Today there is an emergence of mobile apps for helping people change lifestyle. Most of these apps only monitor people (e.g., diet, exercise) and there is no existing app that help people find motivation to change. Brief Motivational Interventions (BIs) have been designed to help people change in very short 1-1 counseling sessions. My contribution is to design and implement a Spoken Dialog Android application based on an existing spoken brief intervention developed by the Affective Social Computing Lab.

The current system is a PC-based spoken dialog system delivered by 3D Embodied Conversational Agents (ECA). The user’s speech is recognized by the Automatic Speech Recognition (ASR) engine using free-text language model and SRGS depending on operation mode. The user’s speech is passed to a Semantic Parser converted to Dialogue Acts. Dialogue acts are passed to the state estimator and dialogue is updated based on (state, response) mappings in dialog policy tables. The Natural Language Generation module passes the response to the Text-To-Speech Engine (TTS) and speaks it back to the user.

The mobile application has the capacity to:
- Register a New User
- Start New Session
- Ask a Question
- Provide Personalized Assessment based on drinking habits
- Interact with a Virtual Agent by Speech
- Receive Counseling
- Replay Last Agent’s Interaction if the user didn’t understand
- Handle an Incoming Call
- Pause a Session
- Resume Session
- Exit the Application
- Offer “Forget Password” functionality
- Do User Logins and Logout

**System Design**

**Object Design**

**Implementation**

**Verification**

- JUnit and Mockito were used to cover both functional testing of public methods and integrity of the User Interface.
- JUnit was used to exercise specific portions of our codebase.
- Mockito was used to mock, stub, the other subsystems and therefore test each of them isolated.
- System testing was done manually by interacting with the application.

**Screenshots**

- User Interface Screenshots
  - Login Screen
  - Session Screen
  - Conversation Screen

**Summary & Future Work**

- **Summary**: with the Mobile Spoken Dialog users can
  - Securely Log In
  - Interact with a Virtual Agent by Speech
  - Receive counseling for drinking habits
  - Pause Sessions and Continue
- **Future Work**: Design 3D Virtual character will deliver the dialog
  - Integrate system with other ASR systems
  - Conduct user study on users’ acceptance

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