



Big speech data analytics for contact centers

BISON

<http://bison-project.eu/>

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BISON

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Small Bison

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Services)	
PU: Public	

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1. Introduction

Aim of this document is to provide an overview of the functionality and GUI that has been developed in the Small Bison release. At the heart of this development lies the Recording Management Tool: a new piece of software, specifically developed to cope with BISON's requirements. This version is meant to provide an initial set of functionalities, allowing the Bison project partners to evaluate these new features and to provide feedback on the results. Following the initial delivery of Small Bison, consecutive enhancements will lead to the feature-complete version of Big Bison.

2. Back-end Overview

The software is web-based, meaning that all functionality is accessible through a web browser – no local software installation is required. At the back-end, various (web)services, databases and software modules take care of feeding all necessary data towards and from the Recording Management Tool, as can be seen in Figure 1 below.

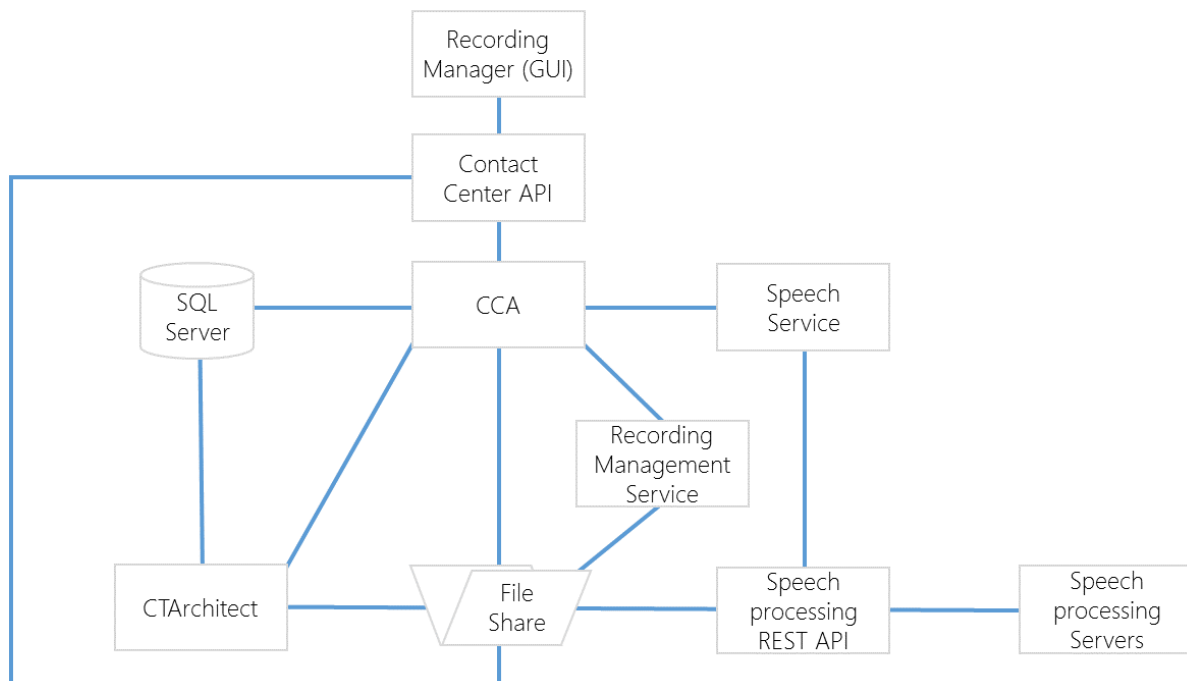


Figure 1: Back-end schematic

This is a brief explanation of the different building blocks:

- **Recording Manager (GUI):** this is the interface for the end user, presented in detail below
- **Contact Center API:** the API that collects data from various sources, acting as central data exchange interface
- **CCA:** the Contact Center Administrator server software
- **Speech Service:** the processing service acting as connector between the contact center & speech processing environment
- **Recording Management Service:** this is the module responsible for recording processing and anonymization
- **CTArchitect:** the Contact Center telephony environment
- **SQL Server:** the database server
- **File Share:** directory where recording files are stored
- **Speech Processing REST API:** connector between the contact center & speech processing environment
- **Speech processing servers:** the environment responsible for all speech processing-related activities

3. GUI Overview

3.1. Introduction

For Small Bison, the priority was to get the workflow and functionality right. In a later phase, more attention will go to the visual overhaul of the interface, resulting in an attractive and modern layout.

3.2. Login Screen

When accessing the login page, a simple account/password dialog window pops up. The accounts + assigned restriction levels can be set up in a separate administration module.

3.3. Recording menu

After logging in, the user is presented with an interface containing:

- A menu bar, containing the sections “recording” (active by default after logging in), “management” and an account settings menu
- A search menu on the left, containing a datepicker, and “agent” and “task” filters
- A list of recordings & their associated metadata, with a “play” button, a “select” checkbox and a “speech processing status” icon:
 - o The Play button is meant for immediate audio playback
 - o The “select” checkbox enables an “export” button, allowing to download the selected recording
 - o The “speech processing status” icon (a white, green or orange circle), indicates if the file has already been processed or not.

Furthermore, the recording list can be tweaked by the user: adding/removing columns, sorting based on certain metadata,...

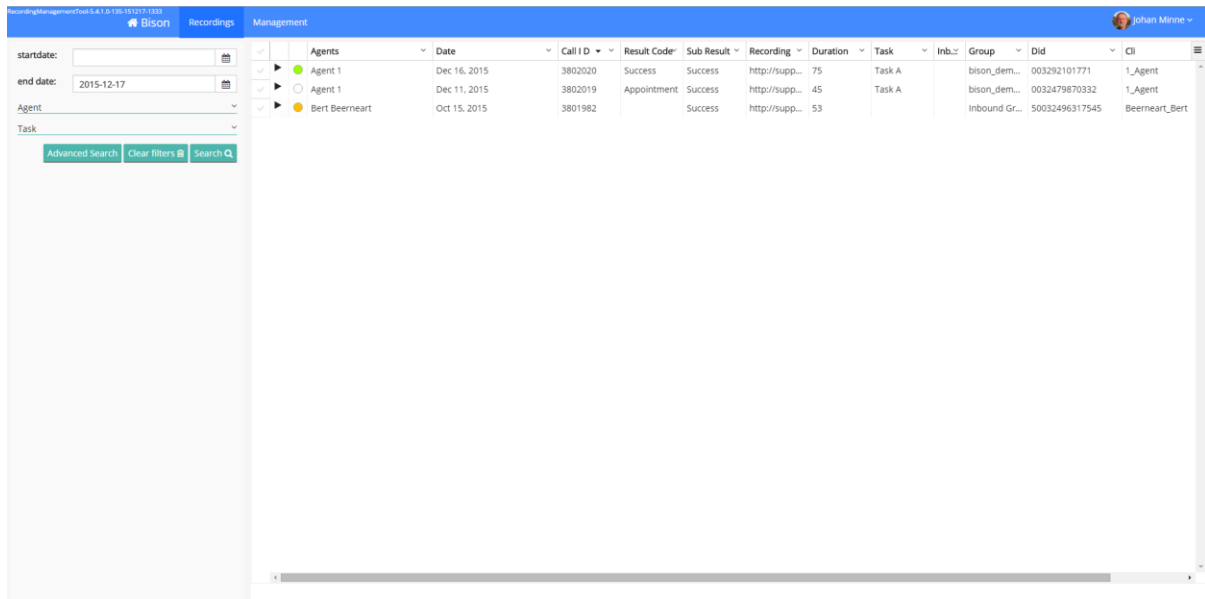


Figure 2: Recording overview

When clicking on a search result, two extra modules become visible:

- The audio player, featuring a graphic waveform of the conversation and media player controls such as a time indicator, start/stop/ffwd, and separate volume controls per channel. Clicking on “play” starts streaming the audio file. Quickly skipping through the audio file is possible by clicking on any part in the wave form
- A “call details” tab, showing all info and metadata regarding this particular recording
- A “call analysis” tab, where the information gathered from the speech processing engine will be presented

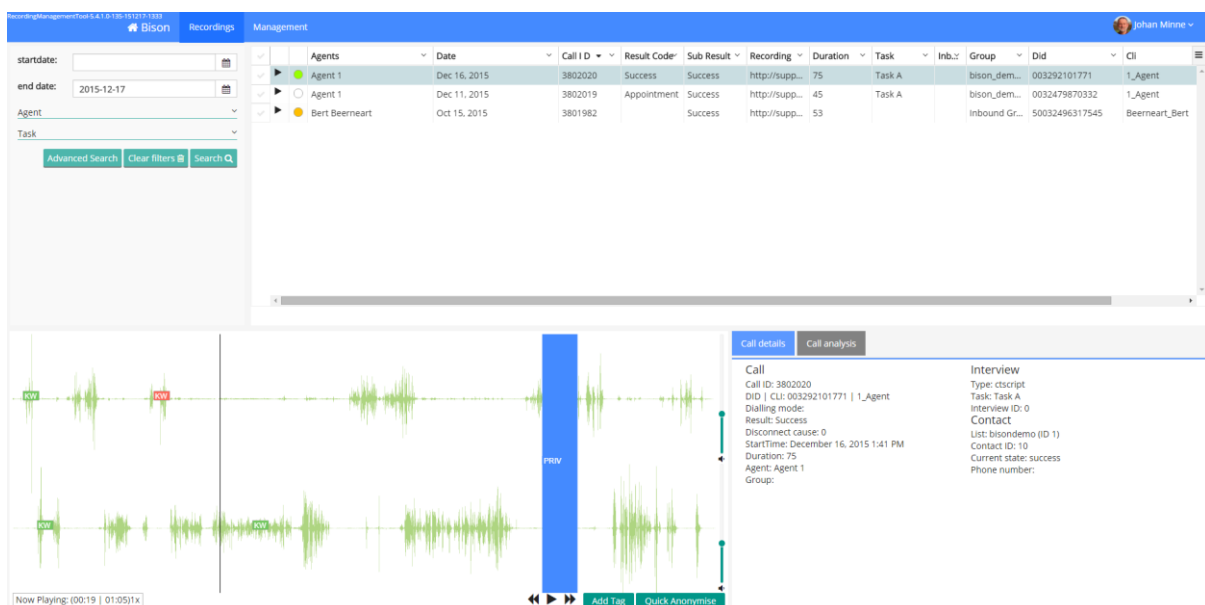


Figure 3: Recording playback

After the recording has been processed, the “call analysis” tab will also show a number of tags on the waveform/audio player, to indicate where keywords have been spotted.

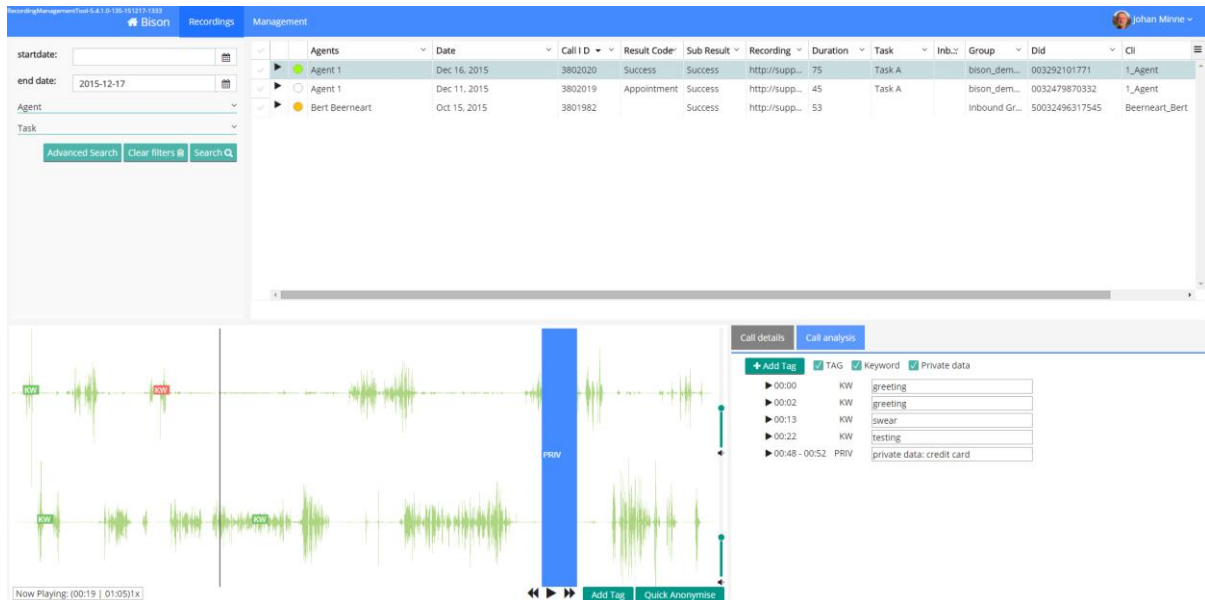


Figure 4: Call analysis

3.4. Management Menu

When clicking on the “Management” tab, two tabs become visible:

- Job management: to create new jobs (a set of instructions to be passed onto the speech processing engine) and allocate them to tasks
- Keyword management: to create new groups of keywords & keyword variations

3.4.1. Keyword Management

In the Keyword Management section, it is possible to:

- Create a new keyword group, containing different variations of keywords within a single theme
- Create language variations of said keyword group
- Add keyword variants to existing keyword groups

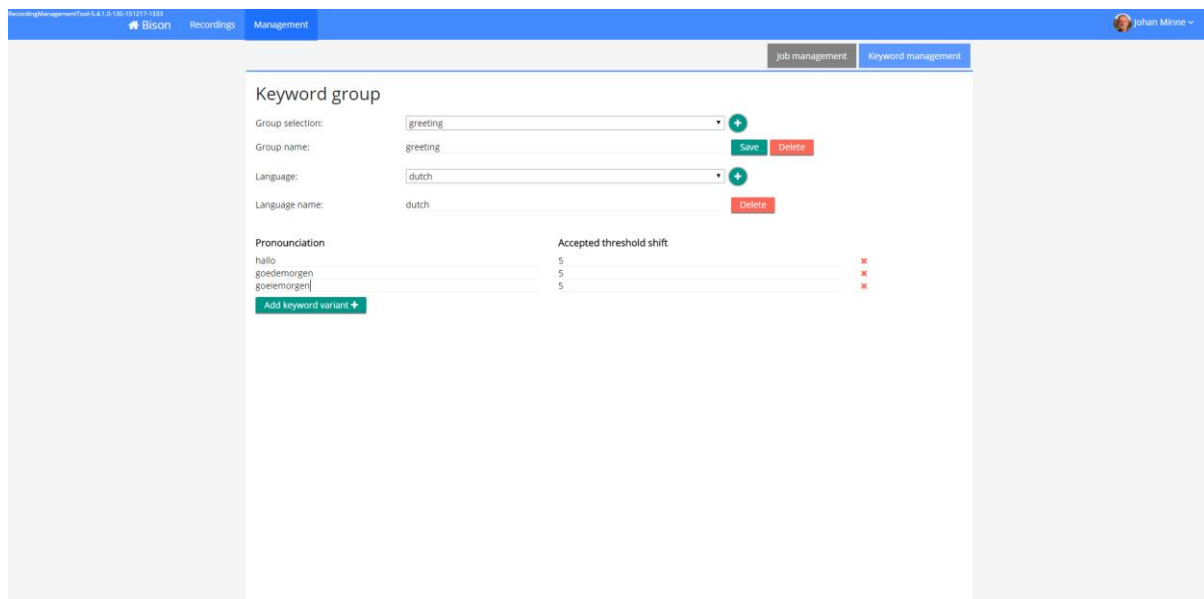


Figure 5: Keyword management

3.4.2. Job Management

A task is a project running in the contact centre, whereas a job is a certain set of instructions you want the speech processing engine to execute (eg: spot keywordgroup x or y, crosstalk analysis,...). The Bison platform will allow for very flexible job/task management:

- A task can feature many different jobs
- A job can be allocated to different tasks

This is visible in the Job Management entry page, where the user is presented with an overview of all jobs & allocated tasks, both in a “view by task” or “view by job” view.

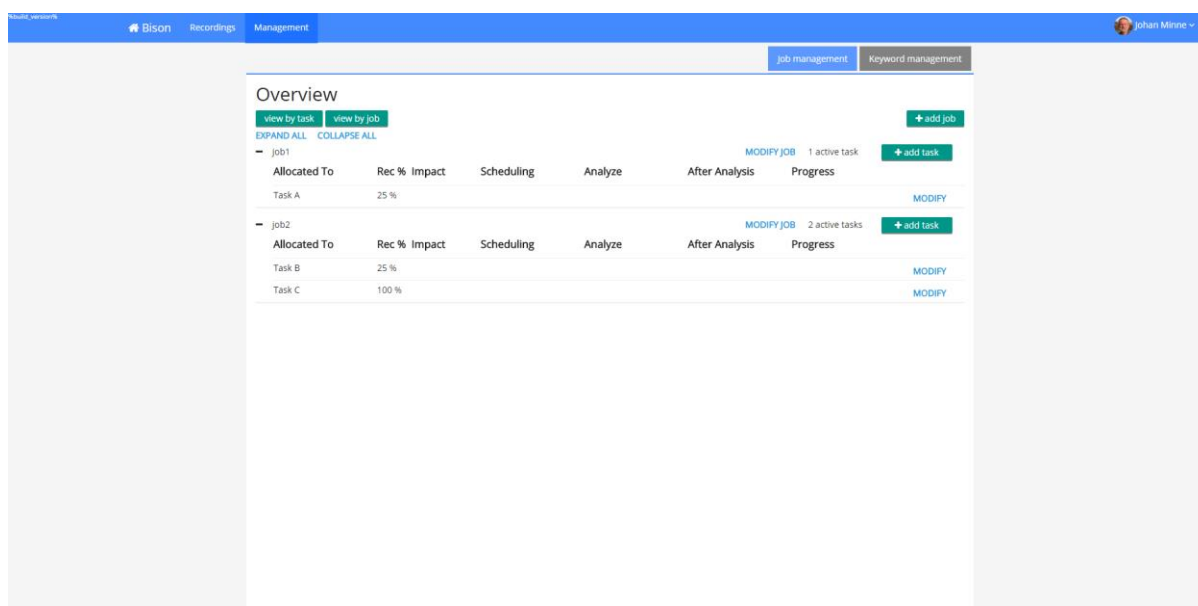


Figure 6: Job management

When the user wants to add a job, he/she can click on the “add job” button. The job settings menu is opened. Sections on this page are:

- Create new job
- Enable keywords for this job: here, the user will be able to select keyword groups as defined in the keyword management-tab. It is possible to define when the keyword should be said, if it should or should not be said at all and finally: if the keyword should be anonymized in the recording.
- Basic analysis settings: enable other speech processing settings such as crosstalk, talking speed,...

- Settings per task: set processing settings (eg: % of recordings that need to be analysed) and allocate them to different tasks

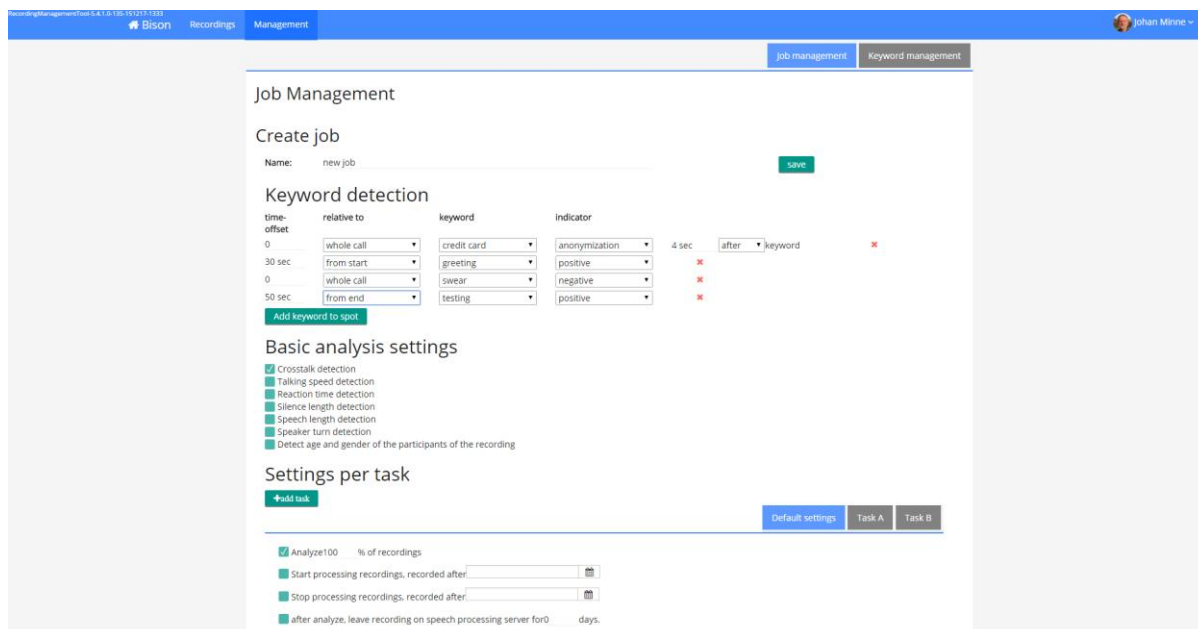


Figure 7: Job settings

4. Demo environment

A demo environment, meant to keep track of the evolution of the ongoing development, can be accessed via the following link:

<http://bison.myforce.be:10000/SmallBison>

Account name: testaccount

Password: demo