Computer Science Senior Design  
Project Proposal Template

The BSU Computer Science Department invites industry partners to propose one or more projects for our senior design course. The faculty reviews the proposals, and the student development teams choose their projects from an approved list. Industry partners become *sponsors* of the chosen projects.

# About Projects

Please refer to <http://coen.boisestate.edu/jconrad/cs481sponsors> describing the sponsor’s responsibilities, intellectual property considerations, and guidelines for a successful engagement with your student team.

# About this Template

This template provides preliminary information necessary for the faculty and students to evaluate your proposal; your student team will use the Scrum process to capture your software requirements. This template is a guideline and may be modified as needed; eMail completed proposals to jimconrad@boisestate.edu.

# Abstract

Briefly describe the tool, application or product to be developed.

Predictable Ryde is a cloud based SaaS that provides real-time school bus information to parents and schools. Parents use the Bus Tracker mobile app to view their child’s real-time bus’s location and receive text message alerts. School’s access live bus fleet tracking and analytics. Unlike other school bus tracking systems, Predictable Ryde is free for schools and inexpensive for parents, easy on school transportation departments, and focuses on parents’ wants needs. Predictable Ryde is deployed in 5 school systems across the country. Predictable Ryde is built to grow and will expand into additional school districts. Predictable Ryde provides real-time school bus information to parents and schools.

This effort will be to finish a native Predictable Ryde iPhone App from the existing Swift code base.

# User Needs (What does the product need to do)

Needs may be written as stories (i.e. “As a <role>, I need <goal> so that <benefit>”).

The Predictable Ryde Bus Tracker App needs to:

* Login and out
* Select Vehicle.
* Transmit Current Location every X seconds, simulate a bus GPS beacon.

# Prior Art

Describe existing solution(s) and the ways in which they do and do not address the needs identified above. Must some existing features be preserved?

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| An existing iOS solution was developed last year by talented BSU team and was developed using Swift. The existing solution is a functional prototype that demonstrates significant technical integration points such as Authentication and Rest API Integration. |

# Proposed Solutions

Describe any proposed solutions, if known, indicating any mandatory technologies, code, data, features or frameworks.

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| Develop a functional Bus Tracker App deployed to the iTunes App Store. |

# Schedule

Student projects normally begin a few weeks following the start of either the fall or spring semester, and finish a few weeks prior to the end of the following semester. If you have specific schedule requirements, note those here.

None. An existing (android) App is available until the native iOS app can be completed.

# Deliverables

Describe the required deliverables (e.g. client-side application, server-side application, web service, installers, tests, documentation, etc).

* UX Design & Storyboard or equivalent.
* iOS and/or Android Design Documents
* Source Code
* Unit Tests
* Build Script
* Test Cases & Results

# Sponsor Contact

The sponsor assigns a contact(s) to meet weekly with the student team to review lifecycle artifacts, progress, next steps and impediments. The contact serves as the *customer’s representative*, able to judge if the product meets its success criteria. Please provide the phone number and eMail address of all contacts.

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# Hardware

Identify any special hardware (e.g. an embedded system, mobile device, graphics processor, etc) required to implement the project along with the plan for making it available to the development team.

Access to a mac or Mav VM, and access to an iPhone.

# Software

Identify any commercial, proprietary or prototype software (e.g. an existing application program, a commercial database management system, a commercial server or hypervisor, etc) required to implement the project along with the plan for making it available to the development team.

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| XCode – Available via iTunes for free. |

# Technology Skills

If you are aware of specific technology skills (e.g. web development, mobile app development, database, embedded system, graphics, networking, big data, parallel computing, etc) required to implement your proposal, please note those here.

General Programing is required.

# Intellectual Property and Contracts

Students are not ordinarily your employees nor contractors and their projects are not likely a *work for hire*; students likely own the software they develop unless you make prior agreements with each of them. Enumerate your legal requirements (e.g. a non-disclosure and/or an intellectual property agreement), and include PDF copies of those documents with your proposal submission. You are responsible for securing the required legal agreements with the student team before work commences. If this is an open-source project, please note that here as an open-source project is attractive to students concerned about a conflict of interest.

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All intellectual property and artifacts resulting from this effort will belong to Predictable Ryde. Any artifacts produced may be used as needed for the class.