

## **(V05) Mobile Applications**

### **Description**

Members will develop a mobile phone and/or tablet application based upon the given scenario. Permitted platforms include and are limited to Google Android™ or Apple iOS™. The application will be pre-submitted for technical judging. Members will then be required to present their application to a panel of technical judges.

### **Eligibility**

- Any Business Professionals of America student member may enter this event.
- There are no restrictions on number of entries per chapter or per state.

### **Event Registration**

- Advisors register members for the event using the Membership Registration System, accessible at <https://register.bpa.org>.
- Click on the “Conferences” tab and then select the “2023 National Virtual Events”.
- Event registration can be purchased with your original invoice or with a new invoice after member registration.
- Registration deadline is no later than 11:59 p.m. Eastern Time, on December 1, 2022.
- Members participating in competition must be registered for the event prior to the submission deadline to be eligible.

### **Entry Fee**

There will be a \$10 fee for each entry (*invoiced during event registration*).

### **Topic**

You are challenged to create a mobile application that will be used by users to store and retrieve information regarding their involvement in a community/school-based service organization. Examples of involvement may include, but are not limited to volunteer service hours, student council activities, organizational fundraising, organizing a blood/food drive, or tracking a student-run tutoring center. The application will use external back-end database connection to store authentication and other information and form validation.

### **Required Features**

- External backend database to store information
- Authentication
- Administrative account
- Form validation
- Data entered is stored

### **Possible Features**

- Ability to choose a time
- Store hours worked
- Comments
- Create reports
- Advertising
- Reminders or notifications

## Competencies

- Implement system analysis and design concepts
- Develop a project plan and timeline
- Demonstrate knowledge of how to resolve program implementation and deployment issues
- Apply Google Android® or Apple iOS® language specific programming tools/techniques to create a mobile application
- Demonstrate and employ computer language concepts to include Object Oriented, Structured and Procedural techniques
- Utilize variables, assignment statements, mathematical operators and mathematical concepts to include arithmetic, algebraic and trigonometric functionality in the solution as needed
- Demonstrate the use of design and color principles to create a graphical user interface (GUI) for a mobile device
- Employ database skill sets to manage data
- Apply programming concepts such as sequential file access and I/O operations
- Use internal and external function and/or procedure calls
- Use internal programming documentation
- Create user input controls to accept input from users
- Utilize external application programming interface (API)
- Employ decision making controls as needed
- Include icons, images, and other graphic objects as needed
- Utilize list, arrays, and iteration structures to solve programming problems as needed

## Specifications

- The member will research the topic, and then create a mobile application based upon the topic presented in this document. The member will create the application in a platform of the member's choosing from the list of platforms designated in the technical specifications
- The projects may be cross platform compatible between Google's Android® or Apple iOS®.
- The application may *not* be deployed as a web application delivered over HTTP.
- The application must be installed on the member's mobile device.
- The member must demonstrate the application from the member's mobile device for presentation to the technical judges at the national level (projection equipment may be used).
- The application need *not* be available for download from a digital-distribution multimedia-content service such as Google Play®, or Apple App Store®.
- Final project components must be uploaded to a file sharing site (Dropbox, etc.) and should include:
  - a written description of the project and details of a design concept
  - source code (as a zipped root folder)
  - application screenshots
- It is recommended that you set the access level of your project to one of BPA's recommended settings. See the Cloud Storage / File Sharing Guidelines for more information.
- **Submit the URL to the final project files, Works Cited, and signed [Release Form\(s\)](#) in a combined PDF file to <https://presubmit.bpa.org> no later than 11:59 p.m. Eastern Time, on January 15, 2023.**
- Member will receive an automated response confirmation at the time of submission.
- Individual confirmation of receipt *cannot* be provided by the National Center.
- No fax or mailed copies will be accepted.
- No exceptions can be made for missed due dates.
- Multiple submissions *cannot* be accepted.

- No changes can be made to the project after the date of submission.
- The member is responsible for securing a [Release Form](#) from any individual whose name, photograph, and/or other information is included on in the mobile application.
- All text/graphics materials must follow the organization's [Graphic Standards](#) and make proper use of the logo and/or organization's name, if used. (Refer to the [Graphic Standards](#) in the [Style & Reference Manual](#).)
- Members will be assigned to sections prior to their preliminary presentation.
- For members who qualify, members' advisors will be contacted to reserve a time for a video conference presentation before a panel of judges. E-mail confirmation will be sent to those members eligible to reserve a presentation time. The dates and times for presentation reservations will be announced via e-mail notification.
- The top members with the highest cumulative technical and presentation scores will be invited to attend the National Leadership Conference to be recognized for their outstanding efforts and to participate in the National Showcase. See <https://bpa.org/nlc/virtual-competitions-and-nlc-national-showcase/> for more information.
- It is the policy of Business Professionals of America to comply with state and federal copyright law. Federal law pertaining to copyright, as contained within the United States Code, is available at <https://www.copyright.gov/title17/title17.pdf>. The [Style & Reference Manual](#) contains guidelines for Copyright and Fair Use. Participant(s) will be *disqualified* for violations of the guidelines.
- Business Professionals of America grants permission for the use of the copyrighted logo and tagline.

#### **Method of evaluation**

Application

Technical Judges' Rating Sheet

Presentation Judges' Rating Sheet

#### **Length of event**

No more than three (3) minutes setup

No more than ten (10) minutes presentation time room

No more than five (5) minutes judges' questions

## (V05) Mobile Applications

Judge Number \_\_\_\_\_

Member ID \_\_\_\_\_

### Technical Scoring Rubric

Member Violated the Copyright and/or Fair Use Guidelines	<input type="checkbox"/> Yes ( <i>Disqualification</i> )	<input type="checkbox"/> No
If yes, please stop scoring and provide a brief reason for the <i>disqualification</i> below:		

Item to Evaluate	Below Average	Average	Good	Excellent	Points Awarded
Member submitted the correct information and in the correct format. <ul style="list-style-type: none"> <li><a href="#">Release Form</a>(s) - PDF format and Works Cited - PDF format</li> </ul> <i>All points or none are awarded by the technical judge.</i>				10	
<b>User Interface</b>					
Grammar, spelling, punctuation, and usage	5	10	15	20	
Content without errors/No copyright violations	(3+ errors)	(2 errors)	(1 error)	(0 errors)	
Work is original, innovative and unique	1-5	6-10	11-15	16-20	
Graphic design is optimized for use on mobile devices	1-5	6-10	11-15	16-20	
Effective and aesthetic use of color, typography, and graphics	1-5	6-10	11-15	16-20	
Interface adheres to platform interface guidelines	1-5	6-10	11-15	16-20	
Interface is clear, uncluttered and easily understood	1-5	6-10	11-15	16-20	
<b>TOTAL USER INTERFACE (120 points maximum)</b>					
<b>Code and Data</b>					
Application makes use of at least one (1) of the permitted platforms: Google Android® or Apple iOS®	0 (No)			20 (Yes)	
Code is clear, readable and well structured	1-5	6-10	11-15	16-20	
Code demonstrates clear understanding of object-oriented programming and design patterns	1-5	6-10	11-15	16-20	
Code utilized database to access stored information	1-5	6-10	11-15	16-20	
Code is well-documented	1-5	6-10	11-15	16-20	
<b>TOTAL CODE and DATA (100 points maximum)</b>					
<b>User Functionality</b>					
Application runs on and/or deploys to a smartphone or tablet device running the chosen permitted platform	1-5	6-10	11-15	16-20	
Application loads and accurately retrieves information from database	1-5	6-10	11-15	16-20	
<b>TOTAL USER FUNCTIONALITY (40 points maximum)</b>					
<b>Project Plan</b>					
Grammar, spelling, punctuation w/o errors.	1-5	6-10	11-15	16-20	
Plan adequately details the how member will meet project requirements within the time allotted	1-5	6-10	11-15	16-20	
<b>TOTAL PROJECT PLAN (40 points maximum)</b>					
<b>TOTAL TECHNICAL POINTS (310 points maximum)</b>					

## (V05) Mobile Applications

Judge Number \_\_\_\_\_

Member ID \_\_\_\_\_

### **Presentation Scoring Rubric**

	Below Average	Average	Good	Excellent	Points Awarded
<b>PRESENTATION POINTS</b>					
Ability to explain development/design process	1-5	6-10	11-15	16-20	
Ability to demonstrate how the application works through the use of the user interface	1-5	6-10	11-15	16-20	
Ability to explain the logical design of application and design patterns used	1-5	6-10	11-15	16-20	
Ability to explain the code structures for specific application functionality	1-10	11-20	21-30	31-40	
Offered clear and direct responses to interview questions	1-5	6-10	11-15	16-20	
Grammar, spelling, punctuation, and usage	1-5	6-10	11-15	16-20	
Presentation quality/style	1-5	6-10	11-15	16-20	
All points or none are awarded per item below.					
Equipment Setup lasted no more than three (3) minutes				5	
Presentation lasted no more than ten (10) minutes				10	
<b>TOTAL PRESENTATION POINTS (175 points maximum)</b>					

*Props and/or additional items shall not be used as a basis for scoring.*

**PRESENTATION WILL BE STOPPED AT TEN (10) MINUTES**

**TOTAL MAXIMUM POINTS = 485**