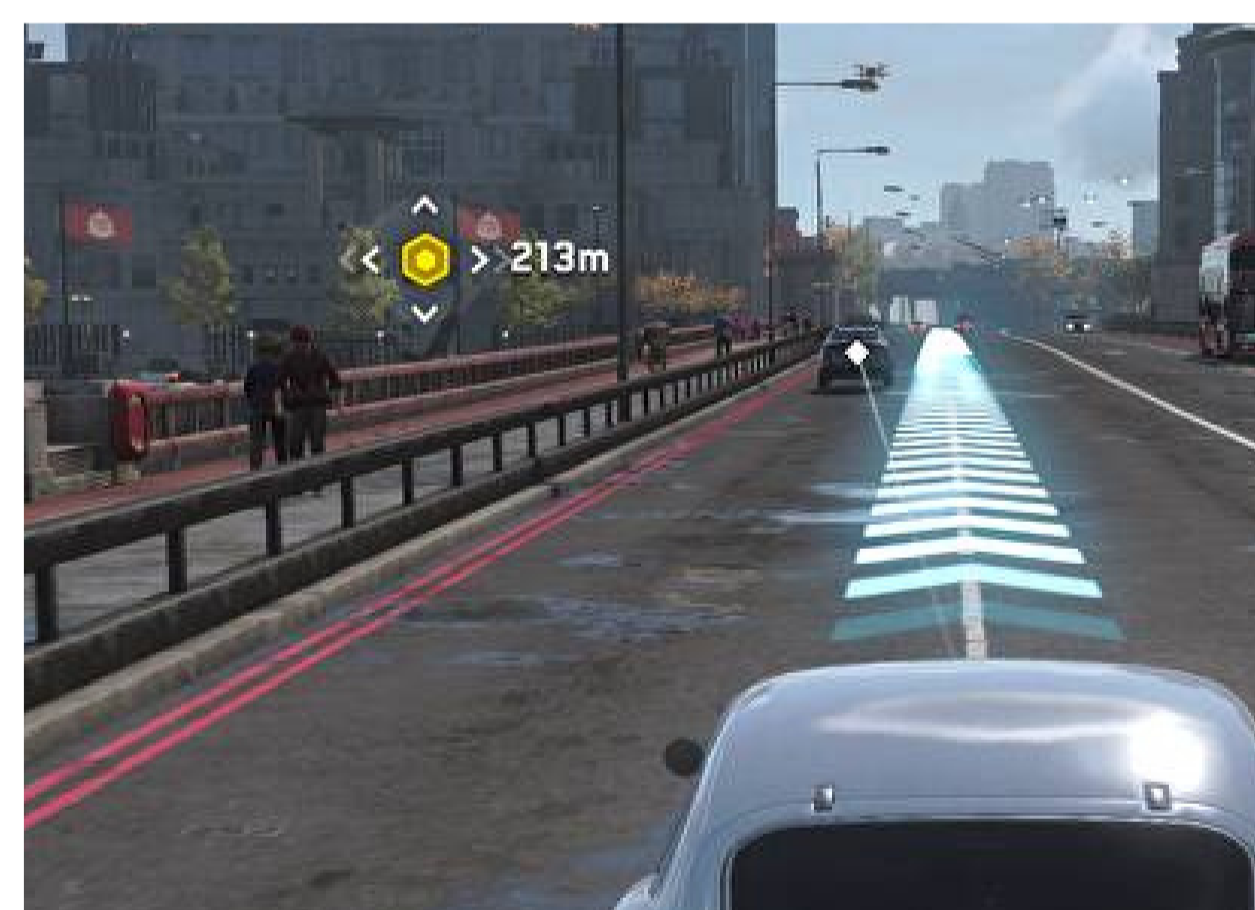


SITUATED VISUALIZATION in MOTION for VIDEO GAMES

Video games produce rich dynamic datasets during gameplay that are visualized to help players succeed in a game. Often these visualizations are moving either because they are attached to moving game elements or due to camera changes.

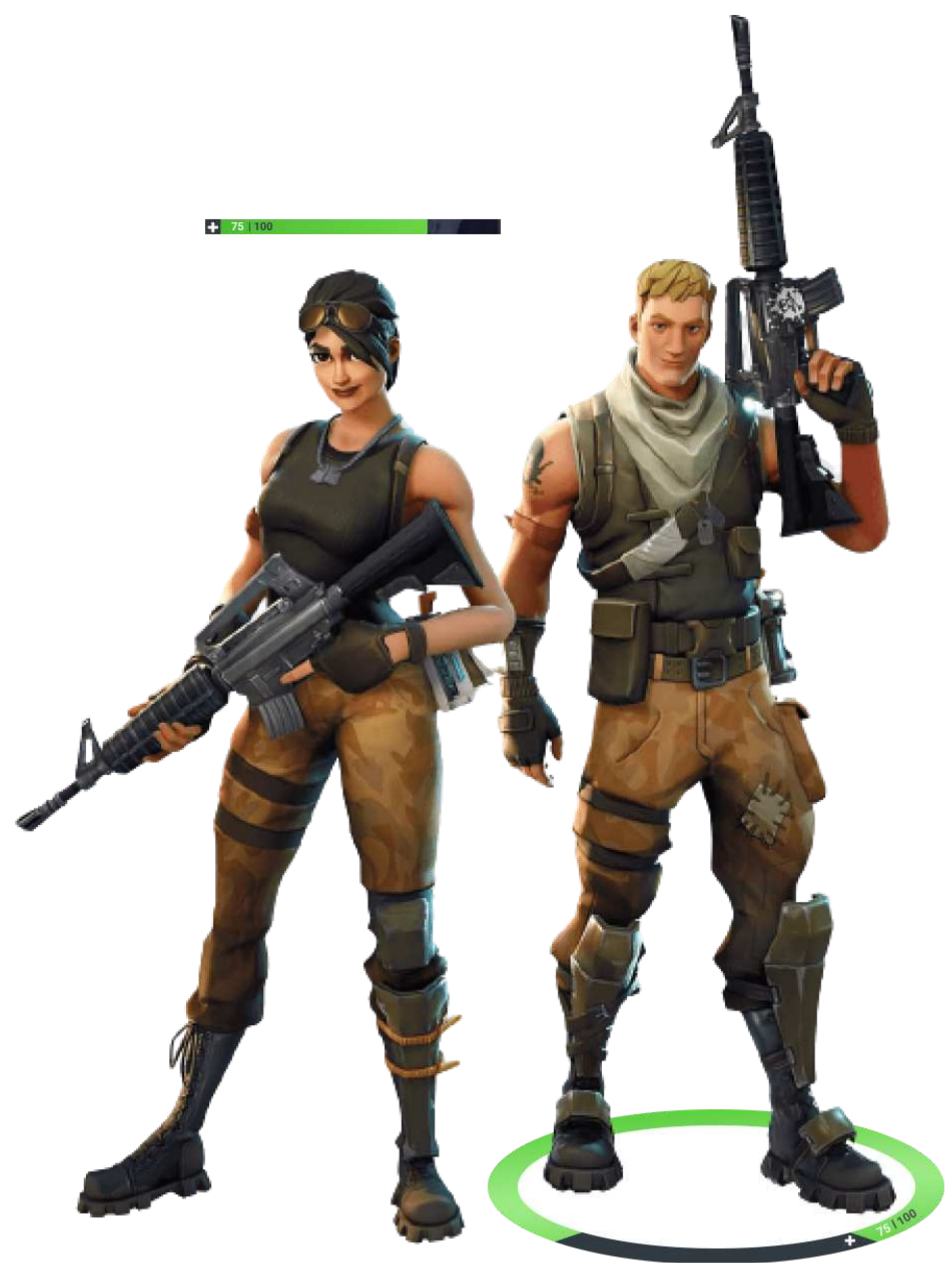
A systematic review of the current practise in video games

We want to understand to what extent motion and contextual game factors impact how players can read these visualizations. To ground our work, we analyzed 50 video games from 17 different game genres considering all gaming platforms.



Future work

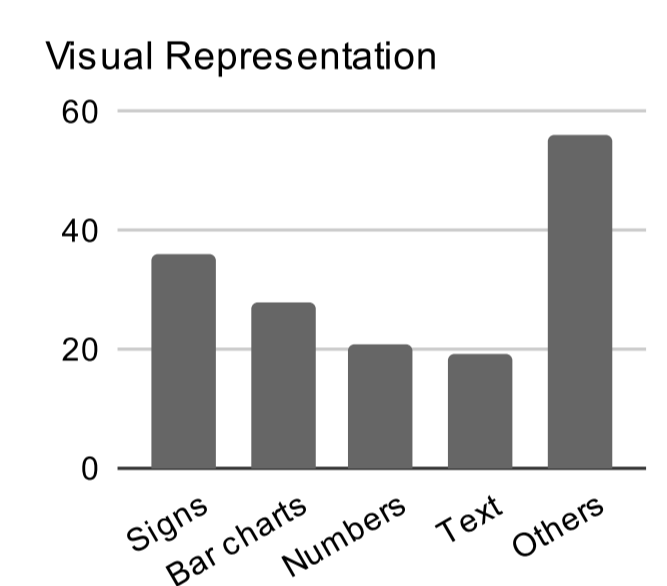
Our future research goal is to design and embed visualizations in motion in the context of games and to explore the impact of contextual factors in video games on visualizations in motion. We are now looking for open-source games with the possibility to access their data in real-time. Furthermore, we plan to design our own visualizations in motion and then embed them into games.



We surveyed 160 visualizations in motion and categorized them into 5 dimensions

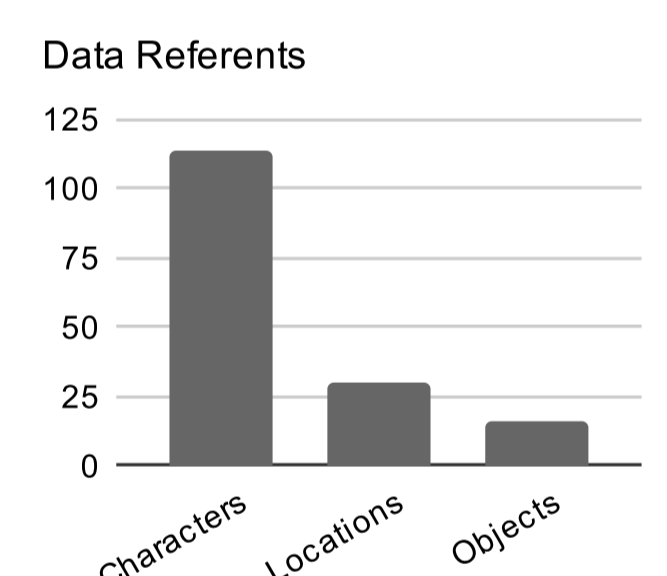
Visual Representation

Describes how data is represented. *Signs* are the most prevalent representation followed by *bar charts* and *labels with numbers*.



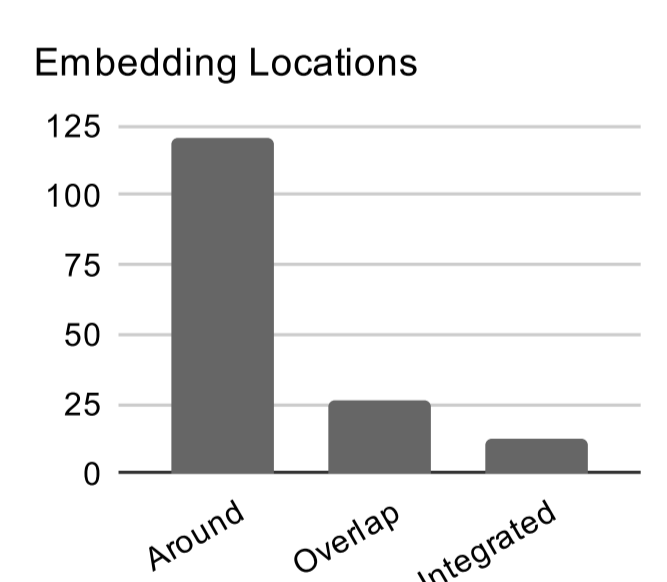
Data referents

Are the entities that the data refers to. Most referents are game *characters*, *locations* or *objects* in the game.



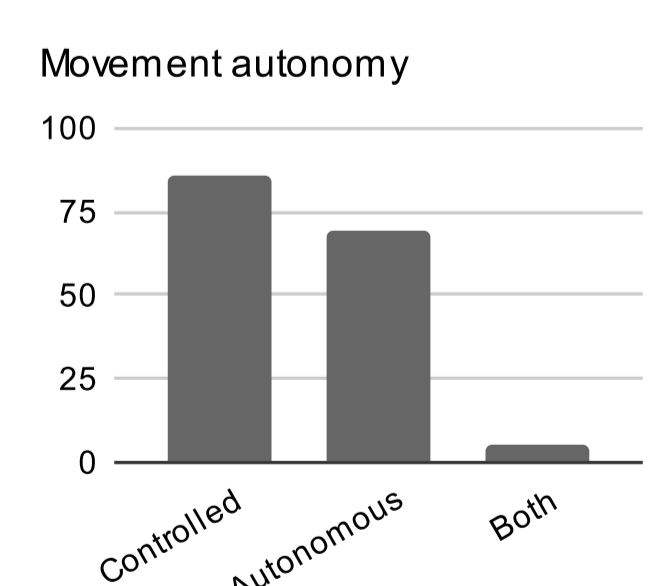
Embedding Locations

Refer to the spatial relationship of the visualization and the data referent. We found three types of embedding locations: *Around* the data referent, *Overlapping* fully or partially with the data referent and *Integrated* in the data referent design.



Movement autonomy

Considers if the visualization is moving *autonomously*, *controlled* by a player or it is depending on *both* factors.



Data dimensions

Indicate how many dimensions the visualization represent. We encountered both *unidimensional* and *multidimensional* visualizations.

