TEMPO Networks Mobile Application

(TEMPO Hub)

Project Specification

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# Overview

TEMPO Networks, a television media provider for many Caribbean countries, has requested a mobile application (Android and iOS) which will act as a hub for all of its services. The mobile application will be referred to in this document as “HUB”, and, pending the approval of TEMPO Networks, will be named the “TEMPO HUB”. HUB will help to expand TEMPO’s services and functionality as well as increase its user-base and user engagement. The services and products which will be featured and expanded in HUB will be the “Cross Caribbean Countdown”, the “TEMPO Talk’r”, and “TEMPO Kids”. HUB is intended for use by anyone, and will contain an easy-to-use interface. Accounts containing the user’s name, address, password, and date of birth, will need to be created in order to use HUB. The account information will be saved in TEMPO Networks’ database(s). The focus of development will be directed towards producing a system which offers simple overall usability. The developers, Front Row Softworks (FRS), believe that this approach will ensure that new TEMPO customers will be able to easily interact with, and utilize all functionality of HUB without feeling overwhelmed, while still allowing customers familiar with TEMPO Networks and their products/services to find the information they desire quickly. Through the use of HUB, users will be able to interact with, and take advantage of, most of TEMPO’s major products and services.

# Application Specification

## Graphical User Interface:

The graphical user interface (GUI) is the method by which the user interacts with HUB. Simply put, the GUI is what the user sees and responds to. HUB’s GUI will feature a similar look and feel to that of the TEMPO website. FRS will, with permission from TEMPO networks, utilize logos and images from the TEMPO website to recreate the style of gotTEMPO.com. There will be a ‘settings’ menu with options as follows:

1. Font size (To adjust text size on screen for visually impaired users)
2. Language (To accommodate the diverse customers of TEMPO networks)
3. Notifications (To display/suppress reminder notifications for voting functionality and other potential communications that TEMPO wishes to “push” to their customers)
4. Other (To be added at the request of TEMPO Networks)

Sample image:



## Startup:

Upon launching the application, HUB will feature a splash screen displaying the application name and the TEMPO logo with applicable app version information. Following immediately after the splash screen, if the user has not logged in yet, will be an option to log in or sign up for a TEMPO Networks account. Information entered will be stored as, or checked against existing, TEMPO database records. The next screen presented to the user will be a menu with three buttons, each of which will correspond with one of TEMPO Networks’ services (The “Cross Caribbean Countdown”, the “TEMPO Talk’r”, or “TEMPO Kids”.) After the user makes a selection, HUB will display the selected content, and the user will be able to access increased functionality for the other aforementioned services (Further detail on each of the services will follow in their respective sections within this document). The extended functionality of each of these services within HUB will serve as the major production goal of FRS.

## Cross Caribbean Countdown:

The first major component of HUB will be an interface which will allow users to participate in voting for the “Cross Caribbean Countdown”, TEMPO Networks’ most popular hit music countdown program. This module included will allow users to view the top 15-20 music videos of the current week, and vote for one of them that they think is the best, to help decide on the winner for the week. Video lists and reference images will be pulled from an existing TEMPO database. The voting system will only allow one vote for any given user per week, and display a confirmation dialog box to prevent accidental voting and to notify users that duplicate votes will not be counted. Upon submission the vote will be sent to TEMPO databases via the Mobivity Application Programming Interface (API), which will utilize a text messaging system to communicate with the servers. Once a user votes for the current week, he/she will be able to see real-time voting statistics. In addition to showing each music video, more information about the artists will be provided, such as each of their names, their country of origin, the date the video was uploaded, and more (which is yet to be determined).

As an additional feature, users will be able to vote for their favorite music video through text messaging (in the event mobile data is not available). Multiple votes received through the application, text messaging, and the website will all be cross checked against user information in TEMPO’s databases to ensure votes from different voting interfaces are not counted as multiple separate votes (for example, if any users attempt to vote again after they’ve already voted online, via text, or through HUB, they will get a notification that they’ve already voted for the current week).  In addition to this, users will be able to see their votes and the results from previous weeks.

## TEMPO Talk’r:

            Another major component of HUB will be the “TEMPO Talk’r” feature. With this HUB module, users will be able to sign in to their pre-existing TEMPO Talk’r account, or new users will be able to sign up for an account. When signing up, to keep the simple usability of the app, the user’s name, phone number, e-mail, username, and password will be mandatory. Meanwhile, the address, city, country, state zip code (if applicable) and birthday fields will be optional and can still be filled out when signing-up or be omitted and then added at a later time via the account settings area of the Talk’r section of HUB. Additional fields could be added at the request of the client. After the user has either signed in or signed up, he/she will be able to perform the following tasks:

1. Add or change a forwarding phone number and e-mail.
2. Change numerous account details (Via the IDT API)
3. Launch the TEMPO Talk’r app (If the user does not have the TEMPO Talk’r app installed, he/she will be sent to the TEMPO Talk’r page within the respective device’s app marketplace.)
4. Top-Up Tempo Talk’r account with minutes (Users will be able to add minutes to heir account, and payment options will be based on TEMPO’s requests ex: Credit Card, Bank Account, etc)
5. Use the rate table lookup (Users will be able to check rates for calling different countries)

## TEMPO Kids:

The final major component as requested by the client is the “TEMPO Kids” feature. Within this HUB module, users will be able to scroll through a library of clips/episodes of popular shows for children, normally shown on TEMPO’s channel(s). HUB will have the option to pause and change to or from “full screen” while watching the clips. “JJ & Friends,” a very popular show featured within TEMPO Kids, will be the primary show featured in the “TEMPO Kids” section of HUB. In addition to the JJ & Friends television show episodes/clips, users will also be able to purchase TEMPO kids merchandise either directly through HUB, or by redirecting the user to the gotTEMPO website. Various merchandise includes, the “JJ and Friends Phonics Fast-forward kit”, the “Comprehension kit” and the “Television DVD series.” Other possible features of the system will include a rating system that will allow users to rate the clips on a five-star system and there will be a social networking interface to allow sharing of videos.

## Other Considerations:

            FRS will take into consideration the inclusion of a feature for users to access or interface with the TEMPO loyalty program linked with Stampt. With this interface, users will be able to see businesses in the area that participate in the loyalty program and what incentives or offers may be available through it. There will be a map option, as well as a list option, which will allow the user to see his/her loyalty card’s details (bonus points, frequent buyer benefits, etc) displayed on a map or compiled into a list. In order to implement this functionality, FRS will need a database of participating businesses and their addresses, along with a list of incentives that are offered by the business.

# Input/Output

## I/O General:

In this, FRS will explain HUB in greater detail, and from a more technical standpoint. The “TEMPO Hub” application will utilize many user’s inputs and outputs (I/O. Each component and feature of HUB will provide unique I/O’s depending on the user’s type of interaction with the system. Although hidden from the users, a lot of interaction will be made with the TEMPO Networks’ database for key features to be implemented. Some key information received will include pictures, backgrounds, videos and user accounts. Information in the TEMPO Networks’ database will include votes for the Cross Caribbean Countdown, and accounts from new and existing TEMPO Networks users. This interaction will be made utilizing a secure and discreet connection, so that the user’s information is protected and unaltered. Because of the high level of interaction, a secure connection to a network will be needed for many of the major components to work properly. HUB will primarily rely on interaction with users and the TEMPO Networks’ database; therefore it will be important to structure a simple and direct I/O for all users to enjoy.

## I/O Start-Up:

Once the HUB is installed, an icon from the TEMPO Networks’ database will be uploaded onto the user’s mobile device. Upon start-up of the application, the user will be presented with the main sign in/up page of HUB. This page will contain a text box for the username, a text box for the password, three buttons (one to “Log in”, one to “Sign up” and one to retrieve a forgotten password), and a check box that will remember a user’s sign in information if clicked. Both the username and password fields will only allow alphanumeric combinations as input. If users want to sign in, they will need to input their username and password into the text boxes and click sign in button. The username and password will then be sent to the TEMPO Networks’ database to check if there is an account with information which matches these two fields. If successful, users will be taken to HUB’s main/home page. However, if no matches are found when the username and password combination is checked against the database, an error message will be displayed and users will be prompted to input the correct combination. If users have forgotten their login information, they would be able to click the “forgot password” button where they will be taken to another page. There, users will need to input their username and email address in the respective text boxes, and then click the “submit” button. If the username and email address matches the existing information in the TEMPO Networks database, an email will be sent to the email address associated with the user’s account, which will contain a link to change their password. If the database does not locate a record with a matching username and email address combination, the user will be notified that the combination provided does not exist in the database. If a user does not have a TEMPO Networks account, then he/she can click the “sign up” button on the start-up page. The user will then be taken to a separate page where he/she will need to input the following information into the appropriate text boxes: First name, last name, phone number, e-mail, username, password, confirm password, address, city, country, state, zip code (if applicable), and birthdate. Only the first name, last name, country, birthdate, username, password, and confirm password fields will be required for account creation (pending verification from TEMPO networks). The text box for the user’s first name, last name, city, country, and state will only accept alphabetic characters, while the phone number, zip code, and birthdate text boxes will only accept numbers. Inputs for e-mail, username password, confirm password, and addresses will all be alphanumeric to facilitate input flexibility. When finished, the user will click the “Done” button which will then cause the system to verify that each field contains valid input and send the information to the TEMPO Networks database. At this point, the new account has been created and can instantly be used to sign in to HUB. The main display screen of HUB will consist of three buttons and a background picture from the TEMPO Networks database. From top-to-bottom, the three buttons will be the “Cross Caribbean Countdown,” the “TEMPO Talk’r” and “TEMPO Kids.” Users may select the feature they would like to use by tapping on one of the buttons.

## I/O Cross Caribbean Countdown:

Interaction within the “Cross Caribbean Countdown” component will be heavily reliant on content from the TEMPO Networks database. As part of the Cross Caribbean Countdown module users will be provided the ability to browse videos and vote for their favorite. The videos and pictures for this component will come from the TEMPO Networks’ database. The videos will be displayed based on the descending order of the number of votes received by them. Only the current week’s videos will be available for viewing in HUB, provided there is a stable network connection. In order to use the “Cross Caribbean Countdown” functionality, users will have to log in to the “TEMPO Hub” application. After clicking on the “Cross Caribbean Countdown” button from the main page, users will be taken to the main Cross Caribbean Countdown page. This is where users will be able to browse all available videos. Users will be able to see the video thumbnail, title, name of the artist and the date on which video was uploaded, all provided through the TEMPO database. On the top on the page will be a button for the voting portion of this component. The music video titles and artist’s name will appear in descending alphabetical order. Radio buttons next to each option will be the main source of input from users, and will be recorded within the TEMPO Networks’ Database. Users will be restricted to vote only once in a week for any video. In order to avoid any accidental voting for the video, users will be presented with a confirmation dialog box. The confirmation box will ask users “Are you sure?” and two buttons will appear at the bottom of the box. Users can select either “yes” to confirm their week’s submission, or “no” to select a different option. After successfully voting, the system will output a list of the music video titles and the current percentage of votes. This will be in descending order from most votes to the least, as opposed to descending alphabetical. Alternatively, users may also be able to vote for their favorite video through text messaging. With the given phone number, users can send a message containing the name of the artist and the title of the music video. If successful, a message will be sent back to the user confirming their vote. If the user does not send the required information in their message, a message will be sent back notifying the user to input their choice. The message that will be displayed will be; “Please send your vote with both the artist’s name and title of the vote.” Options to simplify this method would involve assigning numbers to each video, and allowing the user just to send the specified number through their message. This texting feature will be made with use from the Mobivity texting API. Voting from the application’s radio buttons, text messaging or website will all be recorded within the TEMPO Networks’ database collectively.

# Feasibility & Limitations

Although TEMPO Networks has specified all of the functions they desire, due to limited resources, certain functions will be given more urgency and attention. The first priority will be given to the initial sign in/up page, and to ensure account information reaches TEMPO Networks’ database. The next primary function will be the “Cross Caribbean Countdown,” which, at a minimum, will allow users to vote on the current week. Because of the importance of account verification and the availability of a primary service, these two features will serve as the skeletal system. Once a runnable version is developed, attention will then focus on the “TEMPO Talk’r.” A basic form of this function should allow users to access their TEMPO Talk’r account by signing in/up, and change a few settings. These settings will include the ability to change both the users TEMPO Talk’r password and email. The final primary feature will be a basic version of the “TEMPO Kids” component, which should allow users to view a variety of clips. Additional features and optimization will take less precedence, but will be completed if feasible. Specifically, once a basic version of each major component is useable with satisfactory results, a purchasing option will be developed for the “TEMPO Kids” component. Afterwards, attention will then shift back to the “Cross Caribbean Countdown,” and “TEMPO Talk’r,” as smaller additional features will be implemented for each. Features for the Cross Caribbean Countdown” include, revealing the current voting results and allowing users to vote through text messaging. The “TEMPO Talk’r,” however, will be given further account options. Both security and optimization will be a significant influence over later stages of development, in tandem with the additional features. Making sure that HUB runs smoothly and securely is just as important as the features the user interacts with. If resources become scarce, the additional features will be immediately dropped. If further issues continue, the “TEMPO Kids” function will be dropped in favor of a more optimized and secure system. And if issues progress, the “TEMPO Talk’r” component will be sacrificed for the skeletal system. Although many features are glamourous, focus will be on the optimization of the necessary components.

**Summary**

FRS will focus on making a user-friendly application, offering TEMPO Networks’ many services. The “Cross Caribbean Countdown” function will show the top 10 videos of the week, with options to vote. The “TEMPO Talk’r” function will allow account management settings, and a link to the main Talk’r application. And the “TEMPO Kids” function will allow users to watch clips from the shows, and purchase the various products. Emphasis on HUB will be optimization of time, and reliability. HUB will be developed on Android, as well as IOS, in order to cover a wider clientele. Users, as a whole, will find it convenient and compelling way to connect to TEMPO Networks and access its many services.

# Authors

Editor of Specification: Brian Phelan, Yassin Olabi

Key Consultant: Kevin Crow

Introduction: Brian Phelan

Outline of Major Components: Brian Phelan, Yassin Olabi

Loyalty Program: Yassin Olabi

I/O Overview: Brian Phelan

I/O Start-up page: Brian Phelan

I/O Cross Caribbean Countdown: Avani Patel, Brian Phelan

I/O Tempo Talk’r: Yassin Olab

I/O Tempo Kids: Brian Phelan, Avani Patel

GUI: Yassin Olabi

Feasibility: Brian Phelan

Summary: Brian Phelan

**The “TEMPO Kids” component has a complex set of I/O between the user and the database. This component will allow users the ability to browse video clips and purchase merchandise. Upon clicking the “TEMPO kids” button from the main page, users will be taken to the main page of the “TEMPO kids” section. Here users can browse through a library of selected video clips. The video clips and pictures will be provided by the TEMPO Networks database. Information on the video clips, such as the date they was added and the name of the product they represent, will be included alongside their video thumbnail. When users select a clip they will be taken to that video clips page. In each page, users will be able to interact with the video player, by changing the video to “full-screen,” pausing, replying and increasing/decreasing the volume. Below the video player will be the title of the product, short description of the product, price and current discount offered (if applicable). If interested in purchasing the product, users can click the “buy now” button below the description. This will add the specific product to the users “shopping cart” and the user will be taken to a different page. Here users will be given two buttons and asked if they want to continue shopping. If they do want to continue then they will be brought to the “TEMPO kids” main page. If**

**Shit below**

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**Application will get all the information related to the products from the TEMPO database. User will be able to add one or more items into the shopping bag which he/she can buy after he/she has gone through all the items he/she wants to buy. Once user is done with the shopping, He/she can go to the shopping bag and can update the order by removing items or adding more quantities of the items before completing the order. User will be able to complete the order by providing the shipping information, email id and choosing payment method. User will have to specify Full Name (data type: string), Address (data type: string), City (data type: string), State (data type: string), Zip Code (data type: string), Country (data type: string) and Phone number (data type: string) as part of the shipping information. User can make payment using credit card, cash or wire transfer. If the user decide to pay using credit card, the user will be asked to provide billing information which includes Full Name (data type: string), Address (data type: string), City (data type: string), State (data type: string), Zip Code (data type: string), Country (data type: string) and Phone number (data type: string). User will be provided an option (a checkbox- data type: Boolean) to specify if his billing address is same as shipping address or not. If he/she selects that checkbox, the same address specified as the shipping address will be used for the billing address to place an order. When user will place an order, the application will validate the payment method using the billing information user provided. In order to validate the payment method the application will use Authorize.Net Application Programming Interface (API). Autorize.Net API are services which provides ways to process payment transactions through the payment gateway. Once the payment transaction has been successfully processed by the Autorize.Net API, the order information (Shipping Information, Payment Information, and Order Information) will be securely stored in the TEMPO database. Once the whole order is stored in the TEMPO database, User will be provided a confirmation message on the page as well as in the email which will include the details of the order he/she has placed. User will also be able to share the product/learning kit on the social networking sites like facebook, twitter etc. In order for the user to share product/learning kit information on the social networking sites, User will be asked to login to those sites first if he/she is not already logged in that site where he/she wants to share the product/learning kit information.**