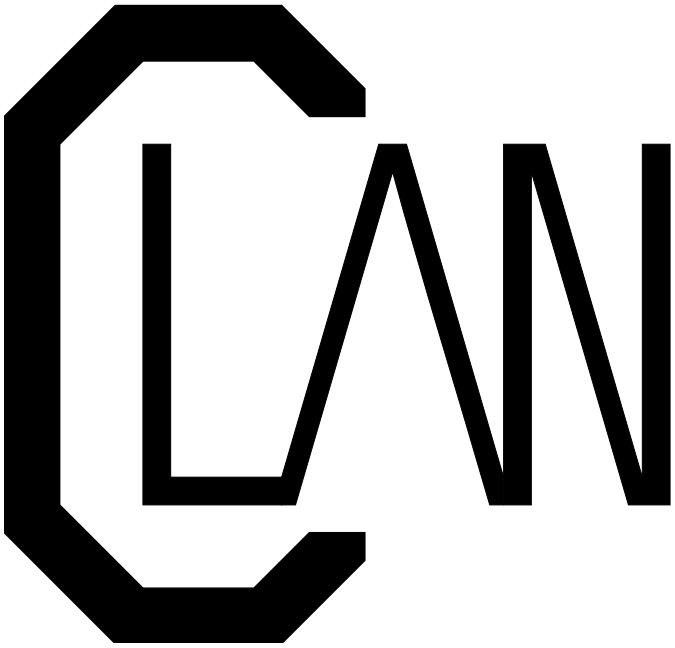

Campus Location and Navigation

Functional Specifications Document

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1 Introduction

It is often difficult for KIT visitors and new students to find the buildings, rooms or the ways between them on the campus. Our product will simplify this task, leading to better time efficiency and less stress for everyone.

The general goal of this project is the design and implementation of a routing system for the KIT campus. The system will be able to compute and to display the shortest path between a starting point and a destination. It will be possible to route from and to buildings and rooms inside buildings. For the latter, the system will display a floor plan map of the building. It will also be possible to search just for the destination, without computing a route from some other point.

On the administration side, the system will provide a graphical use interface (*GUI*) to modify the routing graph if needed (in case of construction works or if some more details are needed) or create it from scratch. It will be possible to easily add/delete buildings with or without routing information of the interior. Moreover, it will be possible to add vertices and edges with information that is necessary to do the routing.

The product will be shipped with *floor plan maps* of at least two buildings of "KIT Campus Süd" and a *map* of the campus exterior.

2 Philipp's Vorschlag

TODO: Anschaun, ob es schonmal so ein APP existiert. Rashad hat irgendwie gemeint, dass es da sowas schon existiert, z.B mycycle, wir haben es noch nicht verifiziert.

Doch, sowas existiert schon, Rashad hat gerade was gefunden. Die App heißt *Money Journal Light*. Einfach in Android-App Store nach **Budget Manager App** suchen. z.B *Expense Manager*, die kostenlos zu erhalten ist.

2.1 Produktziel

Die wichtigsten Punkte sind die Folgenden

- App wird Diagramm zeigen, wo man nach bestimmten Kategorien seine Ausgaben ansehen kann, wie die sich in letzter Zeit entwickelt haben bzw. geändert haben, so wie typische Statistik.
- Wenn man z.B Milch braucht,

3 Rashad's Vorschlag

EIn App, mit dem man Statistik über den Spieler haben kann, beispielsweise sagen wir mal so, wenn man z.B Basketball spielt und man will sein PUnkte irgendwo eintragen, um später gucken zu können, wie die seine Leistung sich in der letzten Zeit entwickelt hat. Ob er mehr Misses als Hits hatte oder andersrum.

3.0.1 Produktbeschreibung

Mit dieser App kann man Statistik über den Spieler machen, z.B wenn wir Fußball spielen, und die Statistiken über den verschiedenen SPieler haben wollen, dann könnte man diese App verwenden.

3.0.2 Contras

- Was würde es einem Client bringen? Wäre bereit für so eine App zu zahlen?
- Ob es sich überhaupt verallgemeinern lässt? Es gibt ja verschieden SPiele,

4 Glossary

Background image An image that is either a geographic map of the campus or a floor-plan of a building.

CLAN "Campus Location and Navigation". The project name.

Floor plan map *Map* of one floor of the interior of a building.

GPS "Global Positioning System", a global satellite system to find out the own position.

GUI "Graphical user interface" is a human-computer interface (i.e., a way for humans to interact with computers) that uses windows, icons and menus and which can be manipulated by a mouse (and often to a limited extent by a keyboard as well).

Map Combination of an background image and a routing graph.

MVC-Architecture Model-View-Controller. A software architecture principle that describes the separation of the presentation (View), input handling (controller) and data storage and manipulation (model).

Property Data attached to edges and nodes which contain additional information. This data is used to allow routing after certain criteria (e.g. without stairs) and to display information about the found route.

Routing Graph A graph used for routing. In this application each vertex represents a searchable entity, e.g entrances of a building, an office or a coffee machine, while edges represents the ways between the vertices, e.g. roads, walk paths, stairs or corridors.

Search field The *From:* or the *To:* text field (See *GUI*, Routing view).

Searchable information The name, number or address of a building or room.

XML "Extensible Markup Language", a human readable file format to store hierarchical data. It describes elements (e.g. a vertex) which may contain additionally information (e.g. the position of the vertex).