NBA Alert!

Team Rylai’s Princesses

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**Design Document**

Sometimes it is difficult to get updates from a basketball game when on-the-go.  Sometimes fans need to follow a basketball game while being occupied with other things like walking to class, driving to work, riding the MARTA, or using the bathroom.  NBA Alert! is a mobile application that provides a play-by-play of live basketball games through the simplicity of sound.  The user can choose which team to receive alerts from and hear important events from the game.  
  
The data is provided by the [ESPN website’s play-by-play feature](http://espn.go.com/nba/).  ESPN records updates from live games for each team.  Our program parses the data from the website into text, and then translates that text to speech using an [AT&T text-to-speech program](http://www2.research.att.com/~ttsweb/tts/demo.php).  The text-to-speech program downloads the audio from the text and replays it back in the application. We achieve this using a HTTP POST request and downloading the result.  The application will read off each time an event occurs in the play-by-play.  The format is “SOUND EFFECT, TIME, EVENT” where SOUND EFFECT is a specific sound to correspond with the following event, and TIME is the time on the game clock.    
  
Actions in each game are given a specific sound effect to easily represent an event to the user. The different actions represented by a sound effect are: when a player makes a shot, when a player misses a shot, when a player fouls, when there is a violation of rules, when a team calls a time out, when a player steals the ball, and when the quarter ends.    
  
We decided to use a mix of earcons and auditory icons instead of relying on just one type.  The events that are typically given more priority to be alerted for are represented by earcons.  Events that usually are followed by a break or less immediate actions are represented by auditory icons.  

A list of all sound effects (all sounds were modified and edited in SuperCollider and Audacity):

EARCONS:

When a player of the user-specified team makes a free throw, a single “ding” sound effect is played to represent 1 point.  Likewise, when a player of the user-specified team makes 2-point shot, two “dings” are played--a 3-point shot triggers three “dings”.  This “ding” sound effect was modified to have a higher pitch to indicate a positive sound and then repeated and combined to make each sound.  Hannah worked on these three.

When a player of the opposing team makes his shots, similar “ding” sound effects are played, except they are modified to have a lower pitch to indicate a negative sound.  Hannah worked on these three.

When a shot is missed by a player on any team, a “boing” sound effect is played.  Hannah worked on this one.

When the ball is stolen from any player, a sad “wah wah” sound effect is played.  Fernando worked on this one.

AUDITORY ICONS:

When a referee makes a call (foul, game violation, time out), a whistle sound effect is played.  Hannah worked on this one.

Two different buzzer sound effects are utilized.  For a shot clock violation, a short quicker buzzer is played.  This buzzer mimics a real shot clock buzzer.  For the end of a quarter, a longer buzzer is played.  This also mimics a real end of quarter buzzer.  Fernando worked on these two.

ALARM:  
When a game is within 10 points with less than two minutes left in the game, an alarm will sound to indicate a close game.  Fernando worked on this one.

To use the application, the user simply selects which team to hear a live play-by-play from and then presses “Start Play-By-Play!” button.  The application then retrieves the corresponding URL for the team’s current game.  If the team has no available current games, the application will notify the user that a game is not available.  For the sake of testing, our prototype has URLs for previous games for each team, since games are not always occurring live.    
  
One problem that all mobile apps address is the safety concerns for driving. Since NBA Alert! is an alerting system, while drivers have our application on, each alert may affect their driving. With notification sounds alerting the user just like text messages, users may allow themselves to become distracted on the road.  NBA Alert! could also pose problem in meetings or dates.   
  
Our interface consists of all of the teams currently playing in the NBA Playoffs.  The teams are sorted logically by their conference and standing in the league.  The GUI and the HTML-to-text portions of the code were programmed by Hannah.  Fernando programmed the text-to-speech portion and also created ActionListeners for the GUI to respond to the user’s input.   
  
Dale gave our application its name “NBA Alert!”

To run the code simply run NBA\_ALERT.java as your main. There are some slight issues with some of the game streams since we didn’t have the chance to perfect our parser. Since parsing isn’t the core focus of this project, we could always go back and improve this. Several game streams do work.