



TALKING ABOUT THE RAIN IN GHANA

CREATING A SYSTEM TO SUPPORT LOCAL WEATHER DATA
EXCHANGE

NATASJA MOOIJ





1. INTRODUCTION

INTRODUCTION

- 70% OF AFRICA'S POPULATION DEPENDS ON AGRICULTURE
- AMOUNT OF AVAILABLE DATA AFFECTS THE USE OF AGRICULTURAL LAND
- TIMELY, ACCURATE AND LOCALIZED RAINFALL DATA IS CONSIDERED IMPORTANT INFORMATION
- RELIABLE DATA IS OFTEN NOT AVAILABLE OR HAS A POOR QUALITY (80%)



2. EXISTING LITERATURE

WEATHER LITERATURE

'THE TRANS-AFRICAN HYDRO-METEOROLOGICAL OBSERVATORY (TAHMO)'

[VAN DE GIESEN ET AL., 2014]

PROJECT WHERE 20,000 HYDRO-METEOROLOGICAL STATIONS ARE INSTALLED IN SUB-SAHARAN AFRICA.

'USING SMART ICT TO PROVIDE WEATHER AND WATER INFORMATION TO SMALLHOLDERS IN AFRICA: THE CASE OF THE GASH RIVER BASIN, SUDAN' [AMARNATH ET AL., 2018]

REMOTE SENSING FROM SATELLITE DATA TO MONITOR CROP GROWTH, WATER CONSUMPTION AND PREDICT FLOODS.

VOICE LITERATURE

'NEY YIBEOGO - HELLO WORLD: A VOICE SERVICE DEVELOPMENT PLATFORM TO BRIDGE THE WEBS DIGITAL DIVIDE' [BAART ET AL., 2018]

THE TECHNICAL IMPLEMENTATION OF THE KASADAKA PLATFORM.

'A DIALOGUE WITH LINKED DATA: VOICE-BASED ACCESS TO MARKET DATA IN THE SAHEL' [DE BOER ET AL., 2015]

FOCUS ON KNOWLEDGE SHARING SERVICES IN THE SAHEL WITH THE HELP OF SIMPLE MOBILE PHONES, GSM ARCHITECTURE AND VOICE TECHNOLOGIES

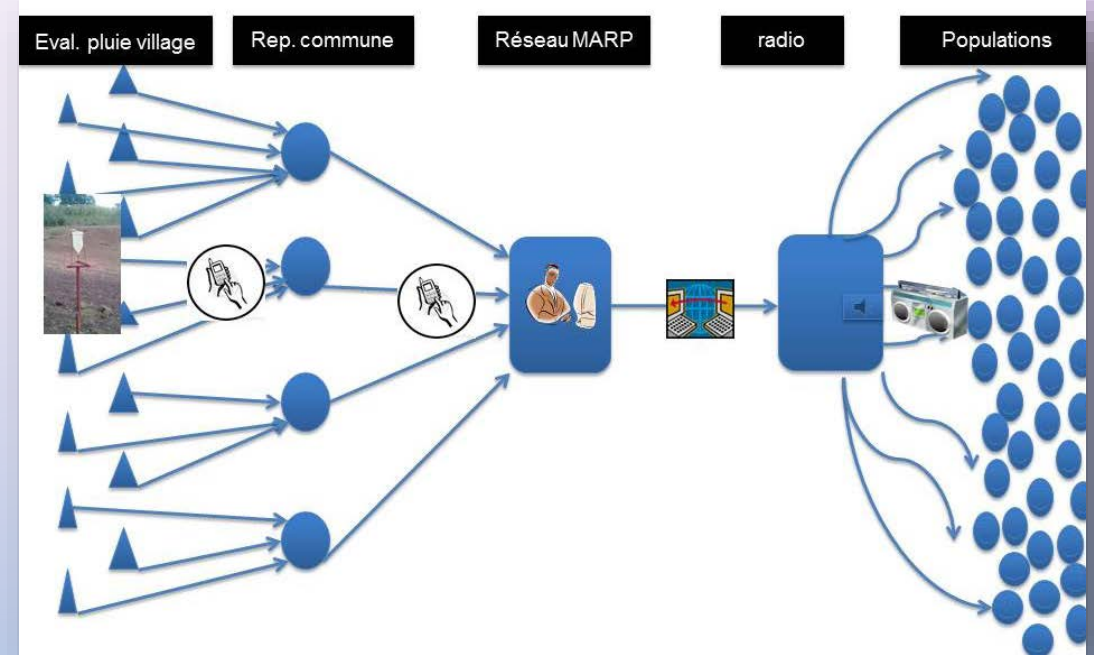
'VOICE-BASED WEB ACCESS IN RURAL AFRICA' [GYAN ET AL., 2013]

DESCRIBES THREE VOICE SYSTEMS WHICH ARE DESIGNED AND BUILT TO FIT INTO THE CONDITIONS IN REMOTE RURAL REGIONS IN AFRICA.

3. RESEARCH PROBLEM

THE PROBLEM

- THE CURRENT WAY TAKES A LOT OF TIME
- LANGUAGE BARRIERS
- TRANSFER OF FAULTY DATA
- LOSING DATA





“
CAN A DATA COLLECTING SYSTEM BE DESIGNED THAT
ALLOWS FARMERS IN
GHANA TO SHARE LOCAL WEATHER DATA?
”

THE MAIN QUESTION

THE SUB-QUESTIONS

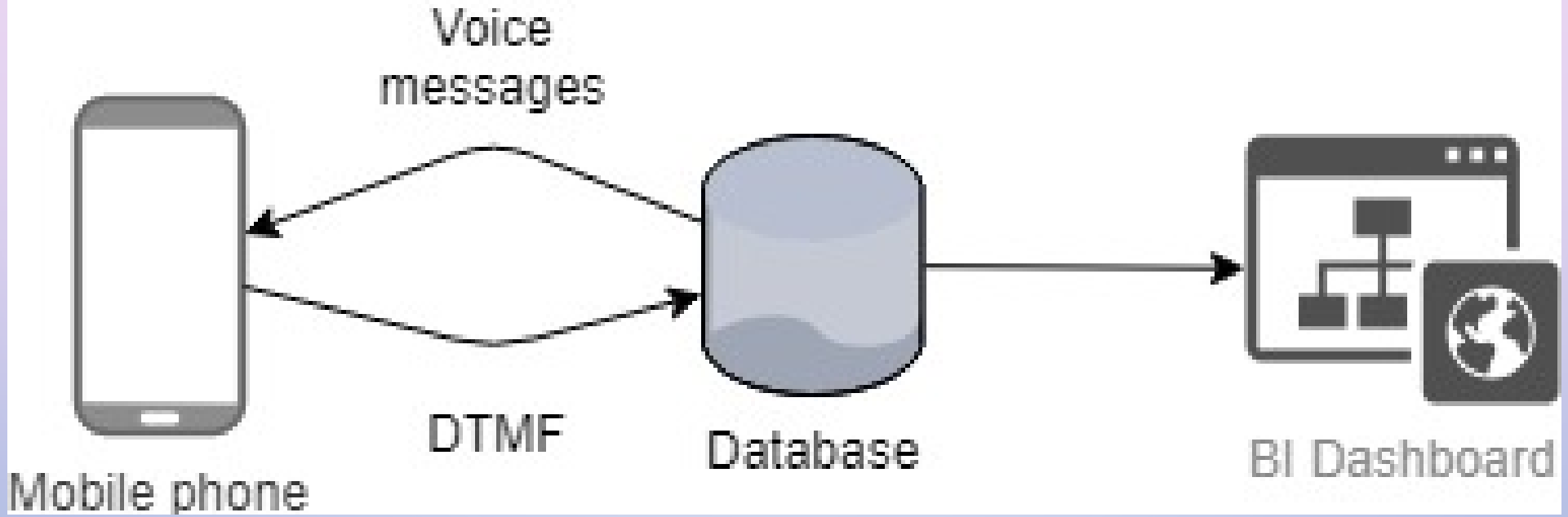
1. HOW CAN THE LOCAL FARMERS RECEIVE REQUESTS TO SUBMIT THEIR WEATHER DATA?
2. WHAT IS THE PROCESS OF SENDING THE WEATHER DATA TO THE SYSTEM FROM THE MOBILE PHONES OF THE LOCAL FARMERS?
3. WHAT IS AN APPLICABLE METHOD TO STORE THE RETRIEVED WEATHER DATA FROM THE LOCAL FARMERS?
4. HOW CAN THE SYSTEM PROVIDE ACCESS TO THE COLLECTED WEATHER DATA FOR INTERESTED PARTIES?
5. HOW CAN THE SYSTEM BE IMPLEMENTED LOCALLY IN GHANA?



4. PROJECT PLAN

PROJECT PLAN

- THE DEVELOPMENT OF A SYSTEM THAT WILL GATHER THE AMOUNT OF FALLEN RAIN FROM THE FARMERS THROUGH THEIR MOBILE PHONE.
- VOICE MESSAGES IN THE FARMER'S OWN LANGUAGE
- DTMF TO SUBMIT THE ANSWERS
- STORED IN A DATABASE
- BI DASHBOARD AVAILABLE FOR VIEWING ON A WEBSITE





5. METHODOLOGY AND APPROACH

METHODOLOGY AND APPROACH

- THIS PROJECT WILL USE THE ICT4D FIELD RESEARCH METHODOLOGY [BON ET AL., 2016]
 - UNDERSTAND THE CONTEXT IN DEPTH
 - ELICIT AND ASSESS NEEDS
 - SPECIFY USE CASES AND REQUIREMENTS
 - ENGINEER, DEPLOY, EVALUATE THE SYSTEM
 - ASSESS SUSTAINABILITY



6. TIMELINE



THE END