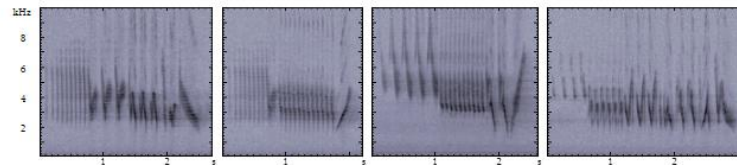


Supported by the

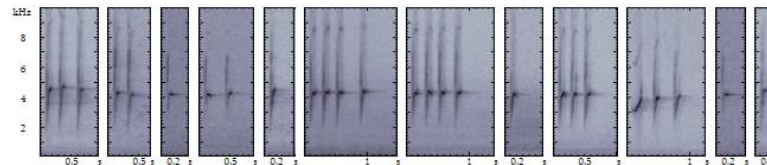


6488 Recordings
518 Sound Classes
273 Species

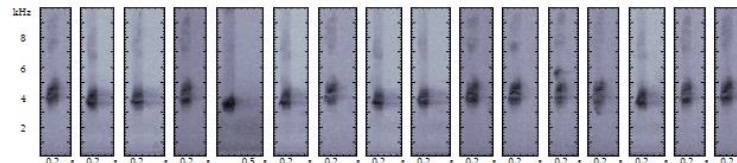
Songs
(216)



Call Type 1
(12)

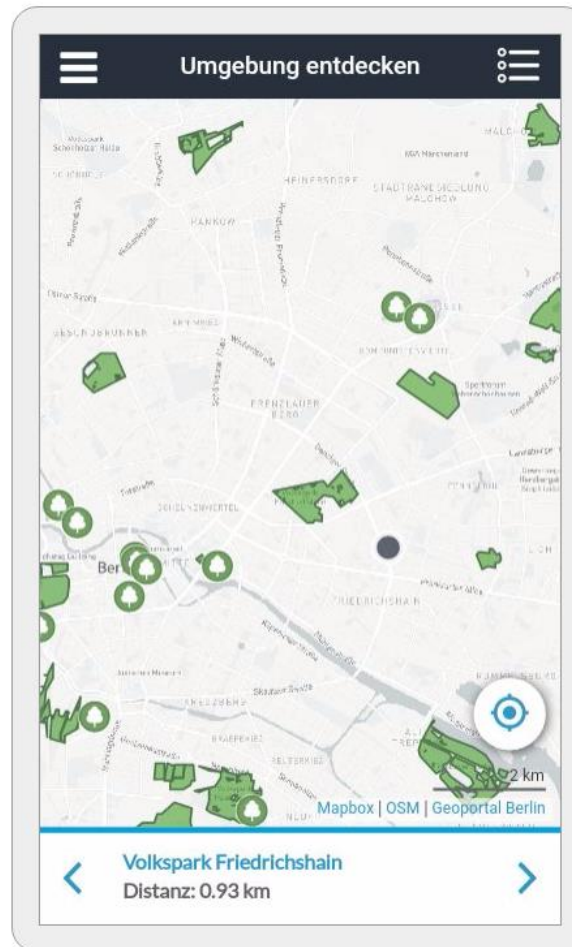


Call Type 2
(16)



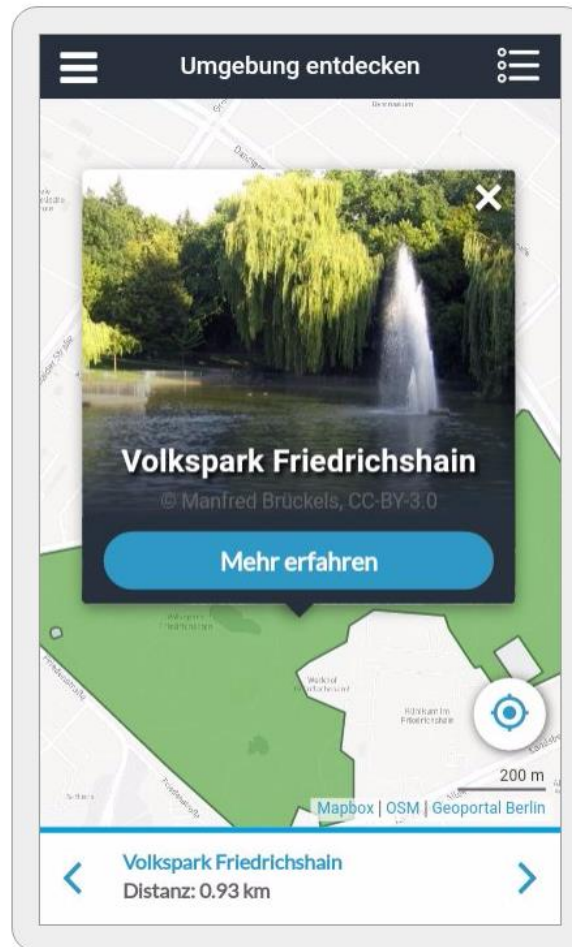
MOBILE APP: NATURBLICK

> Interactive Map



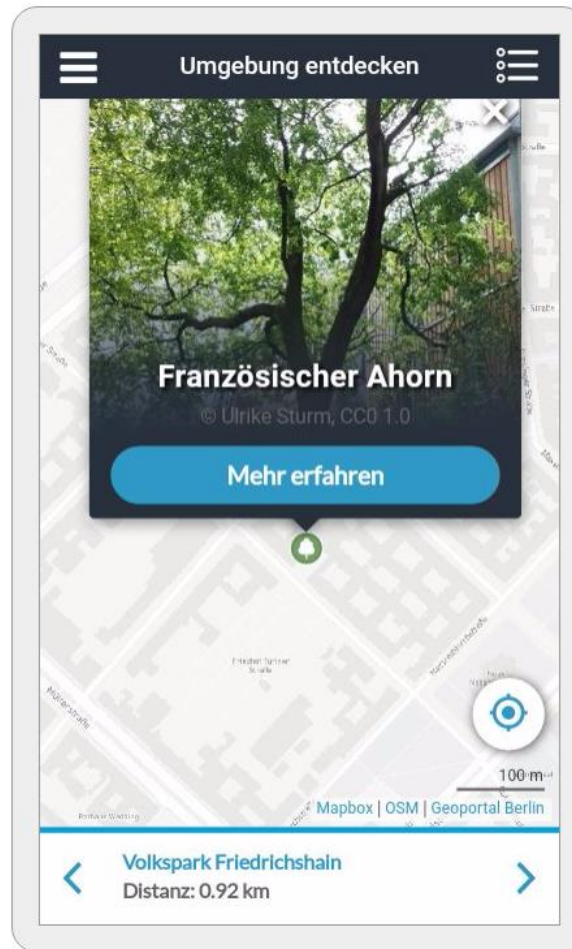
MOBILE APP: NATURBLICK

> Interactive Map: Nature Spots



MOBILE APP: NATURBLICK

> Interactive Map: Special Plants



TEAM

- Interdisciplinary team
 - Biologists
 - urban ecologists
 - computer & social scientists
 - product designer

EXPERTS



LOCAL ACTORS



SOCIAL OBSERVATION NETWORKS

The screenshot shows the website naturgucker.de with a navigation bar and search options. The main content area displays bird observations under the heading 'beobachtungen' for the date 'Dienstag, 15 Dezember 2015'. The observations are listed by user and species, with counts and small icons indicating status or location.

User	Location	Species	Count
Jens Patzke	TK25 Blatt 2417/2 - Bremerhaven (Ost) DE/NIHB	Lachmöwe (<i>Chroicocephalus ridibundus</i>)	30
Jens Patzke	TK25 Blatt 2417/2 - Bremerhaven (Ost) DE/NIHB	Stockente (<i>Anas platyrhynchos</i>)	15
Jens Patzke	TK25 Blatt 2417/2 - Bremerhaven (Ost) DE/NIHB	Kormoran (<i>Phalacrocorax carbo</i>)	5
Erich Thielscher	TK25 Blatt 7027/4 - Jagst / Stausee Stockmühle / Baldern DE/BaWü	Höckerschwan (<i>Cygnus olor</i>)	5
Erich Thielscher	TK25 Blatt 7027/4 - Jagst / Stausee Stockmühle / Baldern DE/BaWü	Blaumaise (<i>Parus caeruleus</i>)	8
Erich Thielscher	TK25 Blatt 7027/4 - Jagst / Stausee Stockmühle / Baldern DE/BaWü	Kohlmeise (<i>Parus major</i>)	20
Erich Thielscher	TK25 Blatt 7027/4 - Jagst / Stausee Stockmühle / Baldern DE/BaWü	Feldsperling (<i>Passer montanus</i>)	30
Erich Thielscher	TK25 Blatt 7027/4 - Jagst / Stausee Stockmühle / Baldern DE/BaWü	Buchfink (<i>Fringilla coelebs</i>)	2
Kerstin Kleinke	Bonner Rheinaue DE/NRW	Haubentaucher (<i>Podiceps cristatus</i>)	1
Kerstin Kleinke	Bonner Rheinaue DE/NRW	Graureiher (<i>Ardea cinerea</i>)	3
Kerstin Kleinke	Bonner Rheinaue DE/NRW	Schwanzmeise (<i>Aegithalos caudatus</i>)	5
Kerstin Kleinke	Bonner Rheinaue DE/NRW	Wintergoldhähnchen (<i>Regulus regulus</i>)	1
Kerstin Kleinke	Bonner Rheinaue DE/NRW	Kleiber (<i>Sitta europaea</i>)	2
Kerstin Kleinke	Bonner Rheinaue DE/NRW	Gartenbaumläufer (<i>Certhia brachydactyla</i>)	1
Helmut Bodes			

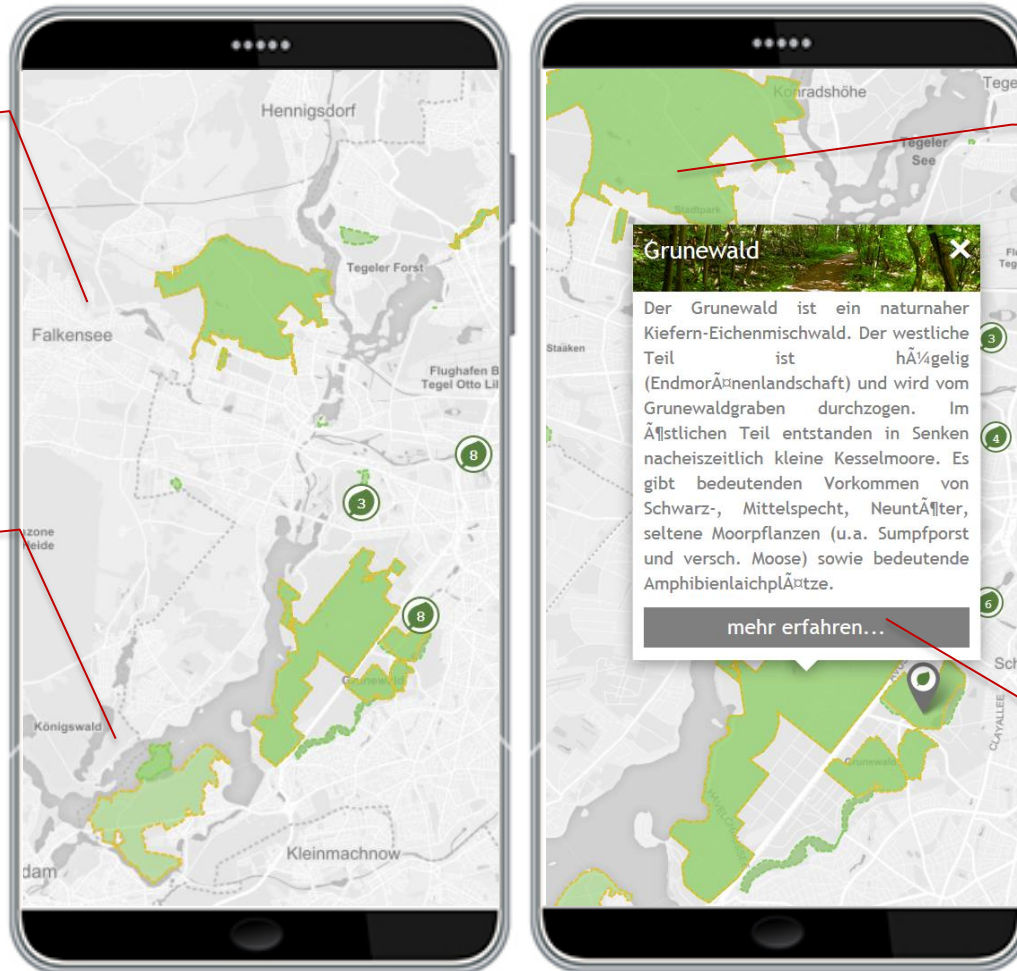
PROJECT PHILOSOPHY

Open data

Open source

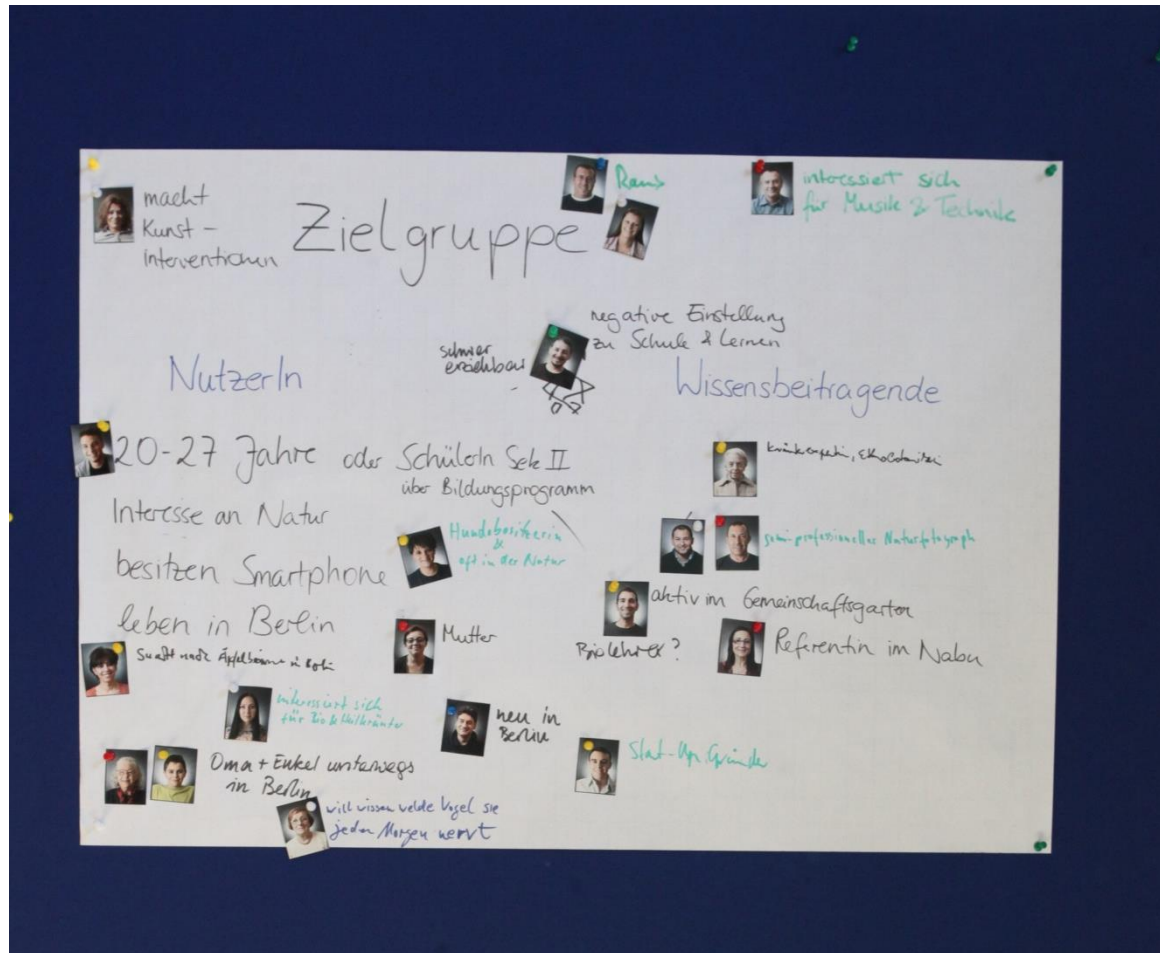
Citizen Science data

Open content



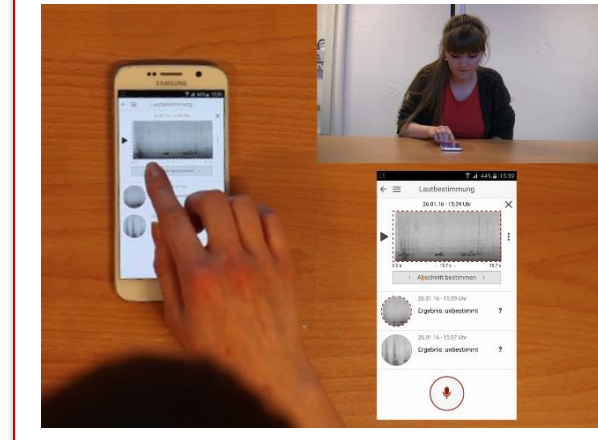
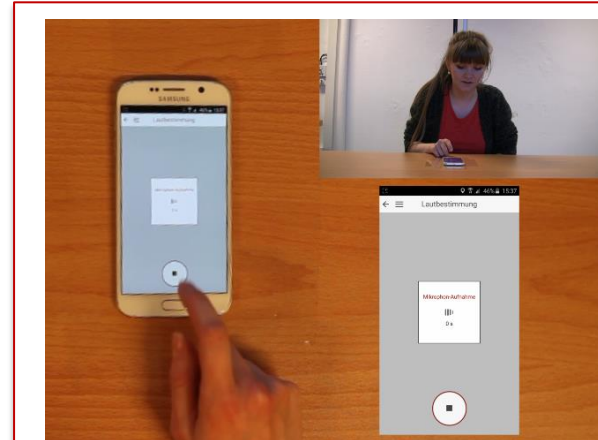
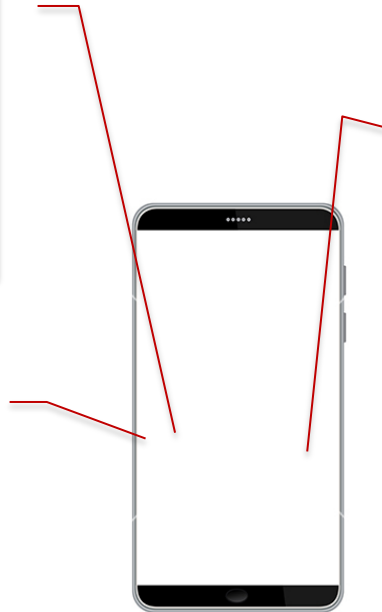
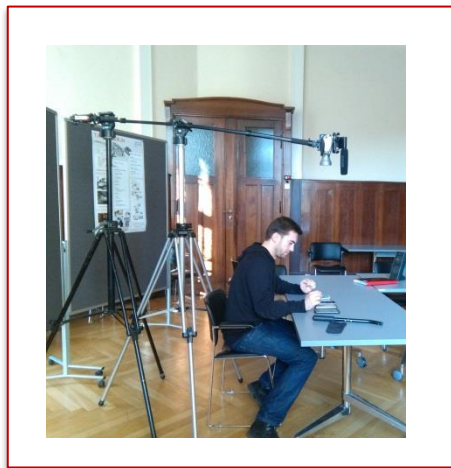
USER-CENTERED DEVELOPMENT

> Target group?



USER-CENTERED DEVELOPMENT

> Usability tests



ACCOMPANYING RESEARCH

- Efficacy study
- Human \leftrightarrow nature relationship
- Environment communication & education
- Perception of urban nature

THANK YOU!



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