

# The “UIC German” game app for the enhancement of foreign language learning – Case study

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## KEYWORDS

Gamification  
Duolingo  
Active learning  
Gameful thinking  
Gamebased  
Gameful

## ABSTRACT

This qualitative case study reports the adoption of gamification in a college level foreign language courses. An exploratory approach allows the authors to describe how gamification was applied and what results were documented. A custom mobile app was adopted to increase engagement and interest of students in the specific field of study. External systems were integrated, such as Kahoot and Duolingo, to allow for added practice and learning activities. The results of the research demonstrate a way to adopt gamification and increase instructor and student engagement.

## Introduction

As both a language instructor and a gamer, I have since the beginning of my career been interested finding new ways to marry the skills needed to play a video game and those needed to learn a language. In recent years, I have come across more and more online teaching tools for playing games with students in the classroom, including **Kahoot** and **Quizlet Live**. The app introduced in this particular case study integrates these online tools, while introducing a new tool called, “UIC German” (Machajewski, 2016). This app “gamifies” the learning of a language while economizing attendance and participation both in the classroom and during extracurricular activities. It also offers a digital venue for friendly competition among peers.

My first introduction to and engagement with gamification was through the Center for Advancement of Teaching-Learning Communities (TLC) at UIC in Spring 2016. That semester I had the distinct pleasure to be a “Master Teacher Scholar” (MTS) and advise three different “Teacher Scholars” (TSs). One of those TSs was Dr. Anna Szawara, who is currently the Basic Language Program (BLP) Director in the Slavic and Baltic Languages and Literatures department at UIC. Anna’s idea from the outset was to introduce an app for her BLP students in Polish and Russian that would “gamify” the classroom. Typically, MTSs that year at the TLC who were assigned TSs working to develop technology in and for the classroom were not significantly involved in the latter’s project. However, I was so inspired by Dr. Szawara’s project and Dr. Machajewski’s model app that I decided to become a TS the following year and pursue a similar project with Dr. Machajewski. I wish to thank Anna specifically, since it was originally her idea; I have simply modified her idea for the BLP in the Germanic Studies department at UIC. Both Dr. Szawara and I, furthermore, are indebted to Dr. Machajewski, who was the first to develop the app for his own classroom purposes in his computer programming courses.

In the following academic year, Drs. Szawara and Machajewski also helped organize two TLC Gamification Workshops, the last one of which was in March 2017. During the workshop, they cited researchers who report low achievement, student boredom, and alienation, along with high dropout rates connected to engagement (Fredricks, Blumenfeld, & Paris, 2004; Swap & Walter, 2015). Their general consensus, and the purpose of their workshop, was

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to illustrate ways in which gamifying practices improve engagement to benefit students both in the classroom setting and beyond it. For more information and to access the TLC Gamification Workshop materials, please go to: <http://tlc.uic.edu/gamesandsimulations/>.

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## Literature review

Gamification as a term originated from the computer games industry and is the use of game thinking and game mechanics in a non-game context in order to engage users, solve problems and drive behavior (Introduction to Gamification in emerging trends, 2014). Sebastian Deterding, Rilla Khaled, Lennart Nacke and Dan Dixon (2011) have proposed a tentative history of the term: “‘gamification’ as a term originated in the digital media industry. The first documented use dates back to 2008, but gamification only entered widespread adoption in the second half of 2010” (Deterding et al., 2011). It was then quickly picked up in education circles and adopted for classroom instruction. The Institute of Play has since 2009 been involved in designing, producing and playtesting over 70 original classroom games. In *MindShift - Guide to Digital Games and Learning* (2014), Jordan Shapiro cites a 2014 article in the *American Psychologist* entitled “The Benefits of Playing Video Games,” whose authors identified four types of positive impact that video games have on the students who play them: cognitive, motivational, emotional, and social.

Cognitive benefit: Games have been shown to improve attention, focus, and reaction time. Motivational benefit: Games encourage an incremental, rather than an entity theory of intelligence. Emotional benefit: Games induce positive mood states; and there is speculative evidence that games may help kids develop adaptive emotion regulation. Social benefit: Gamers are able to translate the prosocial skills that they learn from co-playing or multi-player gameplay to “peer and family relations outside the gaming environment”.

Shapiro’s collection of game-based and gamification research is highly informative and cannot be fully summarized here. But he also makes a distinction between “gamification” and “game-based learning” that is important in what follows: whereas game-based learning applies to using actual digital video games as a classroom tool, he writes that instructors “‘gamify’ learning by replacing grades with levels and merit badges; or, rather than delivering lectures and then testing for retention, teachers create project-based units where completion, or the demonstration of mastery, is what allows the student to move on” (Shapiro, 2014). The following app, “UIC German” allows for a way of gamifying a particular class or a course with multiple sections using the same curriculum.

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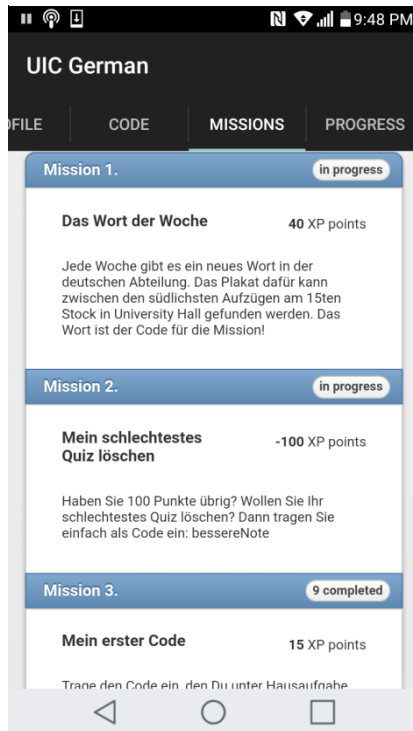
## Results

The “UIC German” game app is a digital tool designed to integrate into and enhance an already established curriculum. I plan to incorporate it into the first-year German language curriculum in Fall 2017, but already tested the prototype in Spring of 2017, having introduced it to my class of 10 students in GER 311 in the sixth week of the semester. The “UIC German” game app is already available on either Android’s “Playstore” or Mac’s “App Store” by simply searching for “UIC German.” Once downloaded onto a tablet or smartphone, the game can be opened by students, who press the button “My Game” within the app in order to first create an avatar by using their UIC email. After they create their avatar, students can toggle between a number of tabs at the top of the screen: “Profile”, “Code”, “Missions”, and “Progress.” Ideally the app should be presented at the beginning of the semester and used by students in multiple sections of the same course throughout the semester.

Figure 2.A.1



Figure 2.B.1



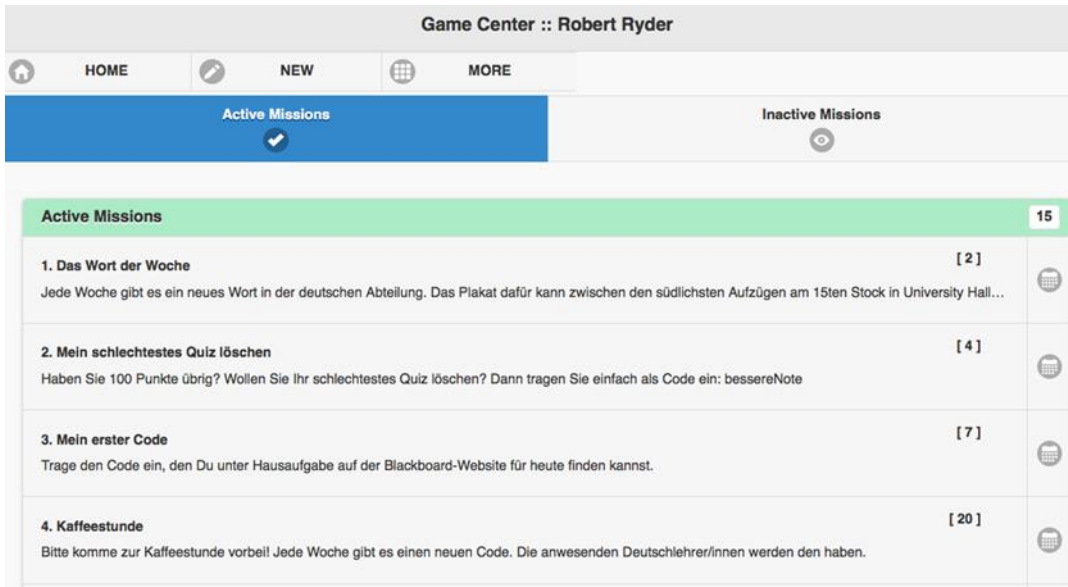
The app is designed to have students read and complete various missions, designed by the instructor or director of the program curriculum, by entering a specific code for the completion of each mission. For each mission completed, students gain “points” set by the instructor. Once students have collected a significant number of points, they may wish to “cash in” their points for certain specific benefits, which are also designed and made available by the instructor. These benefits are also designed as “missions,” which take away from rather than give points to students. For instance, one of these “benefit missions” may be labeled, “Delete my worst quiz grade.” The code is already made available in the mission description, but the student needs at least 100 points in order to “complete” this particular benefit mission. Once the student has enough points and enters the code correctly, s/he has 100 less points, but the instructor needs then to delete the student’s worst grade from the grade center.

Specific to the “UIC German” game app designed for my third-year German course offered in Spring 2017 is that all missions and much of the interface is in German (figure 2.B.1). This is just one example in which I managed to have students engage with more German outside of class time voluntarily. With their creation of avatars, completion of missions and collection of points that they can then “cash in” for various benefits (see “Delete my worst quiz grade” example above), students profit both from friendly and voluntary competition among peers, and from having another venue through which to practice voluntary tasks affiliated with the topic and/or skill set of the course.

An important point is that incentivizing students with multiple opportunities to “cash in” their points is crucial to the successful integration of the app. Without these opportunities students will lose interest in the app. This is why I plan this Fall to introduce and activate the first of these “benefit missions” ideally in the 3rd for 4th week of the semester, in order for students to experience the benefit of, and therefore the reason for using, the app.

At any time, students may also look at the “Leader Board” under the “Progress” tab to see where they stand in relation to other participating students. An important element of this game app is that it was introduced as *voluntary*; i.e. it is neither a requirement on the syllabus nor should be considered a replacement for homework assignments. This important principle of gamification was first brought to my attention by Dr. Machajewski, the designer of the app and an expert in gamification theory (Machajewski, 2017). In the fifth week of Spring semester 2017 I introduced the “UIC German” game app to my GER 311 course. This is a third-year German language course that focused on contemporary German culture and society. My adoption included multiple steps.

### Faculty Adoption of Gamification



Step 1 was to familiarize myself with the Game Center of the “UIC German” game app and design first mission. Figure 3.A.1 below shows the homepage of the Game Center. At first there will be no missions listed under “Active Missions.” The first mission I wrote, called “My first code [*Mein erster Code*],” is the third one on this list:

Figure 3.A.1

To write the mission, I clicked on the “NEW” tab at the top and filled out the mission. The next figure (3.A.2) shows a blank missions page. For the first mission that I created (Figure 3.A.3), I filled out the following criteria:

*Name* = The name of the mission.

*Code* = The code word or passcode that the students need to enter in order to complete the mission.

*XP [Experience] points* = The amount of points that students gain if they enter the code correctly for this particular mission. For “My first code” mission below, for example, students will gain 15 points.

**NOTE:** It is always possible to **enter negative points** here (i.e. “-15”), which will then take away points from the student rather than granting them points. This is crucial when designing a “benefit mission” like the “Erase my worst quiz grade”. This is crucial for **Step 5** below.

*List order as a number* = This indicates where in the list of missions the student sees this particular mission (see Figure 3.A.1 above). For example, “My first code” lists the number 7. As you can see in Figure 3.A.1 above, it is listed as the third mission from the top, since two other missions have numbers before 7.

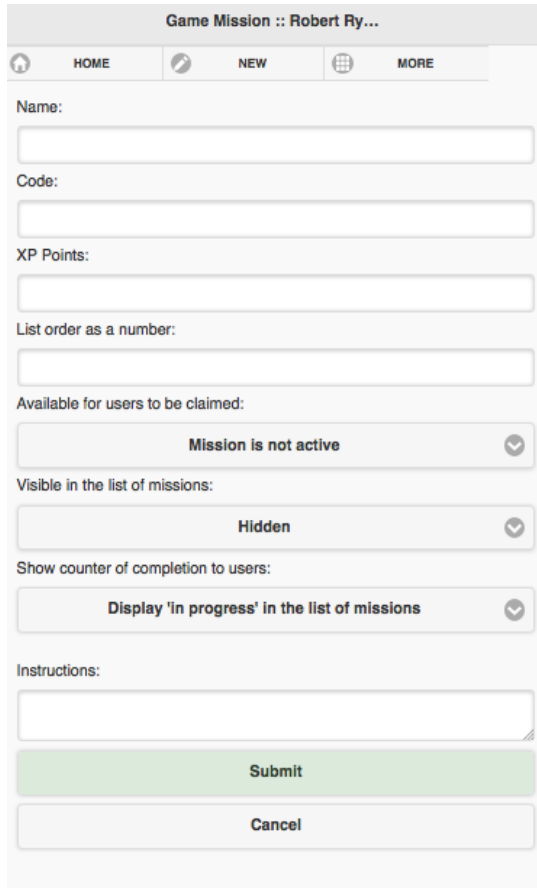
*Available for users to be claimed* = There are two options under this category: “Mission is not active” (Fig. 3.A.2) and “Active mission” (Fig. 3.A.3). When first designing a mission, its default is “Mission is not active.” In order to allow students to see the mission and enter its code for points, you must choose the option, “Active mission.”

*Visible in the list of missions* = There are two options under this category: “Hidden” (Fig. 3.A.2) and “Visible” (Fig. 3.A.3). When first designing a mission, its default is “Hidden.” In order to allow students to see the mission, you must choose the option, “Visible.” Note that one may design a mission with the combination “Mission is not active” and “Visible.” This may be desirable for certain missions.

*Show counter of completion to users* = There are two options under this category: “Display ‘in progress’ in the list of missions” (Fig. 3.A.2) and “Display number of missions in the list of missions” (Fig. 3.A.3). When first designing a mission, its default is “Display ‘in progress’ in the list of missions.” The instructor decides one or the other. While I often chose the default since I didn’t want students to see how few of them had completed a mission, at least at first, I chose the “Display number of missions in the list of missions” for this particular mission because I wanted to see at a glance whether all my students completed this first mission, which we completed in class.

*Instructions* = These are the instructions students are given in order to complete the mission. Here the instructions roughly translate into: “Go into the homework section of the Blackboard site and find the code for today.” With the first mission, it might be just as easy to write it on the board or include the code directly in the instructions of the mission.

Figure 3.A.2



The image shows a web form titled "Game Mission :: Robert Ry...". At the top, there are navigation links: HOME, NEW, and MORE. The form contains several input fields and dropdown menus:

- Name:** A text input field.
- Code:** A text input field.
- XP Points:** A text input field.
- List order as a number:** A text input field.
- Available for users to be claimed:** A dropdown menu with the selected option "Mission is not active".
- Visible in the list of missions:** A dropdown menu with the selected option "Hidden".
- Show counter of completion to users:** A dropdown menu with the selected option "Display 'in progress' in the list of missions".
- Instructions:** A large text area for entering mission instructions.

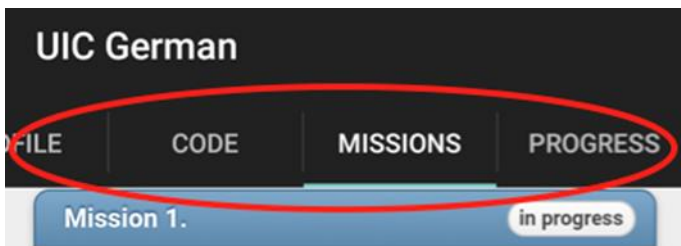
At the bottom of the form, there are two buttons: "Submit" (highlighted in green) and "Cancel".

Figure 3.A.3

Step 2 was to design more missions. One may wish already to introduce the students to the app with only the one mission. However, this may be premature. Showing students how to find a list of missions, which can be updated in the future, is more productive (Figure 2.B.1).

Step 3 is to introduce students to game app. Plan to take about 15 minutes of class time to have students do the following: download the app to their phone or tablet (see Figure 2.A.1), create an avatar, introduce students to the various tabs on the top of the app (Figure 3.A.4).

Figure 3.A.4



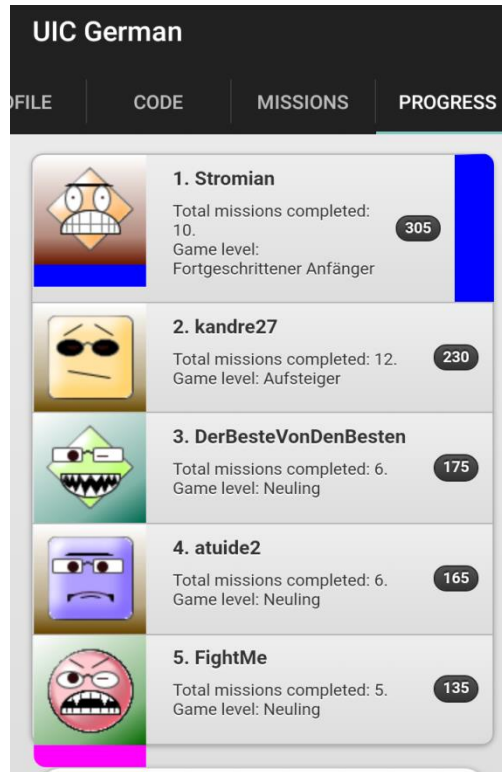
Have students enter their first code under the “CODE”

e) Have students swipe over to the tab: “PROGRESS” tab to see where they are on the leaderboard and how many points they currently have (Figure 3.A.6).

Figure 3.A.5



Figure 3.A.6



f) Emphasize that there will be new missions, reminders and regular updates over the course of the semester, and that they may use the app and complete missions at any time.

Step 4 is to monitor student activity and schedule regular app maintenance. Schedule a 1-1.5 hour(s) session per week that you will dedicate to the following maintenance procedures of the game app:

**Monitor student activity.** Who is using the app the most? Who not at all? You can do this one of two ways: 1) looking at the “PROGRESS” tab in the app (see Figure 3.A.6 above), or 2) going to the Game Center online and monitoring activity of specific missions (see Figure 3.C.1 below).

**Update the codes of any missions you use repeatedly.** I.e. for repeated events or random attendance checking over the course of the semester. For instance, you may wish to write a mission entitled simply “Attendance,” and write a different code every time you want to give students points for simply being present, whether at the lecture or in the lab or classroom. Two regular extracurricular events in the German department in Spring 2017 included German conversation hour and bi-weekly German Filmklub:

Figure 3.A.7

Revoke Import

Name:  
Kaffeestunde

Code:  
Scrabble

XP Points:  
45

List order as a number:  
20

Available for users to be claimed:  
Active mission

Visible in the list of missions:  
Visible

Show counter of completion to users:  
Display number of completed missions in the list of missions

Instructions:  
Bitte komme zur Kaffeestunde vorbei! Jede Woche gibt es einen neuen Code.  
Die anwesenden Deutschlehrer/innen werden den haben.

Submit

Cancel

In the screenshot above, the red circle indicates where I changed the code every week in order for students to enter new codes whenever they took part in a new German conversation hour.

I have already assigned the head-TA to come up with original codes for every week in the following semester (Fall 2017). The following codes will be entered at the beginning of every week so that after the German conversation hour students will be able to enter in the new code they received.



Figure 3.A.8

Week 2: 09.09.2017	ersteKstunde
Week 3: 13.09.2017	13.9.Kaffee
Week 4: 20.09.2017	Woche4Kstunde
Week 5: 27.09.2017	Kaffeestunde27-9
Week 6: 04.10.2017	vierterOktoberKS
Week 7: 11.10.2017	WochesiebenKS
Week 8: 18.10.2017	18.10.Kstunde
Week 9: 25.10.2017	neunteWocheKS
Week 10: 01.11.2017	NovemberKaffee
Week 11: 08.11.2017	Kaffeestunde8.11.
Week 12: 15.11.2017	KaffeeWoche12
Week 13: 22.11.2017	Kaffee22.11.17
Week 14: 29.11.2017	letzteKS

A similar list of codes should be generated before the beginning of the semester for any missions you plan to use repeatedly.

**Create new missions.** See Steps 1, 2 and 5 below (after the 3rd or 4th week).

**Update students.** Send students either a quick email update, write an announcement in Blackboard, or plan to spend a minute or two at the beginning of class to let students know of your updates on the app and to remind them to keep using it. If the app is linked to Duolingo, they may keep using the latter to collect points for the game app. This is an important, final step, since inevitably students have too many distractions, assignments from other classes, etc., especially in the first few weeks of the semester.

Step 5 is to design a benefit mission. At the start of the 3rd or 4th week of the semester, either design a “cash-in” or benefit mission during one of your scheduled app management sessions, or activate one you have already designed.

Follow steps a) through h) on how to create a mission above in step 1, and pay careful attention to the Note for step c).

Make sure to let students know about this new mission. It is a good idea to introduce this new type of mission in the classroom.

Step 6 is to manage and assess progress. Continue managing the app through the rest of the semester, following the sub-sections in step 4 above. A few added steps, especially after activating one or more benefit missions, or implementing other online teaching tools like Quizlet, Kahoot or Duolingo, may be required:

**Benefit mission maintenance.** The following screenshot shows the results of four students last semester who wished to “cash-in” their points for having their worst quiz grade deleted:

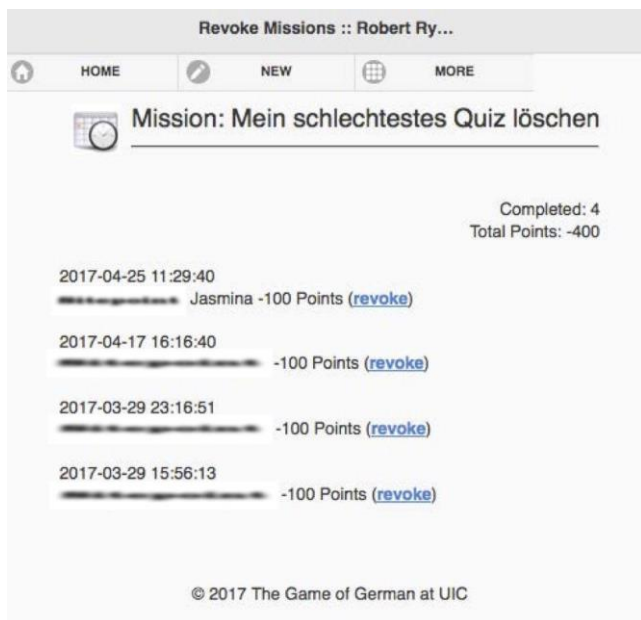


Figure 3.A.9

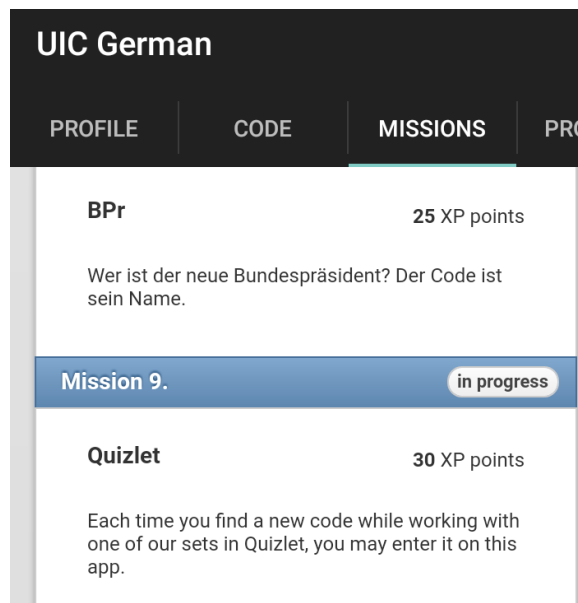
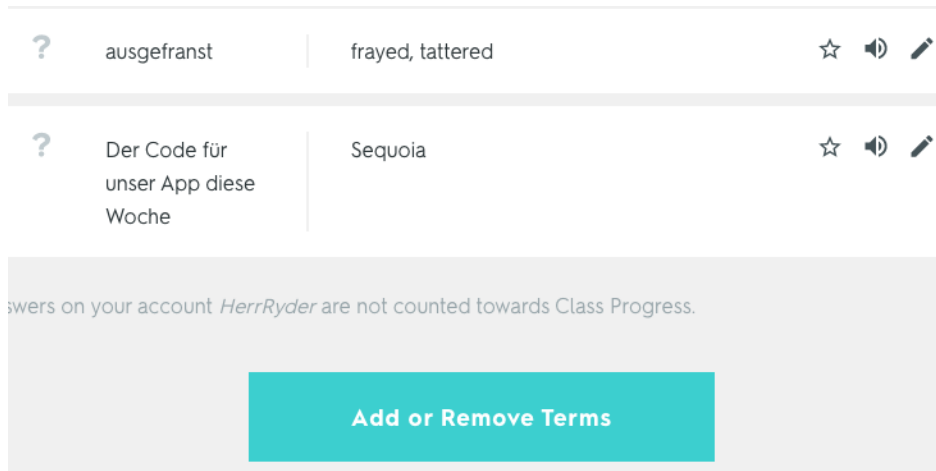


Figure 3.A.10

Because I was using the Blackboard Grade Center, it was fairly convenient for me to go into the Grade Center and erase their worst quiz grade, but this is not automatic: it needs to be done for every student. Furthermore, benefit missions of this type typically should be closely monitored and the consequences need to be implemented by the instructor within the week, or else students begin to ask about it.

**Quizlet mission maintenance.** I had a lot of success linking Quizlet flashcard sets to a “Quizlet” mission that I designed on the “UIC German” game app, seen here as Mission 9:

Figure 3.A.11



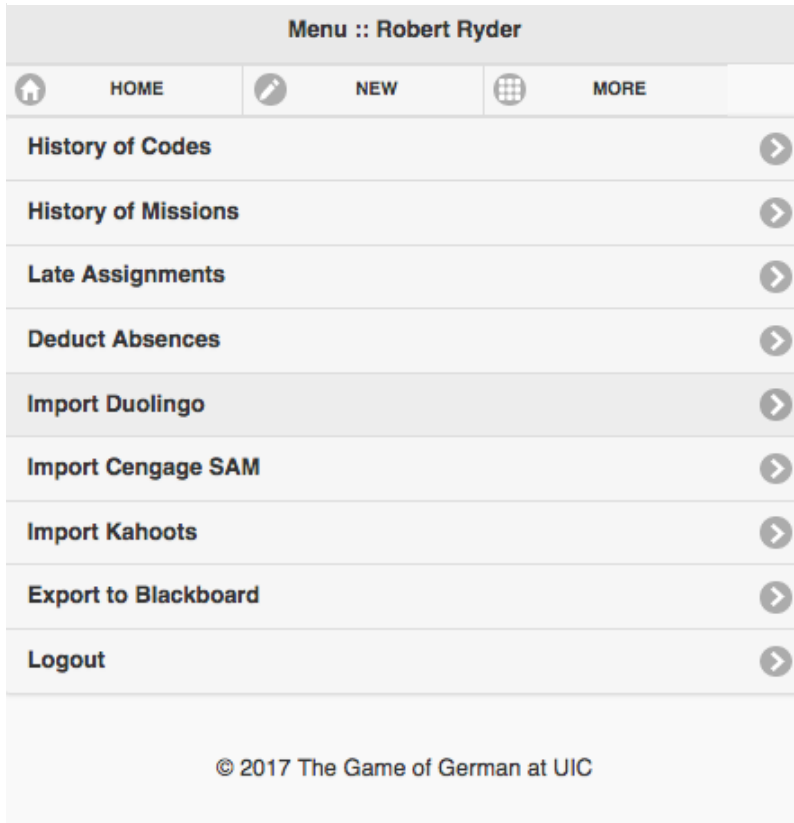
After setting up your own class for free on Quizlet, creating a set, and inviting your students to that set, add a final flashcard that is the game app mission code for that set. Below is an example of my final two flashcards for a vocabulary set on Quizlet for my class in March 2017:

In Figure 3.A.11 the last flashcard has the word “Sequoia” on the one side and the description, “The code for our app this week,” on the other. Once students get to this flashcard in the set, they see the code, “Sequoia,” which they may then enter on the game app to complete the Quizlet mission above.

The maintenance required for this mission is simple, and similar to the benefit mission maintenance above: every time you have students study a different Quizlet set and have added the code to the last flashcard in that set, the instructor must then go into the Game Center app and change the “Quizlet” mission code to the new one. Only then will the students be able to complete the Quizlet mission anew. Like benefit missions, the “Quizlet” mission can be completed by students multiple times, but only after the instructor has updated the code.

**Maintenance of Kahoot and Duolingo results.** While I played multiple in-class Kahoots in class and plan to integrate Duolingo into the Basic Language Program in Fall 2017, I did not yet take advantage of the new Game Center’s capacity to import Kahoot and Duolingo results. In the “MORE” tab at the top of the screen, you will find the portal for importing a number of different results:

Figure 3.A.12



Dr. Machajewski’s portal above allows for easy importing of either Kahoot results or the downloadable CSV of Duolingo: simply click on the them in the menu above and you will be directed to a window in which you may browse for the file on your computer and upload it. One important feature for the functionality of Duolingo results with the game app is that students will need to use the same email address with Duolingo as they did with the game app. As Machajewski’s instructions in the app’s Duolingo portal make clear, “Points will be granted based on the match of the email address in the CSV and game profile email.”

Because I did not take advantage of this option during my test run, I will not go into further detail. Nevertheless, I expect in the Fall to grant students points for their additional activity on Duolingo, so this will become an additional maintenance step to be accomplished during the weekly scheduled app maintenance.

## Findings

On February 14, 2017, I took fifteen minutes of class time for 9 students to download the app on their mobile device and create an avatar. I then showed them the various elements of the app – specifically, the missions and how to enter a code and the leaderboard under the “Progress” tab – and had them all complete their first mission, “Mein erster Code [*My first code*],” which I gave them all at the time by writing the code on the board.

Along with the introduction of the app I also had a number of missions available for them to complete on their own time if they wished. Apart from the regular German conversation (*Kaffeestunde*) and German film screenings (*Filmklub*) missions, in which the students could attend and receive a code for points by attending, I also wrote a number of smaller missions they could complete with a fairly simple online search. One mission for 25 points, for instance, was for them to enter as the code the name of the recently appointed President of Germany (*Bundespräsident*). Another was to go to the Germanic Studies department website and find the family name of the German faculty member whom they would need to contact for more information about study abroad programs to Germany and Austria (figure 3.B.1). Another was “liking” the UIC Germanic Studies department Facebook page.

The screenshot shows the UIC Department of Germanic Studies website. The header includes the UIC logo and the text 'Department of Germanic Studies' and 'COLLEGE OF LIBERAL ARTS & SCIENCES'. A navigation menu on the left lists: HOME, PEOPLE, MA AND PHD, MAJOR AND MINOR, WHY GERMAN?, STUDY ABROAD, HIGH SCHOOL DAY, AWARDS DAY, and NEWS. The 'STUDY ABROAD' section contains the following text:

We highly encourage our majors and minors to take advantage of one of the Department's **Study Abroad** programs, both of which are specifically geared toward fulfilling requirements of the Germanic Studies major and minor.

Students who are enrolled in **at least GER 103** as of the Spring semester can earn up to 7 hours of credit during the **4-week summer program in Berlin**. Students interested in a longer program can spend a **semester or year abroad in Vienna, Austria**.

- German Language Summer Program at Humboldt University, Berlin, Germany
- Austria-Illinois Exchange Program in Vienna

Scholarships for Study/Research/Work in German Speaking Countries

**For more information:**

Contact Kat Aidag at the Study Abroad Office at 502 UH or [kaidag@uic.edu](mailto:kaidag@uic.edu)  
Or Professor Susanne Rott in the Department of Germanic Studies, [rott@uic.edu](mailto:rott@uic.edu)

Figure 3.B.1 (“Rott” is the code, circled in red)

Over the course of the semester I continued to add a number of missions, some of which were specific to non-recurring events, like dropping by the Undergraduate German Club Bake Sale or Book Sale. These I made available for only about a week while the events were taking place, and deactivated them a day or so after the events were over. Students were generally not very active when it came to missions linked to extracurricular events: only one student entered a single code for both the German conversation and film screening missions. This will change, however, with a curriculum like the German BLP in which all students need to go to at least three different German events over the course of the semester, like our German conversation hour and film screenings. This was not a requirement for my 9 students in GER 311, hence the low activity on these missions.

More simple missions that required only online searches, like finding and entering the name of the new German president (see Figure 3.C.1 below), was better received. Seven out of nine students completed this mission. Its popularity is likely two-fold: 1) it was one of the few missions available when the app was first introduced; and 2) it was not linked to going to an event outside of class time in order to collect the code.

Another popular mission was connected to an online teaching tool that I employed repeatedly over the course of the semester: Quizlet. Using a combination of Google docs and Quizlet, I assigned the class to create its own Quizlet vocabulary sets based off either the news broadcasts we listened to or texts we were reading. Once a Quizlet set was created, I added a final flashcard that was the game app mission code for that set. I then changed the code for the “Quizlet” mission on the app to the code on the most recent set (see step 6).

While the vocabulary set was required homework that needed to be studied for upcoming in-class quizzes, it was not a requirement for students to enter the game code into the app. Nevertheless, the “Quizlet” mission was by far the most popular mission, with 7 out of 9 students completing the mission 18 times over the course of the 10 weeks the app was in use.

### Challenges

Having tested the app in one of my own classes, I can now highlight three challenges that I had over the course of the 10 weeks the app was active in my class:

1. The creation of more missions, especially “cash in” missions
2. The managing of missions that required to have their codes change (like the weekly German conversation hour or bi-weekly film screenings, but also the “Quizlet” mission)
3. Making the students aware of new missions or that the app was still available for their use

Over the course of the 10 weeks in which the game app was introduced and active, there were up to 12 missions at any given time in which students could either complete for points or “cash in” their points for benefits, like the mission to delete their worst quiz grade.

This challenge can largely be overcome if all missions were created before the beginning of the semester. In the game center, the app manager can make certain missions active or inactive; in other words, missions can be already written but placed on hold for the right time of the semester. This however then

adds to challenge 2 and 3 below: the missions themselves need to be made active or inactive over the course of the semester. So beyond having the missions written and ready before the beginning of the semester, it would also be a good idea to come up with a “mission timeline” for when missions need to become active or inactive over the course of the semester.

Inevitably, there will be certain events or activities that will arise over the course of the semester, like guest lectures, off-campus film screenings, etc., that could also be linked to a mission. These cannot be thought ahead of time but require time during the semester to be written. Luckily the app is versatile enough to refresh with new missions almost instantaneously. But the point is here that not all missions can be written before the beginning of the semester. Finally, the other aspect of this challenge is making available enough “cash in” missions for students to take advantage of. As mentioned above, these missions are crucial, because otherwise students will not know why they need to collect points. There are many “benefit mission” ideas that in future I would add to the “UIC German” game app, but could be modified and added to any course using the app:

“Peace of Mind Points”: Dr. Machajewski designed this app, which helps relieve quiz or exam anxiety and help students perform at their best during these stressful situations. Students may cash in XP points in order to gain bonus points on certain aspects of the exam.

“Raffle”: for students who cash in points at the end of the semester, they will enter an end-of-the-semester raffle for certain prizes.

“Pizza party”: another “cash in” mission that Machajewski originally designed has students cashing in points for the altruistic gesture of having pizza ordered for the class on the last day of class.

“One less German event”: in the German BLP program, I require all students to go to 3 German extracurricular events over the course of the semester. By cashing in points and completing this mission, students could fulfill one of these events, only having to go to 2 events. Can only be completed once.

While I did not have the time to design and implement a formal assessment of the “UIC German” game app for the end of the 2017 Spring semester, there were a number of informal conversations I had with the head-TA, my student advisor, and with the most active student of the game app. Also, because the game center allows the app manager to view the number of times each mission was completed by students and when (Figure 3.C.1), the app manager may assess how well each mission was received and imagine reasons why some were better received than others.

Whether one is making active or inactive certain missions for the week or for the rest of the rest of the semester, or whether one is changing the code of a recurring mission that students can complete anew every week like the German conversation hour, such managing of missions take time.

The best way to manage these weekly changes is to set aside 1-2 hours per week for managing and advertising the game app. This was particularly challenging for me this semester, since I was already teaching 100%, and the work I was doing on this app already constituted overtime. However, the few times I was able to dedicate to managing the app in the game center over the course of the 10 weeks it was active were satisfying and resulted in more student activity. For those of us with TAs, such managing and monitoring can also be a task for graduate students. In the next section, I outline ways a head-TA will be maintaining the “UIC German” app for the 2017 Fall semester.

Because the app was introduced a third of the way into the 2017 Spring semester, I realize that some aspects of these challenges can be addressed if the app and all its missions were prepared ahead of the semester. At the same time, other aspects of these challenges I would not have known about had I not tested the app, especially the extra time needed to manage the app and its missions during the course of the semester.

This challenge may also be overcome during the 1-2 hour session per week dedicated to managing the app described above. Once new missions have been activated or new codes have been added to recurring missions, the app manager needs to send an announcement of those changes. In discussions with both my student advisor and the most active student of the app this semester, they highlighted this crucial element. If the game app is not consistently referred to by the instructor, student activity with it inevitably lapses. Certain missions thus may be written for just this purpose: the instructor for instance may write a code on the board at the beginning of class, and all those present may enter it for points. This not only gives a record of attendance but reminds students of the existence of the app and its inherent benefits.

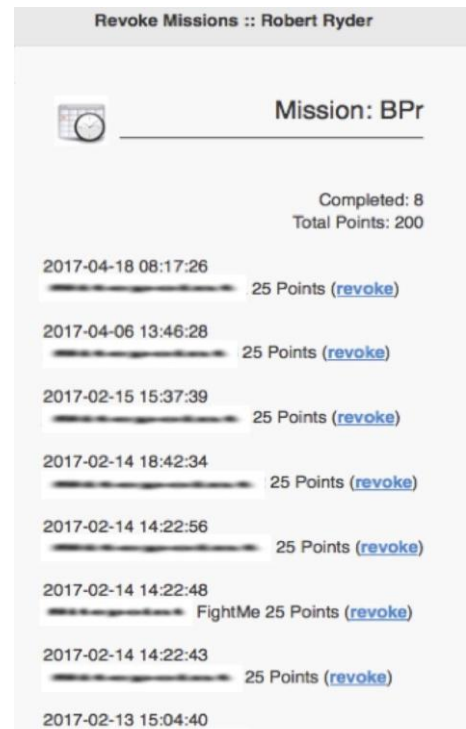


Figure 3.C.1

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### *Scaling up to the department*

Prior to my introduction of the “UIC German” game app to the students of GER 311 in Spring 2017, I introduced the app to the German instructors during one of our weekly meetings. It took a fairly short amount of time, but the feedback was quite helpful. I learned, for instance, that I could be more consistent with the writing of the missions (I had overlooked the fact that I had used both formal and informal German construction, and they were able to easily point that out to me). I had them all complete a mission or two during our meeting. I also brainstormed with them for new missions that we could introduce to German BLP in Fall 2017. Having first introduced the app to the cohort of German instructors before introducing it to my students gave me greater confidence that there would be fewer errors or technological questions.

During our final departmental meeting of Spring 2017 (April 19), and well after I had the students interacting with the game app, I also introduced its features and results of student activity to the German faculty. They were generally pleased, and a faculty member afterward even sent a short email to me with further mission ideas. The Head of the German department announced the game app’s roll-out for Fall 2017 in our annual German Awards Day (April 28). Based on these and other informal discussions with the Head and other faculty members, I believe I have full support from the German faculty to go forward with the introduction of the game app for Fall 2017.

I have been in contact with the future head-TA for the coming semester, and we have already collaborated on the creation of student handouts, as well as TA handouts and head-TA maintenance guidelines for the “UIC German” game app.

### *Official student evaluations*

At the end of the semester I received some positive feedback from the students of GER 311 that pertained to the introduction of the “UIC German” game app. The following anonymous comments were made:

“Dr. Ryder is a really great professor. He’s always helpful when I have questions and explains concepts really well. I like the new app that he made for the German department! It’s really helpful with getting me to actually study flashcards on quizlet (for points!) and is a great way to get students involved in the German Department. I think that the way we used quizlet this semester has really improved my vocabulary! [...]”

“The professor did an awesome job of integrating technology into his teaching (e.g., “live” quizzes that students could participate in, using smartphones, a special app[!] for our class).”

The future benefits of this game app invariably increase over the course of a number of semesters. Once students create their avatar, they are never deleted unless they ask the instructor or manager of the app to do so. This means that, over the course of a four-semester program like any Basic Language Program at UIC, students will increasingly gain points *across* semesters.

An added benefit of the app is that it creates a digital community of interested students. A variety of other missions can then be written for such “app alumni,” many of which Dr. Machajewski has already written and taken advantage of. For instance, Machajewski has designed a mission in which app alumni, after having reached 500 points, may start helping their peers by recommending them to turn in late homework. Both parties gain points for doing so. This is just one example of taking advantage of the automatic digital community that this app generates over time. While it may take multiple years for the app to be fully integrated into a program spanning four semesters, its potential to evolve, and for the instructor to adapt its missions in the process, make the app’s open platform concept highly versatile over time.

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## **Conclusion**

The mobile app, demonstrated in this case study, can be used by faculty in other courses by applying for participation in the program at <https://game.dataii.com> (Machajewski, 2017). Increasing engagement in both instructor and student course experience leads to tangible benefits. Promoting more practice through optional quizzes and increasing affinity toward the subject matter help to attract and retain students. Having a functional system for leveraging gamification in an academic course takes the burden of code development and technology maintenance out of the scope of instructor work, and allows the faculty to focus on creating meaningful learning experiences for students.

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