Contents

- Abstract, list of figures, Glossary, etc.
- Introduction
  - Motivation
    - alternative approaches to a classical information system
    - Use Cases
  - [Research Question development/Proposal/Anforderungen/...]
- Available Implementation
  - Functionality of the current Berlin.de bot
  - Data Structure (current JSON nodes)
  - Static / Dynamic Data
- Available Technologies (Case Study)
  - Amazon Lex
    - Features / Strengths / Weaknesses
  - Firebase api.ai Firebase
    - Features / Strengths / Weaknesses
  - Microsoft Azure bot Framework (beta)
    - ...
  - Google Chatbase Analytics
- Design Specs
  - Technologies Used
  - Functionality
    - Static / Dynamic Data
    - Recommended Citizen Services
    - Booking an Apointment
  - Why certain decisions were met
- Implementation
  - Project Setup
  - Modules (Python /Node.js)
  - Performed unit tests
  - Scalabilty / Extension Feasibility
- Platform Integration
  - Facebook
  - Amazon (Alexa/Lex)
  - Slack
- Usability
  - Tests (Performance Evaluation)
- Conclusion
  - Social Aspect
  - Economic Value
- Bibliography

Comment [MM1]: - Wieso wendet man sich an Bots
- den menschlichen Aspekt suggerieren
- menschliches Verhalten immitieren
- smalltalk fähigkeiten
- ablitiy to react to everything
- future of bots. deren Einsatz. roles (As judges, catereres in hotels, …)

Comment [MM2]: Lucene Modules (Tika, spell check, unscharfe Suche)

Comment [MM3]: Hierarchy
Intents as nodes, ability to traverse tree as part of the recommender system

Comment [MM4]: Static e.g. : service.berlin.de
Dynamic e.g.: Handyversicherungsfirma (ML)

Comment [MM5]: -Data Collection - from wiInf perspective, the bot is aiming to sell more
-the bot tries to determine if there is a ekhtelaf fel egabat (acting as a judge)
- MKTG - Aufwand - how did the phone fall off,
-use of ML in decision-taking
unfortunately forums vs. FAQs did not work. if i want assistance, i want the customer to tell me the model number - and forums have mostly Schrott!

Comment [MM6]: Suggested answers [x][y][z]

Comment [MM7]: Internationalization
many international users prefer a chatbot than a phone since the bot is more likely know more languages, so maybe we want it to either support more languages. (how to do that..use a translator service? back and forth) or detect the lang and say it does not support it.

-wo kann der Kunde (end user / Dev / Auftraggeber) help optimize the bot
- e.g. bürgeramt: welche Rechtsgrundlage “keine”

Comment [MM8]: - Evaluate the system:
- is it trivial to build such a bot or not / what is the aufwand
- how does it react with longer sentences? some service names are long
- what does levenstein distanz cause
- wie leicht kann ich eine antwort finden auf das was ich suche?
-to what extent do we want to make a bot have an answer to what we want?

- how am i going to classify my tests?
- IFTTT

Benchmarking (e.g. AUC of hitlist)

- Lex
  - + Context is kept over defined session duration (-) user cannot control session duration /
  - + can manage flow of a conversation
  - + Utterances bereichert von Natural Language Understanding
  - + Error Handling: It tells you which utterances were missed to train the system manually in addition
  - + Auto Scaling
  - + Fulfillment through Amazon Lambda
  - + Suggestions etc can be done with Lambda
  - + Identity Access Management (IAM)
  - – Slots (and Slot Types) cannot be imported, have to be added manually
  - – undo/redo within intent interface not possible, within code only possible with restoration (poor IDE)
  - – user has to spell the slot name properly? works bad with non-native Names
- API.AI
  - + Like REST, it is trying to be more of a standard to be integrated into many applications
  - + Sends fulfillment information via webhook
- Developer's role
  - o clarity
  - o spontaneity
  - o competence